Northeastern University

Matthew Modoono for Northeastern University

Graduate Catalog

2023-2024

Table of Contents

Graduate Catalog 16
- Information for Entering Students 17
  - Academic Resources 18
    - Libraries 19
  - Office of the University Registrar 20
  - Campus Resources 21
    - Center for Advancing Teaching and Learning Through Research 22
    - Disability Resource Center 23
    - Employer Engagement and Career Design 24
    - Public Safety 25
    - Health and Counseling 26
    - We Care 27
  - Information for International Students 28
  - Information Technology Services 29
  - Off Campus Engagement and Support 30
  - Office of the University Registrar 20
- Financial Information 31
  - Bill Payment 32
  - Delivery of Services 35
  - Financial Aid Assistance 36
  - Student Refunds 39
  - Tuition and Fees 40
- Academic Policies and Procedures 44
  - Accommodations for Students with Disabilities 45
  - Attendance Requirements 46
  - Campus Transfer and Campus Location Change 47
  - Clearing an Academic Deficiency 48
  - Code of Student Conduct 49
  - Course Credit Guidelines 50
  - Course Numbering System 51
  - Family Educational Rights and Privacy Act (FERPA) 52
  - Grade Change Policy 54
  - Grade Table and GPA 55
  - Leaves of Absence and University Withdrawal 57
  - Personal Information 60
  - Requesting and Clearing An Incomplete Grade 61
  - Retaking Courses 62
  - Student Bill of Academic Rights and Responsibilities 63
  - Student Responsibility Statement 66
  - Student Right-to-Know Act 67

Substituting Courses ... 68
University-Sponsored Travel ... 69
Academic Appeals Policies and Procedures ... 70
Academic Calendars ... 73
Academic Integrity Policy ... 74
Audit Policy ... 75
Cooperative Education ... 76
Departmental Jurisdiction ... 78
Dismissal from Class ... 79
Dropping a Class ... 80
Final Examinations and Related Policies on Other Exams ... 81
Full-Time Status ... 82
General Regulations ... 83
Graduation Requirements ... 87
Minimum Cumulative GPA ... 88
Overload Conditions for Graduate Assistants ... 89
Pass/Fail (Satisfactory/Unsatisfactory) Grading ... 90
Regulations and Requirements for All Graduate Degree Programs ... 91
Regulations and Requirements for Graduate Certificate Programs ... 93
Regulations and Requirements for the Master's Degree ... 94
Regulations and Requirements for PlusOne Degree Combinations ... 95
Regulations and Requirements for Professional Doctorate Degree Programs ... 96
Regulations and Requirements for the Certificate of Advanced Graduate Study ... 98
Regulations and Requirements for Doctor of Philosophy (PhD) Programs ... 99
Regulations and Requirements for Interdisciplinary Graduate Degrees ... 101
Definitions ... 102
PhD Programs ... 103
Experiential PhD ... 107
College of Arts, Media and Design ... 109
Academic Policies and Procedures ... 110
General Information ... 111
Master's Degree Policies ... 112
Graduate Student Classification ... 113
School of Architecture ... 114
Master of Architecture—One-Year Program ... 115
Master of Architecture—Two-Year Program ... 116
Master of Architecture—Three-Year Program ... 118
Master of Architecture—Three-Year Program—Advanced Degree Entrance ... 120
Sustainable Urban Environments, MDes—One-Year Program ... 122
Sustainable Urban Environments, MDes—Two-Year Program ... 123
Art + Design ... 125
Experience Design, MFA ... 126
Information Design and Data Visualization, MFA ... 128

Experience Design, MS ... 131
Game Science and Design, MS ... 133
Information Design and Data Visualization, MS ... 135
Experience Design, Graduate Certificate ... 137
Game Experience Design, Graduate Certificate ... 138
Game Science, Graduate Certificate ... 139
Information Design and Visualization, Graduate Certificate ... 140
School of Journalism ... 141
Journalism, MA ... 142
Media Advocacy, MS ... 143
Media Innovation and Data Communication, MS ... 144
Interdisciplinary Programs ... 146
Interdisciplinary Design and Media, PhD ... 147
Arts Administration and Cultural Entrepreneurship, MS ... 152
Creative Collaboration and Multidisciplinary Design, MS ... 154
Creative Practice Leadership, MS ... 156
Extended Realities, MS ... 158
Urban Planning and Policy, MS ... 163
Arts Administration, Graduate Certificate ... 167
Cultural Entrepreneurship, Graduate Certificate ... 168
D'Amore-McKim School of Business ... 169
Master of Science ... 170
Business Analytics, MS ... 171
Business Analytics, MS—Online ... 172
International Management, MS ... 173
Management, MS ... 174
Accounting, MSA ... 185
Finance, MSF ... 187
Quantitative Finance, MSF ... 188
Master of Business Administration ... 190
Business Administration, MBA—Full-Time ... 191
Business Administration, MBA—Online ... 200
Business Administration, MBA—Part-Time ... 202
Combined Degrees ... 208
Accounting and Business Administration, MSAMBA ... 209
Finance and Business Administration, MSFMBA ... 211
Finance and Business Administration, MSFMBA—Online ... 220
Finance and Business Administration, MSFMBA—Part-Time ... 221
Quantitative Finance and Business Administration, MSFMBA ... 227
Dual Degrees ... 231
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Business Administration, MBA—Full-Time ... 233
Law, LLM / Business Administration, MBA—Full-Time ... 234

Graduate Certificates ... 235
Accounting and Financial Decision Making, Graduate Certificate ... 236
Brand Management, Graduate Certificate ... 237
Business Administration, Graduate Certificate ... 238
Business Administration, Graduate Certificate—Online ... 240
Business Analytics, Graduate Certificate ... 242
Business Management for Healthcare, Graduate Certificate ... 243
Corporate Finance, Graduate Certificate ... 244
Corporate Innovation, Graduate Certificate ... 245
Corporate Renewal, Graduate Certificate ... 246
Entrepreneurship, Graduate Certificate ... 247
International Business, Graduate Certificate ... 248
Investments, Graduate Certificate ... 249
Leading People and Organizations, Graduate Certificate ... 250
Marketing, Graduate Certificate ... 251
Marketing Analytics, Graduate Certificate ... 252
Mutual Fund Management, Graduate Certificate ... 253
Supply Chain Management, Graduate Certificate ... 254
Sustainability and Business, Graduate Certificate ... 255
Khoury College of Computer Sciences ... 256
Academic Policies and Procedures ... 257
Absenteeism ... 258
Academic Integrity ... 259
Academic Probation and Dismissal ... 260
Certificates ... 261
Pass / Fail Policy ... 262
Transfer of Credit ... 263
Computer Science ... 264
Computer Science, PhD ... 267
Network Science, PhD ... 273
Artificial Intelligence, MS ... 277
Data Science, MS ... 279
Data Science, MS—Align ... 281
Game Science and Design, MS ... 133
Internet of Things, MS ... 286
Robotics, MS ... 290
Computer Science, MSCS ... 293
Computer Science, MSCS—Align ... 295
Cloud Software Development, Graduate Certificate ... 297
Computer Science, Graduate Certificate ... 298
Data Analytics, Graduate Certificate ... 299
Inclusive Computer Science Education, Graduate Certificate ... 300
Cybersecurity ... 301

Cybersecurity, PhD ... 302
Cybersecurity, MS ... 308
Cybersecurity, MS—Align ... 310
Cybersecurity, Graduate Certificate ... 313
Health Informatics ... 314
Personal Health Informatics, PhD ... 314
Health Informatics, MS ... 314
Interdisciplinary Programs ... 317
Network Science, PhD ... 273
Personal Health Informatics, PhD ... 322
Data Science, MS ... 279
Game Science and Design, MS ... 133
Robotics, MS ... 290
Data Analytics, Graduate Certificate ... 299
College of Engineering ... 334
Academic Policies ... 335
Academic Dismissal Policy ... 336
Academic Integrity Policy ... 337
Academic Standing Policy ... 338
Appeals Policy ... 339
Attendance Policy ... 340
Course Registration ... 341
Course Selection ... 342
Dissertation Committee ... 343
Graduate Student Grievance Policy ... 344
PhD Student Progress and Review ... 345
Program Completion ... 346
Reenrollment Policy for Full-time Students ... 347
Bioengineering ... 348
Bioengineering, PhD ... 349
Interdisciplinary Engineering, PhD ... 357
Bioengineering, MSBioE ... 360
Chemical Engineering ... 364
Chemical Engineering, PhD ... 366
Interdisciplinary Engineering, PhD ... 357
Pharmaceutical Engineering, MS ... 374
Chemical Engineering, MSChE ... 376
Process Safety Engineering, Graduate Certificate ... 379
Civil and Environmental Engineering ... 380
Civil and Environmental Engineering, PhD ... 382
Climate Science and Engineering, MS ... 385
Engineering and Public Policy, MS ... 387
Civil Engineering with Concentration in Data and Systems, MSCivE ... 390

Civil Engineering with Concentration in Construction Management, MSCivE ... 393
Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE ... 395
Civil Engineering with Concentration in Structures, MSCivE ... 397
Civil Engineering with Concentration in Transportation, MSCivE ... 399
Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE ... 401
Environmental Engineering, MSEnvE ... 403
Sustainable Building Systems, MSSBS ... 405
Climate and Engineering, Graduate Certificate ... 407
Sustainability Engineering, Graduate Certificate ... 408
Electrical and Computer Engineering ... 409
Computer Engineering, PhD ... 411
Cybersecurity, PhD ... 302
Electrical Engineering, PhD ... 419
Applied Physics and Engineering, MS ... 421
Data Science, MS ... 279
Internet of Things, MS ... 286
Robotics, MS ... 290
Wireless and Network Engineering, MS ... 432
Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE ... 434
Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE ... 439
Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE ... 444
Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE ... 448
Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE ... 453
Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE ... 458
Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE ... 463
Electrical and Computer Engineering with Concentration in Power Systems, MSECE ... 467
Electrical and Computer Engineering Leadership, MSECEL ... 472
Mechanical and Industrial Engineering ... 473
Industrial Engineering, PhD ... 475
Mechanical Engineering, PhD ... 478
Advanced and Intelligent Manufacturing, MS ... 481
Data Analytics Engineering, MS ... 485
Human Factors, MS ... 490
Industrial Engineering, MSIE ... 493
Engineering Management, MSEM ... 497
Energy Systems, MSEneS ... 504
Energy Systems, MSEneS—Academic Link Program ... 507
Mechanical Engineering with Concentration in General Mechanical Engineering, MSME ... 509
Mechanical Engineering with Concentration in Materials Science, MSME ... 512
Mechanical Engineering with Concentration in Mechanics and Design, MSME ... 514
Mechanical Engineering with Concentration in Mechatronics, MSME ... 517
Mechanical Engineering with Concentration in Thermofluids, MSME ... 520
Operations Research, MSOR ... 523

Data Analytics Engineering, Graduate Certificate ... 526
Energy Systems, Graduate Certificate ... 527
Energy Systems Management, Graduate Certificate ... 528
Engineering Business, Graduate Certificate ... 529
Engineering Economic Decision Making, Graduate Certificate ... 531
Engineering Management, Graduate Certificate ... 532
Lean Six Sigma, Graduate Certificate ... 533
Renewable Energy, Graduate Certificate ... 534
Sustainable Energy Systems, Graduate Certificate ... 535
Supply Chain Engineering Management, Graduate Certificate ... 536
Technology Systems Management, Graduate Certificate ... 537
Multidisciplinary Programs ... 538
Information Systems, MSIS ... 539
Information Systems, MSIS—Bridge ... 541
Cyber-Physical Systems, MS ... 542
Data Architecture and Management, MS ... 544
Software Engineering Systems, MS ... 545
Telecommunication Networks, MS ... 547
Blockchain and Smart Contract Engineering, Graduate Certificate ... 549
Broadband Wireless Systems, Graduate Certificate ... 550
Engineering Leadership, Graduate Certificate ... 551
IP Telephony Systems, Graduate Certificate ... 553
Software Engineering Systems, Graduate Certificate ... 554
Interdisciplinary Graduate Programs ... 555
Cybersecurity, PhD ... 302
Interdisciplinary Engineering, PhD ... 357
Product Development, MS ... 565
Graduate Certificate Programs ... 567
Bouvé College of Health Sciences ... 568
Academic Policies and Procedures ... 569
Background Checks ... 570
Health Requirements ... 571
Liability Insurance ... 572
Requirements for Clinical, Internships, and Practicum Courses ... 573
Financial Awards ... 575
Advising ... 576
Course Substitution ... 577
Transfer of Credit ... 578
Academic Affairs Appeals Process ... 579
Academic Dismissal ... 581
Academic Probation Policy ... 582
Academic Progression ... 583
Academic Standing ... 584

Graduation Policies ... 585
Interdisciplinary Programs ... 586
Healthcare Leadership, DMSc ... 587
Network Science, PhD ... 273
Personal Health Informatics, PhD ... 314
Health Informatics, MS ... 314
Pharmaceutical Engineering, MS ... 374
Real-World Evidence in Healthcare and Life Sciences, MS ... 599
Health Informatics, MS / Physician Assistant, MS ... 601
Law, JD / Public Health, MPH ... 602
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Physician Assistant, MS / Public Health, MPH ... 604
Public Health, MPH / Health Informatics, MS ... 605
Early Intervention, Graduate Certificate ... 606
Health Informatics Management and Exchange, Graduate Certificate ... 607
Health Informatics Privacy and Security, Graduate Certificate ... 607
Health Informatics Software Engineering, Graduate Certificate ... 607
Patient Safety, Graduate Certificate ... 607
School of Clinical and Rehabilitation Sciences ... 608
Speech-Language Pathology, MS ... 611
Healthcare Leadership, DMSc ... 587
Physician Assistant, MS ... 616
Health Informatics, MS / Physician Assistant, MS ... 601
Physician Assistant, MS / Public Health, MPH ... 604
Human Movement and Rehabilitation Sciences, PhD ... 620
Physical Therapy, DPT—Postbaccalaureate Entry ... 623
Human Movement and Rehabilitation Sciences, MS ... 629
Extreme Medicine, Graduate Certificate ... 631
School of Community Health and Behavioral Sciences ... 632
Counseling Psychology, PhD ... 634
School Psychology, PhD ... 636
School Psychology, CAGS ... 638
Applied Behavior Analysis, MS ... 639
Applied Educational Psychology, MS ... 641
Applied Psychology, MS ... 642
Counseling Psychology, MSCP ... 643
Early Intervention, Graduate Certificate ... 606
Personal Health Informatics, PhD ... 314
Population Health, PhD ... 646
Public Health, MPH ... 650
Public Health, MPH—Accelerated ... 652
Exercise Science, MS—Online ... 654
Health Informatics, MS ... 314

Real-World Evidence in Healthcare and Life Sciences, MS ... 599
Law, JD / Public Health, MPH ... 602
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Physician Assistant, MS / Public Health, MPH ... 604
Public Health, MPH / Health Informatics, MS ... 605
Health Informatics Management and Exchange, Graduate Certificate ... 665
Health Informatics Privacy and Security, Graduate Certificate ... 666
Health Informatics Software Engineering, Graduate Certificate ... 667
School of Nursing ... 668
Nursing, PhD ... 669
Nurse Anesthesia, DNP ... 672
Nursing, DNP—Post-Master's ... 674
Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS ... 675
Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS ... 676
Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS ... 677
Nursing—Neonatal Nurse Practitioner, CAGS ... 678
Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS ... 679
Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS ... 680
Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS ... 681
Nursing, MS ... 682
Nursing, MS—Direct Entry ... 686
Patient Safety, Graduate Certificate ... 607
Pediatric Nurse Practitioner, Acute Care, Graduate Certificate ... 692
School of Pharmacy and Pharmaceutical Sciences ... 693
Biomedical Science, PhD ... 694
Medicinal Chemistry and Drug Discovery, PhD ... 701
Pharmaceutics and Drug Delivery, PhD ... 707
Pharmacology, PhD ... 713
Pharmacy, PharmD ... 719
Pharmacy, PharmD—Direct Entry ... 720
Biomedical Science, MS ... 726
Medicinal Chemistry and Drug Discovery, MS ... 729
Pharmaceutical Engineering, MS ... 374
Pharmaceutics and Drug Delivery, MS ... 734
Pharmacology, MS ... 738
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
School of Law ... 742
Academic Policies and Procedures ... 744
Grades ... 745
Law, JD ... 746
Law, LLM ... 749
Law, LLM—Online ... 754
Legal Studies, MLS—Online ... 755

Media Advocacy, MS ... 143
Graduate Certificates ... 758
Business Law, Graduate Certificate ... 759
Healthcare Compliance, Graduate Certificate ... 760
Health Law, Graduate Certificate ... 761
Health Law and Policy, Graduate Certificate ... 762
Human Resources Law, Graduate Certificate ... 764
Human Rights Law, Graduate Certificate ... 765
Intellectual Property Law, Graduate Certificate ... 766
Legal Design, Graduate Certificate ... 767
Poverty Law and Economic Justice, Graduate Certificate ... 769
Privacy Law, Graduate Certificate ... 771
United States Law, Graduate Certificate ... 772
Women, Gender, Sexuality, and the Law, Graduate Certificate ... 773
Accelerated Degrees ... 774
Dual Degrees ... 775
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Business Administration, MBA—Full-Time ... 233
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Criminology and Criminal Justice, MS ... 779
Law, JD / Public Health, MPH ... 602
Law, JD / Public Policy, MPP ... 781
Law, LLM / Business Administration, MBA—Full-Time ... 234
College of Professional Studies ... 783
Academic Policies and Procedures ... 784
Academic Progression Standards ... 785
Academic Resources ... 786
Active-Duty Military Personnel ... 787
Attendance Verification ... 788
Completing Degree Requirements ... 789
Degrees, Majors, and Concentrations ... 790
Full-Time Status ... 791
Global Partnership Programs ... 793
Graduate Campus ... 794
Graduation Requirements ... 795
Master's Degree Admission Requirements ... 796
New Student Orientation (On-Ground and Online) ... 797
Personal Professional Enrichment (PPE) ... 798
Readmission to Program ... 799
Reentry to Program ... 800
Registration and Taking Courses ... 801
Reinstatement after Academic Dismissal ... 803
Seeking More than One Certificate or Degree ... 804

Special Student Status ... 805
Student Evaluation of Courses ... 806
Transfer Credit Policies ... 807
Doctoral Degree Programs ... 808
Education, EdD ... 809
Law and Policy, DLP ... 813
Transitional Doctor of Physical Therapy, DPT ... 814
Master's Degree Programs ... 816
Security and Intelligence Studies, MA ... 817
Elementary Education, MAT ... 819
Secondary Education, MAT ... 821
Education, MEd ... 824
Higher Education Administration, MEd ... 826
Analytics, MPS ... 827
Applied Logistics, MPS ... 829
Applied Machine Intelligence, MPS ... 831
Digital Media, MPS ... 833
Digital Media, MPS—Connect ... 836
Geospatial Services, MPS ... 839
Informatics, MPS ... 841
Insurance Analytics and Management, MPS ... 844
Learning Experience Design and Technology, MPS ... 846
Applied Nutrition, MS ... 848
Commerce and Economic Development, MS ... 851
Corporate and Organizational Communication, MS ... 853
Human Resources Management, MS ... 857
Global Studies and International Relations, MS ... 861
Nonprofit Management, MS ... 864
Organizational Leadership, MS ... 868
Project Management, MS ... 871
Regulatory Affairs, MS ... 874
Sports Leadership, MSLD ... 877
Graduate Certificate Programs ... 879
3D Animation, Graduate Certificate ... 880
Agile Project Management, Graduate Certificate ... 881
Applied Analytics, Graduate Certificate ... 882
Biopharmaceutical Regulatory Affairs, Graduate Certificate ... 883
Cloud Computing Application and Management, Graduate Certificate ... 884
Collegiate Athletics Administration, Graduate Certificate ... 885
Construction Management, Graduate Certificate ... 886
Cross-Cultural Communication, Graduate Certificate ... 887
Digital Media Management, Graduate Certificate ... 888
Digital Video, Graduate Certificate ... 889

eSports, Graduate Certificate ... 889
Experiential Teaching and Learning, Graduate Certificate ... 890
Financial Markets and Institutions, Graduate Certificate ... 891
Forensic Accounting, Graduate Certificate ... 892
Fundraising and Development, Graduate Certificate ... 893
Game Design, Graduate Certificate ... 894
Geographic Information Systems, Graduate Certificate ... 895
Global Studies and International Relations, Graduate Certificate ... 896
Health Management, Graduate Certificate ... 897
Higher Education Administration, Graduate Certificate ... 898
Human-Centered Informatics, Graduate Certificate ... 899
Human Resources Management, Graduate Certificate ... 900
Information Security Management, Graduate Certificate ... 901
Insurance Analytics and Management, Graduate Certificate ... 902
Integrative Health and Wellness, Graduate Certificate ... 903
Interactive Design, Graduate Certificate ... 904
International Biopharmaceutical Regulatory Affairs, Graduate Certificate ... 905
Leadership, Graduate Certificate ... 906
Leading and Managing Technical Projects, Graduate Certificate ... 907
Learning Experience Design and Technology, Graduate Certificate ... 908
Medical Device Regulatory Affairs, Graduate Certificate ... 909
Nonclinical Biomedical Product Regulation, Graduate Certificate ... 910
Nonprofit Management, Graduate Certificate ... 911
Organizational Communication, Graduate Certificate ... 912
Professional Sports Administration, Graduate Certificate ... 913
Project Business Analysis, Graduate Certificate ... 914
Project Management, Graduate Certificate ... 915
Public and Media Relations, Graduate Certificate ... 916
Quality Assurance Compliance, Graduate Certificate ... 917
Remote Sensing, Graduate Certificate ... 918
Sales Management, Graduate Certificate ... 919
Social Media for Organizational Performance, Graduate Certificate ... 920
Usability, Graduate Certificate ... 921
College of Science ... 922
Academic Policies and Procedures ... 923
Academic Appeals Policies ... 924
Awards ... 927
Changes in Requirements ... 928
Cooperative Education Policies ... 929
Course Registration ... 931
The Doctor of Philosophy Degree (PhD) ... 932
Grading Policies ... 934
The Master's Degree Academic Requirements ... 935

Satisfactory Progress ... 936
Time Limitation ... 937
Transfer Credit ... 938
Biology ... 939
Biology, PhD ... 940
Bioinformatics, MS ... 942
Cell and Gene Therapies, MS ... 946
Bioinformatics, Graduate Certificate ... 948
Omics, Graduate Certificate ... 950
Chemistry and Chemical Biology ... 951
Chemistry, PhD ... 953
Biotechnology, MS ... 955
Biotechnology, MS—Experiential ... 961
Chemistry, MS ... 962
Biodefense and Biosecurity, Graduate Certificate ... 963
Biopharmaceutical Analytical Sciences, Graduate Certificate ... 964
Biotechnology, Graduate Certificate ... 965
Biotechnology Enterprise, Graduate Certificate ... 966
Biotechnology Regulatory Science, Graduate Certificate ... 967
Experimental Biotechnology, Graduate Certificate ... 968
Manufacturing and Quality Operations in Biotechnology, Graduate Certificate ... 969
Molecular Biotechnology, Graduate Certificate ... 970
Pharmaceutical Technologies, Graduate Certificate ... 971
Process Science, Graduate Certificate ... 972
Vaccine Development, Graduate Certificate ... 973
Marine and Environmental Sciences ... 974
Marine and Environmental Sciences, PhD ... 975
Human Behavior and Sustainability Sciences, PhD ... 980
Climate Science and Engineering, MS ... 385
Environmental Science and Policy, MS ... 985
Marine Biology, MS ... 987
Sustainability Sciences, Graduate Certificate ... 989
Mathematics ... 990
Mathematics, PhD ... 991
Applied Mathematics, MS ... 998
Mathematics, MS ... 1000
Operations Research, MSOR ... 1001
Applied Mathematics, Graduate Certificate ... 1003
Physics ... 1004
Physics, PhD ... 1005
Nanomedicine, MS ... 1012
Physics, MS ... 1016
Nanomedicine, Graduate Certificate ... 1019

Psychology ... 1020
Human Behavior and Sustainability Sciences, PhD ... 980
Psychology, PhD ... 1024
Interdisciplinary Programs ... 1028
Network Science, PhD ... 273
Applied Physics and Engineering, MS ... 421
Environmental Science and Policy, MS ... 985
Climate Science and Engineering, MS ... 385
Graduate Certificate Programs ... 1039
College of Social Sciences and Humanities ... 1040
General Regulations ... 1041
General Information ... 1042
Academic Appeals Procedures ... 1043
Regulations for All Students ... 1046
Doctor of Philosophy ... 1048
Master's Degrees ... 1050
School of Criminology and Criminal Justice ... 1051
Criminology and Justice Policy, PhD ... 1052
Criminology and Criminal Justice, MS ... 1055
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Criminology and Criminal Justice, MS ... 779
Economics ... 1059
Economics, PhD ... 1060
Economics, MS ... 1064
English ... 1066
English, PhD ... 1067
English, MA ... 1070
Digital Humanities, Graduate Certificate ... 1072
History ... 1074
History, PhD ... 1075
History, MA ... 1078
Public History, Graduate Certificate ... 1080
Political Science ... 1081
Political Science, PhD ... 1082
Political Science, MA ... 1085
Security and Resilience Studies, MS ... 1088
Security and Resilience Studies, Graduate Certificate ... 1091
School of Public Policy and Urban Affairs ... 1092
Public Policy, PhD ... 1093
International Affairs, MA ... 1098
Public Administration, MPA ... 1100
Public Policy, MPP ... 1103
Engineering and Public Policy, MS ... 387

Environmental Science and Policy, MS ... 985
Urban Informatics, MS ... 1111
Urban Planning and Policy, MS ... 163
Law, JD / Public Policy, MPP ... 781
Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate ... 1120
Public Policy Analysis, Graduate Certificate ... 1121
Sustainability and Climate Change Policy, Graduate Certificate ... 1122
Urban Analytics, Graduate Certificate ... 1123
Urban Studies, Graduate Certificate ... 1124
Sociology ... 1125
Sociology, PhD ... 1126
Interdisciplinary Programs ... 1131
Network Science, PhD ... 273
Applied Quantitative Methods and Social Analysis, MS ... 1136
Computational Social Science, Graduate Certificate ... 1139
Data Analytics, Graduate Certificate ... 299
Information Ethics, Graduate Certificate ... 1141
Women's, Gender, and Sexuality Studies, Graduate Certificate ... 1142
Mills College at Northeastern ... 1144
Gordon Institute of Engineering Leadership ... 1145
Engineering Leadership, Graduate Certificate ... 551
Technology Leadership, Graduate Certificate ... 1149
Additional Programs ... 1151
Postsecondary Teaching, Graduate Certificate ... 1152
University Faculty ... 1153
General Information ... 1237
Notifications and Disclosures ... 1238
Governing Boards and Officers of Northeastern ... 1240
University Leadership ... 1242
Accreditation ... 1243
Authorizations ... 1247
Major CIP Codes ... 1251
Resources ... 1271
Index ... 1272

Graduate Catalog

Matthew Modoono for Northeastern#University

Information for Entering Students

Graduate education at Northeastern University integrates the highest level of scholarship across disciplinary boundaries with significant research and experiential learning opportunities in Boston and around the world. Northeastern offers hundreds of graduate programs, ranging from doctoral and full-time master's programs to part-time programs and graduate certificates, including an array of innovative PhD and master's programs designed to prepare students for emerging new fields. Students are able to take courses on campus, online, or in hybrid formats. This multidimensional learning environment offers students the knowledge and experience to excel and the flexibility to create the educational experience that best meets their needs. Our graduates are well positioned to meet the diverse demands of careers in academia, industry, and the professions.

- Academic Resources (p. 18)
- Campus Resources (p. 21)
- Information for International Students (p. 28)
- Information Technology Services (p. 29)
- Off Campus Engagement and Support (p. 30)
- Office of the University Registrar (p. 20)

Academic Resources

- Libraries (p. 19)
- Office of the University Registrar (p. 20)

Libraries

Northeastern University Library

Website (https://library.northeastern.edu)
617.373.8778

The Northeastern University Library serves the entire Northeastern community—in Boston, Oakland, across the global campus network, and online. The Library provides collections and services supporting research and teaching across disciplines. Its collections are extensive, with a large proportion available digitally. The Library's collections include more than 1 million e-books; almost 500,000 print titles; more than 150,000 licensed e-journals; and more than 200,000 streaming audio and visual titles. Access to print and electronic materials is provided through Scholar OneSearch, the Library's discovery platform. The Library's Archives and Special Collections hold historical records and publications of Northeastern and unique materials preserving the history of Boston's social movements, public infrastructure, neighborhoods, and natural environments.

Services provided by the Library include both on-site and online research help, the latter including 24/7 live chat with a reference librarian; subject-specialist librarians who provide in-depth consultation and research support for each academic program at the university; and an interlibrary loan system for providing materials not readily available at Northeastern. The Library actively supports the unique needs of graduate students in research and publishing through services such as citation management workshops, research data support, and digital scholarship services.

The Snell Library building in Boston is open to all Northeastern students, faculty, and staff. Spaces in the building include areas for group work and quiet individual study, with more than 30 group study rooms with whiteboards and plug-in displays for collaborative group work. Individual study rooms are also available for graduate students. The Library supports a range of creative activities and includes studios for audio recording, video production, and 3D printing.

F. W. Olin Library in Oakland is open to all Northeastern students, faculty, and staff, as well as Mills College and Northeastern University alumni and community members. The Library offers a collection of 200,000 volumes and other media supporting the curricular needs of the programs on the Oakland campus. Spaces in the building include areas for quiet study and group work, including reservable study rooms, a seminar room, and the student lounge. F. W. Olin Library houses special collections in the Elinor Raas Heller Rare Book Room. Oakland special collections include early printed books, contemporary fine press and artists' books, and the Mills College Archive.

School of Law Library

Website (https://law.northeastern.edu/library/)
617.373.3332

The School of Law Library, located on four floors in the Knowles Law Center, includes a comprehensive collection of U.S. legal materials in print and in electronic format. Of particular note is the library's collection in the areas of public interest law; international human rights law; and public health, death penalty issues, and progressive lawyering. More information can be found at the School of Law Library webpage (https://law.northeastern.edu/library/).

Office of the University Registrar

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services, including class scheduling, registration, record functions, verification of enrollment, reporting, and transcript services.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu/) to provide students convenient access to information and services, including class schedules and registration, most recent grades, unofficial transcripts, and transcript and enrollment verification requests.

Office of the University Registrar website (https://registrar.northeastern.edu/)
registrar@northeastern.edu
617.373.2300
617.373.5351 (fax)

Maintenance of Student Records

The Office of the University Registrar is responsible for ensuring appropriate maintenance and safekeeping of student records. The transcript, which is stored electronically and maintained indefinitely, is the holistic record of student attendance and degree progress. In the event that the university discontinues operations, the archive of student records would be maintained by:

Massachusetts Department of Higher Education
One Ashburton Place
Room 1401
Boston, MA 02108

Campus Resources

- Center for Advancing Teaching and Learning Through Research (p. 22)
- Disability Resource Center (p. 23)
- Employer Engagement and Career Design (p. 24)
- Public Safety (p. 25)
- University Health and Counseling Services (p. 26)
- We Care (p. 27)

Center for Advancing Teaching and Learning Through Research

catlr@northeastern.edu
Website (https://learning.northeastern.edu/)

617.373.3157
617.373.7779 (fax)

The Center for Advancing Teaching and Learning Through Research provides professional development for all graduate students at Northeastern University in their roles as teaching assistants, instructors, and future faculty and professionals. We provide a range of opportunities for graduate students to develop effective teaching skills, including course design and communication. CATLR is committed to supporting your success at Northeastern and beyond, and we welcome you to:

- Participate in workshops and other events to learn about effective practices in teaching and course design and to adapt them for your own current or future use.
- Meet one-on-one with a CATLR consultant to discuss any aspect of teaching or preparing for the academic job market and postdoctoral careers, including developing course syllabi, teaching statements, teaching portfolios, and diversity statements.
- Invite a CATLR consultant to observe your class, recitation, lab, studio, or guest lecture and to meet with you afterward to share and discuss their observations in relation to your own goals and reflections.
- Learn more about our self-paced Future Faculty Program, designed for you to reflect on and prepare for the various dimensions of teaching in higher education.

All of CATLR's services are provided on a formative and confidential basis.

Disability Resource Center

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Employer Engagement and Career Design

Website (https://careers.northeastern.edu)

103 Stearns Center
617.373.2430
careers@northeastern.edu

Employer Engagement and Career Design serves a diverse and sustainable global network of learners, alumni, and employers, forming a powerful ecosystem that nurtures lifelong career design and partnerships by enabling learners to:

- Choose a major and explore career options that fit an individual's unique attributes
- Take advantage of experiential learning opportunities
- Make career decisions that will engage students and alumni in productive and fulfilling work
- Prepare for and conduct successful job searches
- Create meaningful and effective engagement with employers
- Contribute to meeting global and societal needs

We collaborate closely with the co-op community in all colleges and campuses across the global university while offering a dynamic framework of career design as lifelong learning with distinctive advising and programs to support learners at all stages of their journey. We are committed to supporting all learners and employer partners in eliminating biases and inequitable systems that stand in the way of achieving their goals and fostering an inclusive and just society.

Public Safety

Northeastern University Police Department

100 Columbus Place
617.373.3333 (EMERGENCY—police, fire, medical)
617.373.3934 (TTY emergency or nonemergency)
617.373.2121 (nonemergency regular business)

Website (https://nupd.northeastern.edu/)

Public Safety Division Administrative Offices
617.373.2696

Personal Safety
617.373.2121

The Public Safety Division is committed to working with Northeastern University faculty, students, staff, and neighbors to build relationships and keep our campus thriving. Our work extends far beyond Boston, as we support learners in their academic and experiential endeavors around the world. The Public Safety Division is comprised of three sections: Police Department, Emergency Management, and International Safety.

The Northeastern University Police Department (https://nupd.northeastern.edu/) is a full-service and accredited police agency that comprises patrol and investigative divisions providing 24-hour service. NUPD has developed robust crime-detection and prevention strategies centered on technology and campus community engagement. Our well-trained officers are ready and willing to assist all members of our community.

A personal safety escort (https://nupd.northeastern.edu/our-services/safety-escort-services/) can be provided from one on-campus location to another, any time of day, whenever personal safety is a concern. You'll need to provide your name, Northeastern ID number, and location. Safety escorts usually arrive in 10 to 15 minutes. A special, nighttime off-campus escort service, called the RedEye, runs from dusk to dawn to transport students to their residence within two miles from the center of campus. Every night from 7 p.m. until 6 a.m., the RedEye van will pick students up at the Snell Library. In order to use this escort, you must book a ride in advance using the RedEye app, or you can book a ride at the RedEye dispatch center located at the Northeast Security office in the Ruggles Substation.

SafeZone (https://nupd.northeastern.edu/safezone/) is a mobile safety app that is unique to Northeastern. SafeZone is a smartphone app that any student or staff member can download and use for free. This app will connect you directly to the NUPD should you need our assistance or emergency support while you are on campus.

NUPD encourages you to not only familiarize yourself with all of the services provided by NUPD but to also utilize the services and safety-related tips provided. If you see something that does not look or feel right, NUPD encourages you to say something by contacting NUPD at 617.373.2121 or utilizing the SafeZone app.

LOST AND FOUND (HTTPS://NUPD.NORTHEASTERN.EDU/OUR-SERVICES/LOST-AND-FOUND/)

If you have lost an item on Northeastern's Boston campus, call 617.373.3913. If your item has been turned in, we will contact you by telephone or email. If you have found an item on campus, return it to our headquarters located at 100 Columbus Place. If you suspect the item has been stolen, call the NUPD at 617.373.2121 to report the theft.

UNIVERSITY EMERGENCY INFORMATION (HTTP://WWW.NORTHEASTERN.EDU/EMERGENCY/)

617.373.2000 (snow emergencies)
617.373.3333 (police, medical, or fire emergencies)

Northeastern is committed to providing members of its community with a safe and secure place in which to live, work, and study.

The university is prepared to respond to emergencies and urgent situations that require immediate action. A trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals form a coordinated group that is able to manage a wide range of potential situations.

NU Alert, emergency broadcast communication messages, are sent to the email addresses and telephone numbers students, faculty, and staff have provided the university. For more information on NU Alert and Emergency Planning, visit the NUPD website (https://nupd.northeastern.edu/safety/emergency-planning/).

Health and Counseling

24-hour Mental Health Support

Mental health support is available at any time from any location through Find@Northeastern for all full-time degree-seeking students . Call 877.233.9477 (U.S.), 855.229.8797 (Canada), or +1.781.457.7777 (International) to connect with a mental health clinician who is there to listen, guide, and help. In addition, through Find@Northeastern, students have access to unlimited free counseling sessions with therapists in their local area, connection to specialized treatment providers, and free access to Headspace and SilverCloud. Learn more here (https://www.northeastern.edu/uhcs/find-at-northeastern/).

BOSTON

University Health and Counseling Services (https://www.northeastern.edu/uhcs/)
70 Forsyth Building, Suite 135, Boston MA 02115
617.373.2772
uhcs@northeastern.edu

University Health and Counseling Services provides medical and mental healthcare for students in Massachusetts. UHCS clinicians are board-certified and licensed practitioners who provide confidential assessment and treatment of medical and mental health concerns, as well as referrals to specialists in the local Boston area. VisitUHCS (https://www.northeastern.edu/uhcs/) for more information, including access to care, NUSHP, medical leave of absence, and timely health updates.

OAKLAND

Counseling and Psychological Services (https://oakland.northeastern.edu/student-resources/health-and-wellness/counseling-and-psychological-services/)
Cowell Building, Oakland, CA 94613
510.430.2111
oakland-counseling@northeastern.edu

Counseling and Psychological Services provides mental health support for students on the Oakland campus. Located in the Cowell Building, CAPS offers brief therapy, groups, outreach services, and referrals to supportive resources. Visit CAPS (https://oakland.northeastern.edu/student-resources/health-and-wellness/counseling-and-psychological-services/) for more information, including additional mental health resources available through Find@Northeastern.

Student Health Center (https://www.millscollege.clinic/)
CPM 117, Oakland, CA 94613
510.431.1108

The Student Health Center provides on-campus confidential healthcare to students enrolled at Mills at Northeastern University. Services offered include primary and preventive care, basic treatment for illnesses and injuries, laboratory and pharmacy services, and referrals to specialty care and imaging services. The Student Health Center is an outpatient clinic staffed by a board-certified and licensed nurse practitioner and supported by a team that includes a board-certified physician.

We Care

617.373.7591
wecare@northeastern.edu (we_care@northeastern.edu)

Website (http://www.northeastern.edu/wecare/)

We Care assists students who are experiencing unexpected challenges to maintain their academic progress. The staff works with students to coordinate among university offices, to offer appropriate referrals, and to help develop viable options to support their continued success at the university. We Care also provides guidance to faculty and staff in identifying Northeastern resources and policies to help students succeed.

Information for International Students

Office of Global Services

Website (http://www.northeastern.edu/ogs/)
617.373.2310
617.373.8788 (fax)

The Office of Global Services provides advice and support services to over 20,000 international students and scholars who represent approximately 147 nations.

OGS serves as a "home away from home" for all international students and offers a wide array of **programs and services** to assist international students with their cultural adjustment, academic success, and professional growth. Throughout the year, OGS hosts cocurricular events that celebrate culture and the rich diversity of the campus. These events are encouraged as a way to gain familiarity with Northeastern University in a cross-cultural context while also facilitating the formation of friendships across cultures. OGS promotes meaningful interaction and intercultural understanding among citizens of all countries and their local peers, providing educational and cultural enrichment opportunities for all members of Northeastern. All students in the Northeastern community are welcome to participate in our events.

OGS provides **comprehensive immigration advising services** to assist international students in understanding the benefits and restrictions of being an international student, as governed by the federal immigration regulations set forth by the country of the student's study location within the Northeastern University Global Network. OGS advises students on the complexities of immigration compliance and interfaces with various government agencies.

During **international student orientation**, international students will receive an overview of the immigration compliance requirements along with information and resources to support academic success, student life, campus safety, and cultural adjustment.

During every required academic term, international students must maintain **full-time status and appropriate on-ground presence** at Northeastern to comply with federal immigration regulations. Note that timely registration for courses is especially important so that international students may remain in compliance with Northeastern's reporting requirements to the federal government about where they are studying. Because understanding federal regulations is complex and often nuanced, international students should consult with OGS if they have questions about their individual status.

OGS—United States (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students and scholars attending Northeastern in the United States, including I-20 (F-1) or DS-2019 (J-1) issuance, visa processing, general guidelines, orientation, events and programs, and support services. F-1 and J-1 students are encouraged to regularly review the guidelines on maintaining status (https://international.northeastern.edu/ogs/current-students/understanding-visa-requirements/guidelines-on-maintaining-status/).

OGS—Canada (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students attending the Northeastern program in Canada, including study permit compliance and extension, work eligibility, co-op work permit application, Post-Graduation Work Permit application, general guidelines, and support services.

Visa Immigration Compliance Team (https://www.nulondon.ac.uk/study/international-students/visa/visasupport/)—United Kingdom

The visa compliance team in London is committed to providing comprehensive support to international students throughout their CAS (Certificate of Acceptance for Studies) and UK student visa application processes. Their role encompasses assisting students in both pre- and postenrollment visa compliance activities.

The team also offers full support for an in-person enrollment on the first day at Northeastern University, London—which is a crucial process where the university verifies the information provided by international students and ensures their right to study in the UK. It is the university's responsibility to ensure that every international student possesses the correct visa to study in the UK. Once enrollment is successfully completed and all requested information is submitted, the visa compliance team issues a student ID card as a confirmation of the student's enrollment with Northeastern University, London.

The visa compliance team remains available throughout the student's enrollment life cycle to provide advice, guidance, and comprehensive support for any issues related to student visas. This includes addressing changes in program or any other matters related to visas or immigration, until the international student graduates.

Information Technology Services

IT Services is the university's central group that provides technology services, solutions, and support to all Northeastern University students. Visit the Connect To Tech guide (https://connect-to-tech.northeastern.edu/students/) for information and key technology resources that are particularly helpful to students, including:

- Northeastern accounts
- Access to email
- Laptop recommendations and discounts
- Canvas learning management system
- Software such as Office 365 and Adobe Creative Cloud
- Frequently used websites and mobile apps

Technology Support and IT Service Desk

Technology support is available 24/7 online or by phone and email. Walk-up support is available at the Tech Bar on the Boston and Oakland campuses. G (https://service.northeastern.edu/tech/?id=its_contact_us)**et IT Support >**

service.northeastern.edu/tech (https://service.northeastern.edu/tech/)
617.373.HELP [4357]
help@northeastern.edu

Visit the Tech Service Portal (https://service.northeastern.edu/tech/) to search for how-tos and FAQs, borrow a laptop or other equipment, start a live chat, and search other resources.

Occasionally, interruptions to university systems, services, and tools can happen—when they do, get updates about them through Northeastern's IT status page (https://its.northeastern.edu/status/).

Off Campus Engagement and Support

617.373.8480
offcampus@northeastern.edu

Off Campus Engagement and Support and our Network Housing team at Northeastern University provide support and education related to off-campus housing, renters' rights information, and campus and community connection. We offer many resources, special programs, and events to help you find off-campus housing in Boston and across the Northeastern network; connect with roommates; stay involved on campus; and serve as a link to your peers, alumni, and community. For students on co-op, our Network Housing support offers leased housing options in popular co-op locations.

We also help you understand your rights and responsibilities as a renter, understand your lease, and how to navigate landlord issues. Peer Community Ambassadors plan programs and events for you, are here to answer all of your questions, and help you meet your neighbors.

Our extensive website offers a host of resources including an apartment search database (http://aptsearch.northeastern.edu/); information on neighborhoods and transportation; as well as Northeastern, City of Boston, and Network Housing resources and relocation services.

Off Campus Engagement and Support publishes an e-newsletter that provides valuable tips and information on upcoming programs and events both on campus and off campus. Individuals interested in receiving our newsletter can sign up here (http://offcampus.sites.northeastern.edu/newsletter/) or email us at offcampus@northeastern.edu.

For more information, visit Off Campus Engagement and Support (http://offcampus.sites.northeastern.edu/).

Office of the University Registrar

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services, including class scheduling, registration, record functions, verification of enrollment, reporting, and transcript services.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu/) to provide students convenient access to information and services, including class schedules and registration, most recent grades, unofficial transcripts, and transcript and enrollment verification requests.

Office of the University Registrar website (https://registrar.northeastern.edu/)
registrar@northeastern.edu
617.373.2300
617.373.5351 (fax)

Maintenance of Student Records

The Office of the University Registrar is responsible for ensuring appropriate maintenance and safekeeping of student records. The transcript, which is stored electronically and maintained indefinitely, is the holistic record of student attendance and degree progress. In the event that the university discontinues operations, the archive of student records would be maintained by:

Massachusetts Department of Higher Education
One Ashburton Place
Room 1401
Boston, MA 02108

Financial Information

- Bill Payment (p. 32)
- Delivery of Services (p. 35)
- Financial Aid Assistance (p. 36)
- Student Refunds (p. 39)
- Tuition and Fees (p. 40)

Bill Payment

Student Financial Services

617.373.2270
617.373.8735 (fax)
studentaccounts@northeastern.edu

Full payment of tuition and other related charges is due prior to the start of the term as specified on the original bill. For questions related to the billing process, late fees, payment methods, tuition payment plan, and refunds, contact us at the phone number and email address provided above.

E-Bill

Tuition bills are generated electronically and are available via the Student Hub. Once your billing statement is available, you will be notified via email.

Bills must be paid by the due date on the initial billing statement. If a bill has not been received by the first week of the semester, contact Student Accounts.

In adherence to university policy, transcripts and other academic records will typically be withheld until all financial obligations to the institution have been fulfilled. However, students enrolled in Washington, California, and Maine will receive their transcripts even if they have outstanding financial obligations, in accordance with state regulations.

Update: Starting May 3, 2024, the university will no longer withhold transcripts due to outstanding financial obligations for any student, regardless of their state of enrollment or campus affiliation.

Payment of Tuition

Full payment of tuition, fees, and other related charges are due prior to the start of each semester. Payments will be accepted for billable charges only. The university is not able to process payments for more than the balance due on the student's account.

Accepted methods of payment are:

- **Electronic check (e-check):** Payments can be made online via NUPay on the Student Hub and are processed the same day they are received by the university.
- **International payments using Flywire:** Northeastern University has partnered with Flywire to streamline the international wire payment process to the university. This service provides students and their families a safe, cost-effective, and convenient method of making payments to Northeastern in foreign currencies. To learn more about international payments through Flywire, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/payment-methods/).
- **Monthly payment plan:** The monthly payment plan, administered through Flywire, allows students to divide their educational costs into smaller, more manageable installments. For additional information, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).
- **Supplemental loans:** There are a number of educational loan programs available to assist students in financing their education. Review options at the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).

For additional information regarding available payment and financing options, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/).

Student Financial Responsibility Agreement

As compelled by federal law, all students who enroll in classes at Northeastern are required to complete and accept the Student Financial Responsibility Agreement (https://studentfinance.northeastern.edu/billing-payments/sfra/). This agreement must be completed once per academic year and is located on the Student Hub. Failure to complete the SFRA will result in a hold that prevents attendance.

VA Education Benefits

In accordance with Title 38 USC 3679 (e), covered individuals utilizing Chapter 31 or Chapter 33 education benefits at Northeastern University will not have any penalty imposed on their account nor will they be required to take out additional funding due to pending or late payments from the Department of Veterans Affairs as long as the Dolce Center for the Advancement of Veterans and Servicemembers has a current Certificate of Eligibility or VRE Authorization on file AND a Request for VA Benefit Certification is submitted through the Student Hub (https://me.northeastern.edu) portal.

COEs must be submitted before the start of the student's first term but do not need to be resubmitted unless entitlement information changes. Students are also required to complete the Request for VA Benefit Certification form through the Student Hub (https://me.northeastern.edu) portal before the start of each term they wish to use VA benefits. Students may have a hold placed on the account if there is an outstanding balance after payment from the VA is received by Northeastern.

Discrepancies in Your Bill

Discrepancies in your bill should be addressed in writing via email (studentaccounts@northeastern.edu) to Student Financial Services. Include your name, Northeastern ID, account number, dollar amount in question, date of invoice, and any other information you believe is relevant.

If there is a discrepancy in your bill, pay the undisputed part of the bill to avoid responsibility for any late fees or financial holds.

Late Fees

Late fees can be placed on accounts any time after the due date if the account remains fully or partially unpaid. The university reserves the right to assess late fees after the due date on the bill and monthly thereafter if any of the balance due remains unpaid. Late fees may be based on a percentage of the balance due.

If a student or payer wishes to dispute a late fee assessment, they must do so, in writing, to studentaccounts@northeastern.edu. Please be sure to include the student's name, Northeastern ID, and reason for the dispute in the email.

In cases where students default on financial obligations, the student is liable for the outstanding balance, collection costs, and any legal fees incurred by the university during the collection process.

Tuition Paid Directly by Employers

When a third party pays tuition directly to the university, the student must provide the Office of Student Accounts with a purchase order or a written statement of intent to pay by the third party prior to the first week of classes. If there are stipulations associated with the payment agreement, such as a minimum grade level, then the student must either pay the university directly or enroll in one of the payment options.

Documents pertaining to a third-party agreement can be emailed to thirdparty@northeastern.edu, faxed to 617.373.8735, or mailed to the address below:

Student Financial Services
Northeastern University
ATTN: Third-Party Billing
354 Richards Hall
360 Huntington Ave
Boston, MA 02115

Tuition Reimbursement

Many companies, embassies, and agencies directly reimburse students for their educational expenses upon successful completion of courses. In these situations, the student is responsible for paying the bill at the beginning of the semester or selecting another payment option. Tuition may not be left unpaid pending reimbursement by a third party. Check with your human resources department to see if you qualify.

If your company requires an official transcript to process the tuition reimbursement, you may request your transcript online (visit the Office of the University Registrar website (https://registrar.northeastern.edu/article/transcript-requests/) for additional information about the transcript request process). Transcripts should be requested prior to the due date on your initial billing statement. Should there be a balance due on your account after the due date, your account may be subject to holds and a transcript will not be available until the balance due is resolved.

Tuition and Fees and Default Policy

Tuition rates, all fees, rules and regulations, courses, and course content are subject to revision by the president and the Board of Trustees at any time. In cases where the student defaults on their tuition, the student shall be liable for the outstanding tuition and all reasonable associated collection costs incurred by the university, including attorneys' fees.

Northeastern University Student Health Plan (NUSHP)

GENERAL INFORMATION

Since September 1989, Massachusetts law (M.G.L. c.15A, § 18) has required every full-time and part-time student enrolled in a certificate, diploma, or degree-granting program in a Massachusetts institution of higher learning to participate in a Student Health Plan or in a health benefit plan with comparable coverage.

The Northeastern University Student Health Plan defines a full-time student as having full-time student status and enrolled in any amount of credits of a full-time curriculum.

NUSHP defines a part-time student as having part-time student status and enrolled in at least 75% of credits of the full-time curriculum (CPS undergraduate students—9 credits, CPS graduate students—6 credits).

The health fee is assessed each term on a student's account based on these definitions unless the student has previously waived the health plan fee in the current academic year.

Students on co-op or on study abroad are considered active students and will be enrolled in and billed for NUSHP each year.

Students enrolled in prematriculation and online programs are not eligible for NUSHP.

HEALTH INSURANCE WAIVER

Eligible students are automatically enrolled in NUSHP each academic year and may waive NUSHP via the Student Hub (https://me.northeastern.edu) once they have been billed for NUSHP. In addition, to be eligible to waive, comparable coverage must be effective from the beginning of the term the student meets Student Health Program requirements.

The burden of proof that the alternative insurance is adequate falls upon the student choosing to waive. By submitting the waiver form, the student will be accepting responsibility for all medical expenses incurred, and neither Northeastern University nor its Student Health Plan will be responsible for these expenses.

Northeastern reserves the right to verify that the student's insurance meets the criteria indicated. Disciplinary action may be taken if a student knowingly waives NUSHP without comparable coverage.

Visit the NUSHP website (https://www.northeastern.edu/nushp/) for waiver deadlines.

Delivery of Services

Northeastern University assumes no liability for delay or failure to provide educational or other services or facilities due to causes beyond its reasonable control. Causes include, without limitation, power failure, fire, strikes by university employees or others, damage by natural elements, and acts of public authorities. The university will, however, exert reasonable efforts, when it judges them to be appropriate, to provide comparable services, facilities, or performance; but its inability or failure to do so shall not subject the university to liability.

In the event that Northeastern determines it must suspend or alter its operations in whole or in part due to epidemic, pandemic, other public health emergency, extreme weather, natural disaster, acts or threatened acts of terrorism or war, or any single act or combination of events beyond the university's control, Northeastern may suspend, reduce, terminate and/or modify its operations in whole or in part, which may or may not include offering online or other alternative learning options, in its discretion. In any such event, Northeastern is under no obligation to refund or credit any portion of tuition, fees, or other charges paid or owed, but it may do so in its discretion.

Northeastern reserves the sole right to promulgate and change rules and regulations and to make changes of any nature in its program; calendar; admissions policies, procedures, and standards; degree requirements; fees; and academic schedule whenever necessary or desirable, including, without limitation, changes in course content and class schedule, the cancellation of scheduled classes and other academic activities, and the substitution of alternatives for scheduled classes and other academic activities. In any such case, the university will give whatever notice is reasonably practical.

Northeastern will endeavor to make available to its students a fine education and a stimulating and congenial environment. However, the quality and rate of progress of an individual's academic career and professional advancement upon completion of a degree or program are largely dependent on the individual's own abilities, commitment, and effort. In many professions and occupations, there are also requirements imposed by federal and state statutes and regulatory agencies for certification or entry into a particular field. These requirements may change while a student is enrolled in a program and may vary from state to state or country to country. Although the university stands ready to help its students find out about requirements and changes in them, it is the student's responsibility to initiate the inquiry.

Financial Aid Assistance

Student Financial Services

617.373.5899 (Graduate)

617.373.2897 (College of Professional Studies)

sfs@northeastern.edu
studentfinance.northeastern.edu (https://studentfinance.northeastern.edu/)

Northeastern University is available to assist students in developing a plan for financing a Northeastern education. Through a variety of options—including federal financial aid, Northeastern's monthly payment plan, supplemental loans, and your own resources—a plan can be designed that will make your education costs affordable. Visit the Student Financial Services website (https://studentfinance.northeastern.edu/) or contact the office directly for additional information.

How to Apply

To apply for federal financial aid programs, students must submit the Free Application for Federal Student Aid (https://studentaid.gov/h/apply-for-aid/fafsa/) and include Northeastern's FAFSA school code, 002199. Students are strongly encouraged to submit their FAFSA by the priority filing deadline of **March 1** to ensure they are considered for all available financial aid programs.

To electronically sign your FAFSA, you will need your FSA ID. If you do not have one or have forgotten your FSA ID, visit the Federal Student Aid website (https://studentaid.gov/) to obtain one before starting the FAFSA.

Federal Financial Aid Eligibility

Students in the graduate colleges must meet the following criteria to be eligible for federal financial aid:

- Be enrolled in at least 4 credits per term for federal financial aid, unless you are on a co-op, clinical rotation, residency, or are enrolled in a full-time or part-time stand-alone course
- Be a U.S. citizen or eligible noncitizen
- Be matriculated in a degree-granting program

  Please note that students enrolled in graduate certificate programs are not eligible for federal financial aid.
- Have received a high school diploma or GED
- Be registered with Selective Service (if required)
- Not be convicted of a drug-related crime in the last year
- Not be in default from previous student loans
- Maintain satisfactory academic progress (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/)

Awarding Timelines

New students are awarded on an ongoing basis throughout the spring after we have been notified that they have been accepted into their program.

Returning students are awarded throughout the summer.

For information regarding your financial aid application, log into the Student Hub.

Typical Graduate Financial Aid Award

Eligible students who file the FAFSA will be automatically considered for the Federal Direct Unsubsidized Loan, provided that all eligibility requirements have been met. The maximum amount that a student may borrow per academic year in the Federal Direct Unsubsidized Loan program is $20,500.

For more information about the Federal Direct Loan Program, visit the Student Financial Services website (https://studentfinance.northeastern.edu/applying-for-aid/graduate/types-of-aid/).

Graduate Assistantships and Scholarships

Graduate assistantships and awards are offered directly by the individual graduate schools or academic departments. Students seeking such assistance should contact their graduate school for eligibility criteria.

To review a description of available scholarships, visit the Student Financial Services website (https://studentfinance.northeastern.edu/applying-for-aid/graduate/types-of-aid/).

Health Professions Student Loans and Nursing Student Loans

These federal loan programs carry a 5% interest rate during repayment. You must demonstrate financial need and meet Northeastern's priority filing date for consideration, as funds are limited. Northeastern is the lender, and repayment is made directly to Northeastern.

To be eligible for the Federal Nursing Student Loan, students must be enrolled at least half-time in the Bouvé College of Health Sciences. These loans carry a nine-month grace period prior to repayment following graduation, withdrawal, or a drop below half-time status. Repayment on the loan is for a period of up to 10 years with a minimum $40 monthly payment. The loan may be prepaid at any time without penalty.

To be eligible for the Health Professions Loan Program, applicants must be enrolled full-time in the School of Pharmacy in the Bouvé College of Health Sciences. Additionally, students who would like to be considered for the Health Professions Loan Program must include parent income information when completing the FAFSA. These loans carry a 12-month grace period. Repayment on the loan is for a period of up to 10 years with a minimum $40 monthly payment. The loan may be prepaid at any time without penalty.

Physician Assistant Loan

The Physician Assistant Loan is awarded to full-time students in the graduate physician assistant program who demonstrate financial need after filing the FAFSA. The interest rate is fixed at 7%. Northeastern is the lender, and repayment is made directly to Northeastern. The loan amounts range from $1,000 to $3,000, depending upon the student's financial need. Repayment begins one month after the student ceases to be enrolled full-time at Northeastern.

Federal Direct Graduate PLUS Loan

Unlike Federal Direct Unsubsidized Loans, the Federal Direct Graduate PLUS Loan (https://studentfinance.northeastern.edu/billing-payments/financing-options/) requires credit approval by the direct loan servicer.

Students have up to 25 years to repay the Federal Direct Graduate PLUS Loan. The Federal Direct Graduate PLUS Loan can be consolidated with Federal Direct Unsubsidized and Perkins loans upon graduation.

Graduate PLUS loans do not have a grace period. Repayment begins after a student is no longer enrolled at least half-time. Students who drop below half-time status and then reenroll above half-time status will need to request their loans be deferred again through their assigned direct loan servicer.

Graduate students who wish to apply for a Federal Direct Graduate PLUS Loan can do so online at studentaid.gov (https://studentaid.gov/app/launchPLUS.action/?plusType=gradPlus). For assistance with financial planning or determining the amount to apply for, please reach out to Student Financial Services.

Supplemental Student Loans

There are a number of educational loan programs available to assist students in covering their expenses over and above any federal financial aid that may be awarded to them from Student Financial Services. Most private lenders have credit and income requirements that must be met before being approved for these programs. Additional information regarding private loans is available here (https://studentfinance.northeastern.edu/billing-payments/financing-options/). Student Financial Services recommends to students that, when researching the loan and lender that best meets their needs, they make sure they take into consideration the interest rate; quality of customer service; and origination, disbursement, and/or repayment fees.

General Financial Policies and Procedures

FINANCIAL AID POLICIES

Student Financial Services reserves the right to adjust a student's initial Offer of Financial Assistance based upon information brought to the office's attention subsequent to extension of the offer, including, but not limited to, increased or new institutional scholarships, outside scholarships, or revised family financial data.

APPEAL/CHANGE IN CIRCUMSTANCES

If the student feels that the aid process does not accurately reflect their situation, or if family circumstances change during the year, the student should notify Student Financial Services for further evaluation. We may request additional documentation from you that might indicate a change in financial circumstances.

CHANGE IN ENROLLMENT STATUS

Students must notify Student Financial Services about any change in planned period of enrollment, whether due to withdrawal from a class, a leave of absence, a change in co-op or academic division, or withdrawal from the university. Students should be aware that any change in enrollment status may result in a change in federal or institutional aid eligibility. It is the student's responsibility to notify Student Financial Services about any change in enrollment status and to ensure understanding of the ramifications of such changes. It is highly recommended that whenever possible, students discuss the impact of such changes with their financial aid counselor before making them.

OUTSIDE SOURCES OF AID

Students must notify Student Financial Services of any aid received from outside sources, such as scholarships. Receipt of these sources may require an adjustment to a student's financial aid award.

REAPPLICATION PROCESS

Students must reapply for financial aid each year by filing the FAFSA (https://studentaid.gov/h/apply-for-aid/fafsa/) online. To receive priority consideration for aid, the federal processor must receive the FAFSA by **April 1**.

SATISFACTORY ACADEMIC PROGRESS

To continue receiving financial aid, graduate students must maintain the academic requirements for satisfactory progress set forth by their college. Refer to the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/) for more information about how satisfactory progress impacts financial aid eligibility.

VERIFICATION

If a student is selected for verification (https://studentfinance.northeastern.edu/federal-verification-process/), Student Financial Services may be required to collect additional documents, including tax returns and other financial documents, to verify the information provided on the FAFSA. Aid cannot be disbursed until this process is completed.

RETURN OF TITLE IV FUNDS

Northeastern is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a term. Recalculation is based on the percentage of earned aid using the Federal Return of Title IV funds formula. Federal regulations require students to obtain at least one A, B, C, D, or S in at least one course for the term; students who receive all unsuccessful grades for a term (F, NE, W, I, U) may be considered unofficially withdrawn from the term and subject to an aid recalculation, including the possible loss of financial aid for that term.

Student Refunds

Refund Policies

Inquiries about credit balances should be directed to Student Accounts. Credit balances on a student's account will be automatically refunded.

Note the following exceptions:

- If the credit in your account is due to a Parent PLUS Loan, supplemental loan, and/or payment plan payment(s), the credit balance will be refunded to the bill payer on record unless a Refund Authorization form (https://studentfinance.northeastern.edu/forms/), stating that funds may be released directly to the student, is received from that borrower.
- If a credit card has been used to pay any portion of the amount due, the refund must be made first to that credit card. If the credit balance on the account exceeds the amount that was paid via credit card, these additional funds will be refunded by direct deposit or check.

For additional information regarding student refunds, including Frequently Asked Questions, visit the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/student-refund-requests/).

Official Withdrawal Adjustments

Students who officially withdraw, either from a course or from the university, during an academic term will receive a tuition refund based on the policy specified below. Institutional funds awarded by Northeastern University will be adjusted based on the actual charges incurred during the semester. Funds from federal Title IV programs will be returned to the government according to federal regulations. The federal government Return of Funds Policy dictates that a student's eligibility for federal financial aid is determined by the number of days enrolled during the semester. The refund will be calculated from the day the student submits an official notification of withdrawal to the Office of the University Registrar.

Tuition credits are granted through the first five weeks of a semester or first four weeks of a half semester, based on the date of the official withdrawal processed by the Office of the University Registrar. Nonattendance does not constitute official withdrawal. Credit policies vary according to the duration of the course. Typical tuition adjustments are made according to the following schedule. (The end of week three corresponds with the last day to drop a class without a W grade.)

DURING FULL SEMESTER

During weeks one through three—100% refund
During the fourth week—60% refund
During the fifth week—40% refund
After the fifth week—No refund

SUMMER HALF SEMESTERS AND COURSES OFFERED IN PART-OF-TERM FORMAT

During weeks one through two—100% refund
During the third week—50% refund
During the fourth week—25% refund
After the fourth week—No refund

Leave of Absence Tuition and Fee Adjustments

Please refer to Leaves of Absence and University Withdrawal (p. 57).

Disability Resource Center Tuition Adjustments

Students who are registered with Northeastern's Disability Resource Center (http://www.northeastern.edu/drc/) and who are approved for a disability-related reduced course load may be eligible to petition the DRC for tuition adjustments directly related to their documented disability. Further information is available from the DRC.

State-, Province-, and Country-Specific Refund Policies

For state-, province-, and country-specific refund information, visit the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/).

Tuition and Fees

Please note: Courses taken outside of the student's home college may be billed at the per-credit rate of the college offering the course.

Bouvé College of Health Sciences

Graduate Program	Cost per Credit Hour
All graduate programs, excepting specific programs listed below.	$1,815
• MS Applied Behavior Analysis	$1,340
• BSN Nursing—Accelerated Program for Second-Degree Students (ABSN)	$1,263
• DMSc Healthcare Leadership	$1,000
• DNP Nurse Anesthesia (Clinical)	$4,600 (in addition to tuition)
• DPT Physical Therapy—Postbaccalaureate Entry	$20,100 (per semester)
• Graduate Certificate in Extreme Medicine	$1,000
• MPH Public Health (Charlotte)	$1,143
• MS Exercise Science	$1,233
• MS Health Informatics	$1,400
• MS Nursing—Direct Entry	$21,750 (per semester)
• MS Nursing (Online)	$975
• MS Physician Assistant	$18,850 (per semester)
• MS Speech-Language Pathology	$1,795
• PharmD Pharmacy—Direct Entry	$31,000 (per semester)
• PharmD Pharmacy—Direct Entry, Clinical	$15,395 (per semester)
• PharmD Pharmacy, Sixth Year (effective summer term 2014)	$15,395 (per semester)

COLLEGE OF ARTS, MEDIA AND DESIGN

Graduate Program	Cost per Credit Hour
All graduate programs (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/)	$1,894

COLLEGE OF ENGINEERING

Graduate Program	Cost per Credit Hour
All graduate programs (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/)	$1,801

COLLEGE OF PROFESSIONAL STUDIES

Graduate Program	Cost per Credit Hour
All graduate programs, except specific programs listed below.	$850
• DLP Law and Policy (self-paced, 69 QH program; new students as of 7/1/20)	$1,058
• Executive DLP Law and Policy (students entering prior to 7/1/19)	$2,217

• Executive DLP Law and Policy (69 QH program; new students as of 7/1/20)	$1,541
• EdD Education	$1,008
• MEd Education; MAT Teaching (excluding MEd Higher Education Administration)	$698
• MPS Analytics; MS Commerce and Economic Development; MPS Applied Machine Intelligence	$960 (students entering before 7/1/20)
	$1,016 (students entering 7/1/20–6/30/21)
	$1,055 (students entering 7/1/21–6/30/22)
	$1,116 (students entering 7/1/22–6/30/23)
• MPS Informatics and MPS Digital Media	$933 (students entering before 7/1/20)
	$986 (students entering 7/1/20–6/30/21)
	$1,024 (students entering 7/1/21–6/30/22)
	$1,084 (students entering 7/1/22–6/30/23)
• MS Global Studies and International Relations; MS Regulatory Affairs	$874
• MSTC Technical Communication	$874
• MEd Higher Education Administration	$768
• Master's-level graduate courses for personal and professional enrichment (nondegree)	$850

COLLEGE OF SCIENCE

Graduate Program	Cost per Credit Hour
All graduate programs, except specific programs listed below.	$1,791
• MS Biotechnology—Experiential	$1,502
• MS Biotechnology—Toronto (Domestic)	$672
• MS Biotechnology—Toronto (International)	$1,021
• MS Bioinformatics—Toronto (Domestic)	$928
• MS Bioinformatics—Toronto (International)	$1,241
• MS Environmental Science and Policy	$1,760
• MS Marine Biology	$1,542

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

Graduate Program	Cost per Credit Hour
All graduate programs, excepting specific programs listed below.	$1,350
• MS Criminology and Criminal Justice	$1,011
• MS Economics	$1,483
• MPA Public Administration	$985
• MPP Public Policy	$946
• MS Security and Resilience Studies	$946

• MA English	$1,300
• MA History	$1,300

D'AMORE-MCKIM SCHOOL OF BUSINESS

Graduate Program	Cost per Credit Hour
All graduate programs except specific programs listed below. Please also see the second table below for fees billed in addition to tuition for some programs.	$1,755
• MBA Business Administration—Online	$900 (students entering after 7/1/2022)
	$1,640 (students entering before 6/30/2022)
• MS Management with concentrations in Digital Transformation in Healthcare or Healthcare Administration (online only)	$800
• MSAMBA Accounting and Business Administration	$72,150 (program rate)

Item	Fee
All campus-based, full-time graduate programs, except specific programs listed below.	$1,600 billed in year 1 in two installments ($800 each), fall and spring terms
• Business Administration, MBA—Full-Time	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• Finance and Business Administration, MSFMBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• Quantitative Finance and Business Administration, MSFMBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• Law, JD / Business Administration, MBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• LLM / Business Administration, MBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• MS Management with concentration in Strategic Technology Leadership (hybrid only)	$3,000 billed in year 1 in two installments ($1,500 each), fall and spring terms
• MSA Accounting	$0

KHOURY COLLEGE OF COMPUTER SCIENCES

Graduate Program	Cost per Credit Hour
All graduate programs, excepting specific programs listed below.	$1,725
• MS Cybersecurity	$1,625
• MS Data Science	$1,793
• Graduate Certificate Data Analytics	$1,793

SCHOOL OF LAW

Graduate Program	Cost per Credit Hour
All programs, excepting specific programs listed below.	$60,408 (per academic year)
• JD Law, Part-Time Option (FlexJD)	$45,300 (per academic year)
• LLM Law (On Ground)	$60,408 (per academic year)
• LLM Law—Online	$1,449
• MLS Legal Studies—Online	$1,132

• MS Media Advocacy (interdisciplinary program with CAMD)	(Please see College of Arts, Media and Design above)
• Graduate certificates, Online	$1,132

DISSERTATION AND CONTINUATION

Graduate Program	Cost per Credit Hour
Master's or doctoral continuation fee (flat rate)	Equivalent to the college per-credit-hour rate listed above
Dissertation (flat rate)	Equivalent to 1.5 times the college per-credit-hour rate listed above

FEES

Visit Fee Descriptions (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/fee-descriptions/) for more details.

Item	Fee
Student Center Fee (per term, Boston campus only)	$72, full-time
	$10, part-time
College of Professional Studies Student Center Fee (per quarter, Boston campus only)	$8.25
Student Recreation Fee (per term)	$62, full-time
	$30, part-time
College of Professional Studies Student Recreation Fee (per quarter, Boston campus only)	$60
Student Activities Fee (per term, Boston campus only)	$17
Residential Student Fee (per term)	$35
Health and Counseling Fee	$225
Health Plan Fee (yearly, optional) (https://studenthealthplan.northeastern.edu)	
Parking (per semester, optional) (https://www.masparc.com/products/)	
International Student Fee	$375

Academic Policies and Procedures

Universitywide Academic Policies and Procedures

- Accommodations for Students with Disabilities (p. 45)
- Attendance Requirements (p. 46)
- Campus Transfer and Campus Location Change (p. 47)
- Clearing an Academic Deficiency (p. 48)
- Code of Student Conduct (p. 49)
- Course Credit Guidelines (p. 50)
- Course Numbering System (p. 51)
- Family Educational Rights and Privacy Act (FERPA) (p. 52)
- Grade Change Policy (p. 54)
- Grade Table and GPA (p. 55)
- Leaves of Absence and University Withdrawal (p. 57)
- Personal Information (p. 60)
- Requesting and Clearing An Incomplete Grade (p. 61)
- Retaking Courses (p. 62)
- Student Bill of Academic Rights and Responsibilities (p. 63)
- Student Responsibility Statement (p. 66)
- Student Right-to-Know Act (p. 67)
- Substituting Courses (p. 68)
- University-Sponsored Travel (p. 69)

GRADUATE ACADEMIC POLICIES AND PROCEDURES

- Academic Appeals Policies and Procedures (p. 70)
- Academic Calendars (p. 73)
- Academic Integrity Policy (p. 74)
- Audit Policy (p. 75)
- Cooperative Education (p. 76)
- Departmental Jurisdiction (p. 78)
- Dismissal from Class (p. 79)
- Dropping a Class (p. 80)
- Final Examinations and Related Policies on Other Exams (p. 81)
- Full-Time Status (p. 82)
- General Regulations (p. 83)
- Graduation Requirements (p. 87)
- Minimum Cumulative GPA (p. 88)
- Overload Conditions for Graduate Assistants (p. 89)
- Pass/Fail (Satisfactory/Unsatisfactory) Grading (p. 90)

GRADUATE PROGRAM REGULATIONS AND REQUIREMENTS

- All Graduate Degree Programs (p. 91)
- Graduate Certificate Programs (p. 93)
- The Master's Degree (p. 94)
- PlusOne Degree Combinations (p. 95)
- Professional Doctorate Degree Programs (p. 96)
- Certificates of Advanced Graduate Study (p. 98)
- Doctor of Philosophy (PhD) Programs (p. 99)
- Interdisciplinary Graduate Degrees (p. 101)
- Definitions (p. 102)

Accommodations for Students with Disabilities

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Attendance Requirements

Class participation is essential to success no matter the course format or its delivery. Individual instructors may have course-specific attendance policies. It is the student's responsibility to ascertain what each instructor requires. Failure to meet attendance requirements may force a student to drop the applicable courses. Students should not make conflicting commitments until the class schedules for each semester are final. Permission to make up work may be granted by instructors for reasonable cause. Requests must be made immediately upon a student's return to class. Laboratory work can be made up only during the hours of regularly scheduled instruction.

Absence Because of University-Sponsored Activities

Participation in university-sponsored activities, where the students are representing their university, college, or department, may cause absences from class that qualify as excused absences. Excused absences, with appropriate prior arrangement, are not subject to penalty, and missed work may be satisfied through agreement between the student and the instructor. University-sponsored activities that may justify excused absences include athletic competition, performing arts events, and research or other presentations.

Students must discuss absence(s) with instructors at least two weeks in advance of the university-sponsored activity, or as soon as possible if the activity is at the beginning of the term or is the result of an unforeseen circumstance. Instructors may require a written statement from the administrator in charge of the activity. Instructors are expected to make reasonable accommodations for these class absences, including administration of makeup assignments and exams whenever possible. It is expected that students seeking an excused absence will develop a plan and timetable to make up the missed coursework with their instructor(s). Note, however, that the requirements of some courses or programs may preclude such accommodations.

Absence Because of Religious Beliefs

Any student who is unable, because of their religious beliefs, to attend classes or to participate in any examination, study, or work requirement should be provided with an opportunity to make up such examination, study, or work requirement that they may have missed because of such absence on any particular day, provided that such makeup examination or work does not create an unreasonable burden upon the university. Students should make appropriate arrangements with the instructor in advance of the absence, preferably at least two weeks before the religious observance.

Absence Because of Jury Duty

Members of the university community are expected to fulfill their obligations to serve on a jury if called upon. A student selected for jury duty should inform their instructors. They will provide a reasonable substitute or compensatory opportunities for any required work missed. A student with such an absence will not be penalized in any way.

Absence Because of Military Deployment

See "Leave of Absence Due to Military Deployment (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#military)."

Other Absences

Unforeseen events or circumstances, including illness, may cause a student to be absent from class. Students must notify their instructors and academic advisor, as appropriate, as soon as possible to apprise them of the circumstances leading to their absence, as well as how much time will be missed. Students must work with their instructors to develop a plan, with a timetable, to make up missed coursework. Students cannot be required to provide medical documentation. (Faculty and students should note that the University Health and Counseling Services does not provide sick notes or medical excuses except for long-term illness.) Instructors are expected to make reasonable accommodations for warranted class absences, including administration of makeup assignments and exams, whenever possible.

Extended Absences

A student who is absent from school for an extended period of time must inform their academic advisor by letter, email, or telephone. The expected length of the absence may determine whether the student should apply for a medical or emergency leave of absence (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#medical). It is strongly recommended that the student contact their academic advisor to discuss potential next steps, which could include incomplete grades; withdrawal from classes; or, in the event of an extended absence due to a chronic medical condition or disability, consultation with the Disability Resource Center to explore potential accommodation.

Nonattendance

Nonattendance does not constitute official course dropping or withdrawal, which means the student is fully responsible for the academic and financial consequences. Like all grades for courses attempted and/or completed, a grade earned due to nonattendance impacts a student's academic progression, an international student's visa eligibility, and a federal financial aid recipient's aid eligibility and award.

Campus Transfer and Campus Location Change

Campus Transfer

Students may request an official campus transfer from their school/college to complete their program. The program has to be approved by the school/college academically AND meet regulatory requirements (state/provincial licensure). If the student is an international student, the program has to be offered in compliance with F-1/study permit requirements at the requested new home campus location. International students should seek advice from the Office of Global Services (https://international.northeastern.edu/ogs/) before the final decision to transfer to another campus.

Campus Location Change

Students may request a campus location change to a new campus (the host campus) for a period no longer than one academic year (two consecutive semesters or three consecutive quarter terms) and no more than 50% of a degree program. It must be approved by the school/college academically, and courses must be offered that allow the student to make normal academic progress in compliance with regulatory requirements. In order for international students to change a campus location, the academic program has to be offered in compliance with F-1/study permit requirements at the requested host campus location.

Clearing an Academic Deficiency

An academic deficiency occurs when a student fails to complete a course with a satisfactory grade. The deficiency may occur because the student has failed the course or because the student has passed the course but with a grade that does not meet the minimum required by the student's program.

Students who have academic deficiencies may be required to clear them before progressing within the curriculum, especially if a given course is a prerequisite for future coursework. Deficiencies may affect the student's expected year of graduation.

With the approval of the appropriate program faculty and/or academic advisor, students can clear deficiencies in the following ways:

1. Retake the same course at one of Northeastern University's colleges, which will result in a "retake" grade (see "Retaking Courses" in this section of the catalog).
2. Substitute a comparable course at one of Northeastern's colleges, which will result in a "retake" grade (see "Substituting Courses" in this section of the catalog).
3. Under special circumstances, if the course is not currently offered at Northeastern, a student may be advised to take a preapproved course at another institution outside Northeastern. The original grade will remain on the student's Northeastern transcript and will still be used in the calculation of the GPA.

Code of Student Conduct

The Code of Student Conduct can be found on the Office of Student Conduct and Conflict Resolution (https://osccr.sites.northeastern.edu/code-of-student-conduct/).

Course Credit Guidelines

Guidelines for Assigning Credit to Courses

The primary standard for establishing course credit at Northeastern University is the semester/quarter hour, or Carnegie Unit, the standard used by the federal government. One hour of credit is awarded for a lecture/seminar class meeting 50 minutes each week during a 15-week semester or 12-week quarter and also requiring a minimum of two hours of outside preparation each week by the student. An hour of contact time in the rest of the document is based on this 50-minute session.

- 2 semester/quarter hours (100 minutes per week of instruction plus 4–6 hours homework, or equivalent)
- 3 semester/quarter hours (150 minutes per week of instruction plus 6–9 hours homework, or equivalent)
- 4 semester/quarter hours (200 minutes per week of instruction plus 8–12 hours homework, or equivalent)

The Office of the University Registrar (https://registrar.northeastern.edu/) maintains the official record for all courses. In the event of error in any publication, the academic record will reflect the correct semester/quarter hours applicable to any degree requirement.

On occasion, course titles change, while the course number remains the same. Despite such title changes, the course is still considered to be the same course. Students who have taken the course under the old title and then take the course again under the new title are considered to have repeated the course.

NOTE ABOUT HOMEWORK AND STUDENT PREPARATION FOR CLASS

The credit hour assumes a set proportion of two hours of student preparation or homework for every hour spent in class. Northeastern wishes to emphasize that the federal government has established this as the minimum amount of work expected, and assigning more work does not in itself justify an increase in the credit value of the course. We also wish to note that there is great variation in the amount of time each student will need to devote to each course or to a specific form of study (e.g., reading, writing, completing problem sets), and, therefore, it is not possible to enforce any exact accounting of student work outside of class.

CREDIT ASSIGNMENT PROCESS

Northeastern uses the Carnegie Unit to determine class meeting time requirements. The actual amount of academic work that goes into a single credit hour is calculated as follows:

- One lecture (taught) or seminar (discussion) credit hour represents one hour per week (50 minutes) of scheduled class/seminar time and two hours of student preparation time.
- One laboratory or studio credit hour represents one hour per week of lecture or discussion time plus one to two hours per week of scheduled supervised or independent work, or a total of three hours in the lab or studio.

DEFINED INSTRUCTIONAL METHODS

- Traditional: meets fully on ground in a physical location with instructor present
- Hybrid: meets majority on ground in a physical location with instructor present with some online instructional component
- Live cast: meets fully on ground in a physical location with the instructor in a different location teaching synchronously and supported by an instructional assistant in the physical location
- Online: meets fully online

FULL-TIME AND HALF-TIME EXPERIENCES

Academic experiences integral to curriculum and requiring registration (but not credit bearing) have the following required hours of participation:

- Full-time experiences: 32–40 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days
- Half-time experiences: 16–31.99 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days (to achieve full-time status, graduate students must take 3 or more academic credits and undergraduate students must take 4 or more academic credits)
- Summer 1 or Summer 2 semester: minimum of 5 weeks or 25 workdays
- Summer quarter: 6 weeks or 30 workdays

International students must confer with the Office of Global Services to determine CPT requirements as appropriate.

Course Numbering System

0001–0999	**Orientation and basic**
	No degree credit

Undergraduate

1000–1999	**Introductory level (first year)**
	Survey, foundation, and introductory courses, normally with no prerequisites and designed primarily for students with no prior background
2000–2999	**Intermediate level (sophomore/junior year)**
	Normally designed for sophomores and above but in some cases open to freshman majors in the department
3000–3999	**Upper-intermediate level (junior year)**
	Designed primarily as courses for juniors; prerequisites are normally required, and these courses are prerequisites for advanced courses
4000–4999	**Advanced level (senior year)**
	Designed primarily for juniors and seniors; also includes specialized courses such as research, capstone, and thesis

Graduate

5000–5999	**First-level graduate**
	Courses primarily for graduate students and qualified undergraduate students with permission
6000–6999	**Second-level graduate**
	Generally for master's and clinical doctorate only
7000–7999	**Third-level graduate**
	Master's- and doctoral-level courses; includes master's thesis
8000–8999	**Clinical/research/readings**
	Includes comprehensive exam preparation
9000–9999	**Doctoral research and dissertation**

Family Educational Rights and Privacy Act (FERPA)

FERPA for Students—General Information

The Family Educational Rights and Privacy Act is a federal law that applies to educational institutions. Under FERPA, schools must allow students who are 18 years or over or attending a postsecondary institution:

- Access to their education records
- An opportunity to seek to have the records amended (see the *Student Handbook* for this procedure)
- Some control over the disclosure of information from the records

FERPA General Guidance for Parental Disclosure

When a student turns 18 years of age or attends a postsecondary institution, the student, and not the parent, may access, seek to amend, and consent to disclosures of their education records.

If you are an undergraduate day student and you choose not to share information with your parents, Northeastern will, if asked, indicate that you have restricted access to your records.

Release of Directory Information

The primary purpose of directory information is to allow Northeastern University to confirm attendance for employers, health insurance companies, and loan agencies. Northeastern may disclose appropriately designated "directory information" without written consent, unless you have advised the university to the contrary in accordance with the procedures below. If you choose not to release directory information, all communications with all third parties and agencies will need to be done through your written request to the university or in person.

As of June 30, 2016, Northeastern directory information includes:

- Student name
- Home address (city, state, country only)
- Major field of study
- College
- Class year
- Enrollment status (e.g., undergraduate or graduate, full-time or part-time)
- Dates of attendance
- Degrees, honors, and awards received
- Most recent educational agency or institution attended
- Sports activity participation, showing weight/height of members of athletic teams
- Participation in officially recognized activities

If Northeastern currently has permission to release data and you do not want the university to disclose directory information without your prior written consent, you must notify the university. Instructions are available at the Office of the University Registrar (https://registrar.northeastern.edu/article/family-educational-rights-privacy-act-ferpa/).

Notification of Rights under FERPA

FERPA affords students certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day the university receives a request for access. Students should submit to the registrar, dean, or head of the academic department (or appropriate official) written requests that identify the record(s) they wish to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education record that the student believes is inaccurate or misleading. Students may ask the university to amend a record that they believe is inaccurate or misleading. They should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interest. A school official is defined as a person employed by the university in an administrative, supervisory, academic, or support staff position (including law enforcement unit and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a person assisting another school official in performing their

tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill their professional responsibility.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the university to comply with the requirements of FERPA. At Northeastern, the Office of the University Registrar, 271 Huntington Avenue, administers FERPA.

Additional Information

Additional information can be obtained at the U.S. Department of Education's website (http://www.ed.gov/policy/gen/guid/fpco/ferpa/) or by writing to:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-5920

Grade Change Policy

If a student has not graduated, a grade can be changed by a course instructor within 12 months of the end of the semester in which the grade was given.

If a student has graduated, or if more than 12 months have elapsed, a grade can only be changed by request of a course instructor with the approval of the college that offers the course.

If more than 24 months have elapsed, grades can no longer be changed.

If a course instructor is not available, course change requests may be initiated by the department or college that offers the course.

Colleges may place additional restrictions on how grades can be changed.

The grade change policy explains when a course instructor may change a student's grade to correct errors. This policy does not apply to incomplete grades or to student-initiated appeals to change grades. In particular, the grade change policy should not be used to allow a student to submit work after the completion of a class.

Grade Table and GPA

Grade Table

Grades are officially recorded by letters, evaluated as follows:

Letter Grade	Numerical Equivalent	Explanation
A	4.000	Outstanding achievement
A–	3.667	
B+	3.333	
B	3.000	Good achievement
B–	2.667	
C+	2.333	
C	2.000	Satisfactory achievement
C–	1.667	
D+	1.333	Undergraduate only
D	1.000	Undergraduate only/Poor achievement
D–	0.667	Undergraduate only
F	0.000	Failure
I		Incomplete
IP		In progress
CR		Credit (School of Law only)
HH		High Honor (School of Law only)
H		Honor (School of Law only)
P		Pass (School of Law only)
MP		Marginal Pass (School of Law only)
NE		Not enrolled
NG		Grade not reported by faculty
S		Satisfactory (pass/fail basis; counts toward total degree requirements)
U		Unsatisfactory (pass/fail basis)
X		Incomplete (pass/fail basis)
L		Audit (no credit given)
T		Transfer
W		Course withdrawal

An I, IP, or X grade shows that the student has not completed the course requirements.

The IP grade is intended for courses that extend over several terms. The time restrictions on the incomplete grade do not apply to the IP grade. While the IP grade is left unchanged, it is not included in computing the grade-point average. If the IP grade is never changed, the course does not count toward graduation requirements.

Course Comments

The following notations may also appear on the student's transcript:

E	Course excluded from GPA
HON	Honors-level course
I	Course included in GPA

GPA

Numerical equivalents for scholastic averages are weighted according to the number of hours the course carries. For example, suppose a student receives a grade of B in a course carrying 4 semester hours and a grade of A in a course carrying 1 semester hour. The weightings for these example courses are as follows:

Grade	Numerical Equivalent	Semester Hours	Weight
B	3.000	4	12
A	4.000	1	4
Totals:		5	16

The GPA for both courses would then be the total weight (16) divided by the total semester hours (5), or 3.200. Grades of I, IP, S, U, and X are not included in the calculation of the GPA. See Grade Table (p. 55) for a complete list of grades and numerical equivalents.

Leaves of Absence and University Withdrawal

Students may request to take the following types of leaves of absence:

- Personal or Academic
- Medical or Emergency
- Military Deployment or Missionary Service

Students in Prematriculation and Pathway programs (including N.U.in, Foundation Year, NU Immerse, Global Scholars, London Scholars, Global Pathways) do not fall under the leave of absence policy below. Students in these programs with emergent, medical, or personal circumstances that require a conversation about their ability to continue with their program of study should reach out to We Care *(*https://we-care.studentlife.northeastern.edu/*) for further guidance.*

General Leave of Absence Policy

Students who wish to take a leave of absence should complete a request through the Student Hub (https://me.northeastern.edu) (or via University Health and Counseling Services for a medical leave of absence, as described below) before the last day to drop without a W in a term. Please consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/#_ga=2223181403151090330616212601 60-171526951816133256 28) for the last day to drop without a W in the term.

Students can request a leave until the last day to drop with a W in a term but should review the financial implications of withdrawing from courses on the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/withdrawalleave-of-absence/).

Students can take up to one year of leave.

Any leave of absence type, if approved, is subject to the following conditions:

- International students must make an appointment with the Office of Global Services (https://international.northeastern.edu/ogs/) to discuss leave of absence procedures in accordance with federal regulations.
- Students who do not return at the end of the leave will be withdrawn and must contact their college for reentry prior to the term start.
- Students must return to a university-sponsored activity that contributes toward the satisfaction of outstanding program requirements, such as registration for academic coursework.
- Students must be considered active in the period for which they are requesting a leave. Students are considered active when they are currently engaged in university-sponsored activity, such as academic coursework and co-op. If a student is withdrawn for personal reasons, the withdrawal can be reversed and a request for a leave of absence can only be processed if it is before the last day to drop without a W in a term. If the student has been administratively withdrawn, a request for leave of absence cannot be considered until the withdrawal is resolved.
- If a leave extends more than six months, students who have taken loans for education expenses may be required to begin repayment of those loans. Students who receive financial aid should meet with a financial aid counselor before going on a leave. Please see Return of Title IV Aid (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/expenses/financial-aid/) for the possible financial aid impact of a leave of absence.
- Students in university housing should refer to the Office of Housing and Residential Life for policy information.
- A student's enrollment status cannot include more than one academic year of consecutive nonclass enrollments. Students on leave for more than one year will be withdrawn from the university.
- If a student has taken multiple leaves, resulting in the postponement of expected graduation date of a calendar year, the next leave request will be processed as a withdrawal.
- While on leave, students are not allowed to take classes for credit toward their Northeastern University degree, either at Northeastern or at an outside institution.

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, the student should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

LEAVE OF ABSENCE FOR INTERNATIONAL STUDENTS

International students must discuss maintenance of U.S. immigration status with an advisor at OGS before requesting any type of leave of absence.

PERSONAL OR ACADEMIC LEAVE OF ABSENCE

Personal leaves of absence are general leaves of absence that do not meet the criteria of more specific leaves outlined in the catalog. Academic leaves are applied to a student record in the rare cases when a student has fulfilled the last remaining requirements abroad but final grades have been yet to be received at Northeastern; or are taking a leave of absence from Northeastern to pursue other academic work. A student interested in requesting a personal or academic leave of absence should speak with an academic advisor.

MEDICAL OR EMERGENCY LEAVE OF ABSENCE

Medical leave is an option available to those Northeastern students who develop a major medical condition that precludes class attendance, completion of requirements, and/or participation in co-op. Medical leave of absence requests must be initiated at UHCS (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

Students on a medical leave will no longer have Husky Card access to the Marino Center, libraries, dining services, residence halls, and UHCS. If a student is in treatment at UHCS, they will be provided with referral resources for care in the community where they will reside during their medical leave. Students are not to be participating in student groups while on medical leave.

Emergency leaves may be granted when a student cannot continue attending class after the start of the term due to life-changing situations beyond the student's control. Students interested in requesting emergency leave are encouraged to contact We Care (https://we-care.studentlife.northeastern.edu/). Students can request an Emergency Leave of Absence via the Student Hub (https://me.northeastern.edu).

Students who have been granted a medical or emergency leave of absence due to extenuating circumstances may submit a Leave of Absence Refund Appeal Form (https://service.northeastern.edu/sfs/?id=sc_cat_item&sys_id=50dc23cddb464150ebcdcafc13961951&sysparm_category=98921886db600d54ca10819b1396197e) for financial consideration. If the appeal is approved, please note that housing and other fees will not be included in the appeal decision; refer to the Residence Hall and Dining License Agreement (https://www.northeastern.edu/housing/license-agreement/). Please only complete the Leave of Absence Refund Appeal Form if you have been approved for a medical or emergency leave of absence.

Please note that any outstanding balance (including unpaid balances) for the academic term in which the leave is taken are still due to the university.

Financial aid recipients must contact their financial aid counselor to understand the effects on aid received.

If the leave extends more than six months, students who have taken loans for education expenses may be required to start repayment of those loans.

Students enrolled in the Northeastern University Student Health Plan will remain enrolled in the plan for the plan year, ending August 31.

LEAVE OF ABSENCE DUE TO MILITARY DEPLOYMENT OR MISSIONARY SERVICE

When a student is called to active duty or missionary service, they must request the leave by filling out the proper request form through the Student Hub (https://me.northeastern.edu). Proof of official deployment or call to service paperwork will be required as an attachment when filling out the leave of absence request.

When a student is called during the term, the university will:

- Excuse tuition for that term. Any payment made will be credited to the student's account.
- Post a leave of absence for the term to hold a place for the student when they return.

If a student is called near the end of the term, the student and faculty members may determine that incomplete (I) grades are more appropriate. In this case, tuition will not be waived.

When a student returns to the university after completion, they will notify the college academic student services office if the leave was longer than one year; that office will in turn notify the Office of the University Registrar. The college academic student services office will assist the student with reentry and registration. If the leave was less than one year, the student should register for classes for the upcoming term prior to returning to campus.

International students who must take a leave of absence to engage in military service in their home country must also complete a form for leave of absence with OGS.

RETURNING FROM A LEAVE OF ABSENCE

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, they should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

Students who are withdrawn and are applying for Commencement may be reentered on a leave of absence, pending the college's approval, prior to the term in which they will graduate. International students returning from a leave of absence should contact OGS regarding the Student and Exchange Visitor Information System procedures three to four months prior to anticipated return date.

Students who wish to reenter the university following a medical leave must contact UHCS. Reentry from a medical leave requires receipt of all documentation delivered to UHCS approximately one month prior to the start of the term they wish to return. Once all documentation is received by UHCS, it will be reviewed and the student will be notified of the decision Requests for reentry from medical leave must be completed no later than one week prior to the beginning of a term. Students must be enrolled in Northeastern classes for the term in which they wish to return from their medical leave of absence. More specific information about the reentry process can be found at the UHCS website (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

University Withdrawal

Students seeking to withdraw from the university for any reason should meet with their academic advisor before completing the university withdrawal form online. Students should review the financial implications of withdrawing from all classes on the Student Financial Services website.

Students may be withdrawn from the university for financial, disciplinary, or academic reasons. Students looking to withdraw for medical reasons should reach out to UHCS (mloa@northeastern.edu) to review medical leave of absence.

Personal Information

Change of Name

Report all name changes to the Office of the University Registrar immediately. Official documentation of the name change is required.

Change of Address

Report all address changes via the Student Hub (https://me.northeastern.edu). Both the permanent home address and the local address are required. International students must report any changes of local address or phone number via the Student Hub (https://me.northeastern.edu) within 10 days in order to ensure compliance with immigration regulations.

Requesting and Clearing An Incomplete Grade

An incomplete grade may be reported by the instructor when a student has failed to complete a major component of a required course, such as homework, a quiz or final examination, a term paper, or a laboratory project. Students may make up an incomplete grade by satisfying the requirements of the instructor or, if the instructor is absent, the chair of the department. Be aware that instructors' policies on the granting of incomplete grades may vary and that the final decision on an incomplete grade is up to the instructor. Instructors may deny requests for an incomplete grade.

To request an incomplete grade, the student must obtain and complete in consultation with the instructor an Incomplete-Grade Contract (https://registrar.northeastern.edu/article/incomplete-grade-contract/) on which the precise agreement for clearing an incomplete grade is specified. The contract is then signed by the student, the instructor, and the student's academic advisor. Copies of the form are kept by the student, the instructor, and uploaded to the student's advising notes. The maximum time period for clearing an incomplete grade is restricted to 30 days from the end of the term in which the course was offered. Instructors may require a shorter due date before approving incomplete grade requests.

International students should consult with the Office of Global Services before requesting an incomplete grade to ensure that they will remain in compliance.

If the missing assignment(s) have not been submitted to the instructor within 30 days from the end of the term in which the course was offered, or the agreed upon due date, the grade entered will reflect the student's grade in the course for the work completed and the missing assignments receiving no credit toward the final grade. Changes in the final grade will be applied to the term in which the student was enrolled in the course. Any exception to this policy or extension of the deadline must be recommended by the college in which the course was offered and must be forwarded in writing to the Office of the University Registrar for implementation.

Retaking Courses

When the appropriate course is available, students may retake a nonrepeatable course to earn a better grade. In all cases, the most recent grade earned in a course is the one used in calculating the overall grade-point average followed by the retake notation I, indicating the course grade is included in the overall GPA; however, previous grades remain on the transcript followed by the retake notation of E, signifying that that course grade has been excluded. Consult your academic advisor before retaking a course. Students are required to pay normal tuition for all retaken coursework.

When the course description for the student's registration term indicates that the course may be repeated up to a certain number of course completions, each completion of the course (up to the limit stated in the course description) will appear on the student's transcript, and the grade for each such completion will be used in the calculation of the student's overall GPA.

Student Bill of Academic Rights and Responsibilities

This bill was drafted by the Student Senate, the Vice President for Student Affairs, and members of the Faculty Senate. It was passed in the spring of 1992. It was then updated by the Student Body President, Vice President for Academic Affairs, and passed by the Student Senate in the Fall of 2017 and Faculty Senate in the Spring of 2018 for adoption in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*) for the 2018–2019 academic year.*

We, the students of Northeastern University, believe that a quality education is the paramount goal of all students. In order to fulfill this goal, the university recognizes certain rights and responsibilities, which follow below.[1] Northeastern University students recognize and accept that redress of complaints arising from these rights is limited to the procedures specified in "Student Academic Appeals Procedures".[2]

Course-Related Rights

ARTICLE 1

Students have the right to instructors who attend classes on time.

ARTICLE 2

Students have the right to receive grades and feedback in a timely manner, particularly in the case of sequentially related assignments. At least one summative assessment should be given and returned a week prior to the end of the withdrawal period. Students also have the right to view work they submit to satisfy course requirements after it is graded and receive their instructor's rationale for grades received on said work.

ARTICLE 3

Students have the right to adequate access to instructors. This includes instructors replying to communications from students in a timely manner, suggested to be within two business days, with the exception of during university recesses, as well as maintaining consistent office hours for in-person courses, occurring at the same time at least once a week. Instructors may change office hours by notifying students in a timely manner, suggested to be within two business days, baring extenuating circumstances.

ARTICLE 4

Students have the right to receive a course outline, which includes a fair and explicit grading policy, at the beginning of each course. Changes to the course outline that result in a deadline, assignment, major exam, or similar course event being introduced to or moved earlier in the schedule shall be communicated to students in a timely manner, suggested to be at least 10 business days prior to the new deadline.

ARTICLE 5

Students have the right to instructors who communicate the material pertaining to the course effectively in the English language except in the case of foreign language instruction.

ARTICLE 6

Students have the right to participate in and have access to Student Government Association teacher/course evaluations.

ARTICLE 7

Students have the right to have a list of all course materials that must be purchased. Possible substitutions for said course materials, (i.e., acceptable previous editions of textbooks, digital versions, library owned resources, etc.) should be made available to students at least a week prior to the start of the academic term.

ARTICLE 8

Students have the right to alternative grading arrangements if they are unable to attend a graded activity that takes place outside the scheduled class time.

Rights to University Academic Services

ARTICLE 9

Students have the right to adequate access to effective academic services, including academic and co-op advising, as described in the student handbook and other university publications, provided by the university.

ARTICLE 10

Students have the right[3] to an environment conducive to learning and to faculty who respect students' academic freedom[4] in the classroom. When exercising academic freedom, students are expected to comply with all applicable university ethics, anti-harassment, and nondiscrimination policies.

ARTICLE 11

Students have the right to access university health resources provided by University Health and Counseling Services (https://www.northeastern.edu/uhcs/) (UHCS), and in accordance to Massachusetts State Law, to have access to a medical plan that they can purchase (Northeastern University Student Health Plan (http://www.northeastern.edu/nushp/)).

ARTICLE 12

Students have the right to access university resources provided by the university's Disability Resource Center in accordance with the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf). Students have the right to pursue informal and formal grievances through the procedures outlined by the Disability Resource Center (https://drc.sites.northeastern.edu/).

Scheduling Rights

ARTICLE 13

Students have the right to final exam schedules in accordance with established university policy, including non-conflicting final exam schedules.

ARTICLE 14

Students have the right to attend any course session held prior to the end of the add/drop period so long as permission from the instructor is obtained in advance and all duly registered students have proper access to seating and other course resources.

ARTICLE 15

Students will not be penalized for excused absences, with the understanding that students may need to make up for the academic commitment from which they were excused. Reasons for an excused absence include religious, medical issues, jury duty, bereavement, and military service. See this catalog (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/attendance-requirements/) and other applicable policies (http://gonu.com/sports/2013/7/15/SASS_0715134535.aspx?path=sass) for the full attendance and excusal policy.

General Academic Rights

ARTICLE 16

Students have the right to be informed, in a timely fashion, of proposed action to be taken against them.

ARTICLE 17

Students have the right to the redress of academic grievances through the processes provided by the university.

ARTICLE 18

Students have the right to university support and resources, such as the Office of Global Services (https://www.northeastern.edu/ogs/), with regard to their visa status.

ARTICLE 19

In accordance with the Northeastern University's Nondiscrimination Policy (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), students have the right to a learning environment free of discrimination or harassment, including as provided for in Northeastern University's Title IX Policy (https://policies.northeastern.edu/policy104/).

ARTICLE 20

Northeastern University's policy on student produced intellectual property can be found under *Copyrightable Materials* in the *Undergraduate Student Handbook*.

ARTICLE 21

Students have the right of access to their academic and financial aid records and maintenance of the privacy of these records, as provided by the Family Educational Rights and Privacy Act.

Student Responsibilities

ARTICLE 1

Contribute to a climate of open inquiry and honesty in all aspects of the university's academic life. This includes reviewing, and becoming familiar with, the Academic Integrity Policy on the OSCCR website.

ARTICLE 2

Commit sufficient time and effort for study and for use of library, studio, laboratory, and computational facilities, as appropriate for each course.

ARTICLE 3

Contribute to the classroom/laboratory/studio learning environment through discussion and active participation.

ARTICLE 4

Acquire the necessary prerequisites for full participation in each academic course.

ARTICLE 5

Attend scheduled classes regularly and on time, and arrive to class prepared, having completed all the readings and other assignments.

ARTICLE 6

Seek out faculty and teaching assistants outside of class time, to obtain help with problems encountered in a given course.

ARTICLE 7

Respect the academic freedom[4] of each faculty member and student.

ARTICLE 8

Assist the university in its various self-evaluations (e.g., TRACE, surveys) by responding honestly and conscientiously.

ARTICLE 9

Maintain effective communication with the university by providing permanent and local address information to the university through a system designated by the university, and by reading university email on a frequent and consistent basis.

ARTICLE 10

Act as positive representatives and genuine ambassadors of the university when studying and working in domestic and international settings associated with Northeastern University.

ARTICLE 11

Complete an entry (including itinerary, accommodation information, and contact information) using 'My Travel Plans,' located via the Student Hub (https://me.northeastern.edu) or other system as required by the university, prior to all university-sponsored travel outside of Massachusetts, including but not limited to: Study Abroad, Dialogues of Civilization, Foreign Exchange Programs like BSIB, Alternative Spring Break, Engineers without Borders, Co-op Placements outside of Massachusetts, etc.

ARTICLE 12

Complete all required activities prior to attending classes for their entrance date (including alcohol education, violence prevention programming, required reading, etc.).

ARTICLE 13

Have in their possession at all times the officially approved and properly validated photo identification card.

Students who fail to comply with these responsibilities could lose certain student privileges as well as face possible disciplinary sanctions under the Code of Student Conduct.

1 The student rights, through their representatives in the Student Government Association (SGA), described in these sections arise from faculty and staff employment responsibilities and obligations to the university. Northeastern University students recognize and accept that it is the sole prerogative of the university to enforce these obligations and responsibilities and to determine whether and to what extent they are being carried out or violated in specific instances. Northeastern University students recognize and accept that their ability to effect redress of complaints arising from these rights is limited to the procedures specified in the current *Undergraduate Student Handbook*.

2 The articles shall be interpreted by the Office of the Provost in conjunction with the Office of the Vice President for Student Affairs, and shall be monitored by the Student Government Association. Further, should any student discover that they have been subject to any violation of the principles stated herein, the student should follow the appropriate complaint resolution procedure in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*).* The Student Government Association, if requested by the student, will monitor the progress of any student academic grievances.

3 Because the university operates on a twelve-month calendar in an urban environment, many construction, remodeling, renovation, and repair projects must take place while the university is in session, and other potential distractions from the learning process arise from the surrounding urban environment on which it is dependent but over which it exerts little or no control. Thus, though the university is committed to maintaining an appropriate learning environment for its students, Northeastern University students recognize and accept, as part of their relationship with the university, that the conditions described above may cause occasional disturbances to that environment.

4 For more on academic freedom, please refer to the AAUP's definition (https://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure/).

Student Responsibility Statement

By accepting responsibility for their education, students enhance the development of their academic, social, and career goals. As a condition of enrollment, students are responsible for reviewing, understanding, and abiding by the university's policies, regulations, procedures, requirements, and deadlines as described in all official publications, including the university's Academic Catalog, Northeastern and college websites, and official university email communications, as applicable.

Students are responsible for meeting the degree requirements of their academic programs in all respects, including completeness and correctness of course selection, compliance with prerequisite and corequisite requirements, completion of program and degree requirements through regular, comprehensive review and understanding of the degree audit, and observance of all academic regulations and deadlines.

Students are expected to seek guidance from appropriate university representatives, such as departmental program advisors, academic advisors, co-op coordinators, and the Office of the University Registrar (https://registrar.northeastern.edu/), to confirm their compliance with all applicable academic expectations and requirements.

Student Right-to-Know Act

For information about the Student Right-to-Know Act, visit the Office of the University Registrar's website. (https://registrar.northeastern.edu/article/student-right-to-know-act/)

Substituting Courses

In some cases, it may not be possible to retake a course if a student wishes to do so. In unusual circumstances, students may petition to substitute one course for another they have already taken, as long as the subject matter of both courses is substantially alike. With the approval of the student's academic advisor and the agreement of the department that offered the first course taken, a grade received in the new course will be labeled "Substitute" on the transcript and will be treated in the grade-point-average calculation as a "retake" grade, as described above. The original grade will remain on the student's Northeastern University transcript. Students should consult with their academic advisor before enrolling in any proposed substitute course. Students are required to pay normal tuition charges for all substitute coursework.

University-Sponsored Travel

Northeastern University is committed to the health, safety, and security of its students and all other members of the university community. As a global institution, our university members undertake university travel around the world in pursuit of teaching, research, consulting, service, cocurricular activities, and work intended to advance learning and the interests of the university. The university supports standards and expectations associated with travel that are designed to reduce personal and university risk.

To enhance the health and safety of our students, you are required to comply with the university travel policies and guidance when undertaking university travel. These include, but are not limited to:

- **Registering University Travel—**Students, faculty, and staff are required to enter their travel itineraries and other requested information into the travel registry. To access the registry, go to the Student Hub (https://me.northeastern.edu/) and navigate to My Travel Plans to register your travel.
- **Review Destination Risks and Take Steps to Reduce Risks Before and During Travel—**Review the country briefing for your destination found in the Travel Security portal (https://travelsecurity.garda.com/checkMail/) and travel health and safety advice issued by the U.S. Department of State, the U.S. Centers for Disease Control and Prevention, other government organizations, the host nation, international organizations, etc. Travelers will be reminded about these sources via an email following trip registration.
- **Connectivity—**All students traveling on university programs must carry a cell phone with international calling, SMS, and cellular data capabilities. Phones must be able to receive incoming and make outgoing phone calls without relying solely on data-calling or a Wi-Fi signal. Phone number must be updated in the Student Hub (https://me.northeastern.edu/) profile and My Travel Plans registry before travel.
- **Complete Travel Petitions or Waivers—**Visit the Travel Protocols page (https://globalsafety.northeastern.edu/travel-protocols/) to determine what forms travelers are required to complete before participating in off-campus programming. The page also explains how to obtain approval to travel to a destination designated as high risk by the university.
- **Reduce Your Travel Cyber-Risk and Exposure—**Review and comply with the Policy on Portable Devices for High Cybersecurity Risk Destinations (https://cpb-us-w2.wpmucdn.com/sites.northeastern.edu/dist/b/620/files/2020/09/Policy-on-Computers-and-Mobile-Devices-for-International-Travel.pdf).
- **Personal Health Insurance—**All travelers are required to have personal health insurance that provides coverage while participating on university trips. Insurance requirements and an explanation of the university-provided urgent and emergency program can be viewed on the insurance and global safety support network pages of the university's global safety (https://globalsafety.northeastern.edu/)website.
- **Attend Predeparture Orientation—**PDO provides travelers with information about resources, requirements, safety, and security while traveling. Contact your program office to enroll in an in-person or online training.
- **Register Side Trips—**Side trips are travel that takes place prior to, during the course of, and/or immediately following a scheduled program but is not part of the program. Travelers are required to notify the university and register side trips.

Students are responsible for familiarizing themselves with the university travel policies and are encouraged to visit the university's global safety (https://globalsafety.northeastern.edu/) website for guidance. If you have questions related to travel or travel support, please email mytravelplans@northeastern.edu. If you need assistance during university travel, please call the university's 24-hour travel assistance line at +1.857.214.5332.

Academic Appeals Policies and Procedures

Northeastern University affirms that it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated.

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, and that this constitutes a substantive basis for the appeal, the appeal shall first be pursued and investigated through the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/). In such cases, the appeal described in Step 2 below is submitted to the appropriate dean(s) and a copy provided to the OUEC. Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures described herein.

Note that these policies and procedures apply to graduate students only.

Individual college appeal procedures can be viewed within the college's section of this catalog.

Academic Appeals

It is the policy of the university that all students shall be treated fairly with respect to evaluations made of their academic performance, standing, and progress. The university presumes that academic judgments by its faculty are fair, consistent, and objective. Students must understand that the substitution of a different academic judgment for that of the original evaluator is a serious intrusion upon academic prerogatives entrusted to the faculty and others involved in academic evaluations. Nonetheless, the university believes it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated in an academic or cooperative education determination. This includes claims of misinterpretation or inequitable application of any academic provision of the *Graduate Catalog* or *Faculty Handbook*.

Decisions concerning admission or readmission into a program, including dismissals, and matters related to co-op employment (other than grades received) cannot be appealed beyond the college level. While program dismissals cannot be appealed beyond the college level, underlying academic judgments that led to a dismissal can be appealed.

Before invoking the appeals procedures, students are always encouraged to speak informally to their instructors or academic advisors about any determination or grade about which they have questions. If students choose to pursue an appeal, the process is described in the appeals section that follows.

A student may appeal an academic determination by submitting a written statement that details the action or judgment and the basis for the appeal. All parties shall cooperate and act expeditiously in processing the appeal to completion. Appeals shall be filed in a timely manner such that they can be considered during the academic year of the student's home unit.

All appeals should be initiated and resolved in a timely manner in accordance with the detailed time limits provided in this document.

Although students are entitled to seek the advice of outside legal counsel, students may not be represented by a lawyer in the informal or formal academic appeal procedures. A student may consult with the provost or their designee at any point in this procedure for advice or assistance.

It is strongly recommended that international students consult as soon as possible with the Office of Global Services to determine the possibility of any repercussion that the timing of an appeal may have on their immigration status.

Scientific or Research Misconduct

Scientific or research misconduct is defined as fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the academic and scientific community for proposing, conducting, or reporting research and does not include honest error or honest differences in interpretation or judgments of data. (Further information can be obtained from the U.S. Office of Research Integrity, Department of Health and Human Services (https://ori.hhs.gov/).) Possible incidences of misconduct are to be reported immediately to the provost or their designee, who will initiate the appropriate procedures. Findings of scientific or research misconduct cannot be appealed through the process below.

Appeal of Final Grades and Outcomes of Other Academic Evaluative Processes

STEP 1. DISCUSS CONCERNS WITH INSTRUCTOR AND/OR ADMINISTRATOR

In many cases, students may choose to discuss their concerns with the faculty member who taught the course or a member of the qualifying exam committee. If after this conversation the student's concerns remain unresolved, or if the student is not comfortable discussing the issue with the instructor or other faculty member(s) involved, the student should request a meeting with the appropriate administrator (e.g., director, assistant or associate dean, chair, or group leader) to further discuss their concerns. If these initial attempts to address the issue fail to resolve the student's concerns, or the situation precludes a student from pursuing these steps, the student can initiate a formal appeal as follows. Note that this step should occur as soon as possible after the academic determination given the time frame for appeal statement submission described in Step 2.

STEP 2. PREPARE AN APPEAL STATEMENT

A student must initiate a formal appeal of an academic determination by submitting a written statement (the Statement) that specifies the details of the action or judgment that they seek to appeal. This Statement must start with a clear description of the basis for the appeal and should include: (1) basic facts about the situation leading to the appeal; (2) when the situation occurred; (3) who was involved; and (4) the resolution sought by the

student. All relevant supporting materials should be attached as addenda to the Statement. Appeals should avoid unsubstantiated, defamatory, or *ad hominem* accusations regarding the motivations of the faculty member or other persons involved in making the academic determination.

This Statement, and supporting materials, as submitted to and reviewed by the unit (i.e., college, school, department, or group responsible for reviewing the academic determination), will serve as the basis of the appeal throughout the appeals process, including at the university level.

Graduate students shall submit the Statement and all supporting materials to the college/school administrator specified in the college/school procedures.

The Statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student. If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of degree conferral date.

STEP 3. COLLEGE/SCHOOL-LEVEL APPEAL

A copy of this decision shall be sent to the college/school dean or their designee of the student's home college/school.

STEP 4. UNIVERSITY-LEVEL APPEAL

If the student is not satisfied with the college/school's disposition of the matter, or if the appeal is not resolved within 35 calendar days after originally submitted to the college/school pursuant to Step 3, the student may further pursue the matter by requesting in writing within 10 calendar days of the notification from the college/school in Step 3 that the university convene the Academic Appeals Resolution Committee to review the issue. Students may obtain information on this process from the provost or their designee. This committee has been designated as the final authority on these matters.

A. Academic Appeals Resolution Committee

The Academic Appeals Resolution Committee shall be a standing committee consisting of the following:

- The provost or their designee, who shall be the chair of the committee, and nonvoting member.
- Three faculty members and one alternate faculty member (with the alternate serving in instances where there is a conflict of interest or when a member has to be replaced) all from different colleges appointed by the Faculty Senate Agenda Committee. Members will serve a one-year term with no term limits.
- If the appeal had at any point involved a matter of harassment/discrimination, the committee shall include a representative of the OUEC, who shall be a nonvoting member.

B. Preliminary Matters

Upon receiving an appeal, the committee shall obtain copies of all documentation related to the appeal from Steps 1, 2, and 3, including the procedures of the relevant unit and college/school. If the Academic Appeals Resolution Committee determines, by a majority vote, that the appeal is patently without substance or merit, it may dismiss the appeal.

C. Investigation

The Academic Appeals Resolution Committee shall investigate the matter under appeal by studying the relevant documents (the Statement, supporting documents, and additional accumulated documentation), interviewing the parties (especially the student and the involved faculty member), and taking any other action it deems appropriate. A resolution shall be rendered within 35 calendar days of appeal submission. At no time shall the committee be bound by rules of evidence but shall at all times conduct itself in a manner that is not arbitrary or capricious. The Academic Appeals Resolution Committee may, but is not required to, hold a hearing prior to resolving the issues. However, in all instances, the student and the involved faculty member shall have the right to appear separately and privately before the Academic Appeals Resolution Committee. The student shall have the right to have an advocate from the university community present during their testimony to the Academic Appeals Resolution Committee.

D. Authority to Act

The Academic Appeals Resolution Committee has been designated as the final authority on academic matters. At the conclusion of its investigation, the Academic Appeals Resolution Committee shall resolve, by majority vote, the issue by either upholding the finding of the college/school, in which case no further appeal is available, or granting such relief to the student as the Academic Appeals Resolution Committee deems appropriate. The Academic Appeals Resolution Committee shall not render a resolution that contradicts the prior findings or actions of the OUEC.

E. Resolution

All direct parties to the appeal, including but not limited to the student, the faculty member (or others involved in academic evaluations), the dean of the involved college(s), the Faculty Senate, and the registrar, shall be promptly informed in writing of the decisions and actions taken during this academic appeals procedure.

F. Action

The dean(s) or their designee in the involved college(s) shall take whatever action is necessary to implement fully the resolution of the Academic Appeals Resolution Committee.

G. Appeal

Once adjudicated, the matter is considered closed, and no further appeal can be instituted by the student or the involved faculty member with respect to the issue(s) raised at any level of the formal appeals resolutions procedures.

Step 1: Discuss concerns with instructor or appropriate administrator	Time frame: As soon as possible after academic determination (see note 1 below)
Step 2: Student prepares/submits appeals statement to unit or college/school	Time frame: Within 28 calendar days of academic determination
Step 3: Unit/college/school-level appeal process	Time frame: Decision notification within 35 calendar days of student appeal statement submission
Step 4: University-level appeal process	Time frame: Student submits within 10 calendar days of college/school decision; resolution rendered within 35 calendar days of appeal submission

Note 1: Step 1 should occur as soon as possible after the academic determination given the time frame for appeal statement submission described in Step 2.

Academic Calendars

The graduate schools' programs are offered on a semester calendar consisting of 15 weeks. The College of Professional Studies graduate programs are offered on a quarter calendar consisting of 12 weeks.

Quarter Programs

For student records that include quarter hours, the approved semester-hour conversion rate is (quarter hours) x 0.750. For example, a 4-credit quarter course is equivalent to a 3-credit semester course.

Semester Programs

Traditional semester hours apply.

Academic Integrity Policy

The university's complete Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/)is available through the Office of Student Conduct and Conflict Resolution.

Audit Policy

Full-time Northeastern students may audit one class per term as an overload. In all colleges with the exception of the College of Professional Studies, there is no additional charge.

- Students are permitted to petition (https://registrar.northeastern.edu/article/audit-policy/) from the end of the course-add period to the end of the third week of classes.
- Permission is based on the availability of a seat in the class.
- Students must obtain advisor approval and meet the prerequisites and any other required approvals for the class.
- Instructor permission, as well as approval by the associate dean of the college offering the course, is required.
- The coursework required is at the discretion of the instructor.
- Once a student opts to audit a course, the audit status of the course cannot be changed.
- A signed Petition to Audit (https://registrar.northeastern.edu/article/audit-policy/) must be presented to the Office of the University Registrar during the designated audit-add period.
  - Students will not be registered for approved audited course(s) until after the add period is over for the intended term.
- Excluded courses are co-op, labs, language courses, any off-campus course, any online course, and any course required for the major or degree.
- Audits carry no academic credit.

Cooperative Education

Website (http://www.northeastern.edu/coop/)

Cooperative education is the cornerstone of Northeastern University's experiential learning approach, in which on-campus study is enhanced by real-world experience through full-time employment at locations all over the world. Through co-op, students alternate periods of academic courses with periods of employment in positions related to their academic or career interests. This combination provides an integrated learning experience that enhances both in-class studies and career development.

General Requirements

- Be a full-time student to participate in co-op.
- Complete all pre–co-op requirements as established by the college of the student.
- Make satisfactory progress toward degree completion, including grade-point average requirements as defined by the university, the colleges, and the major program curricula.
- Have accurate information about the co-op placement in the university's official co-op placement system, including specific start and end dates and meeting the minimum hour and day requirements.
- Not participate in co-op in the final term unless it is specified in the curriculum requirements of the program in the catalog.
- Resolve any previous disciplinary or academic probation issues, or have the cooperative education coordinator approve a plan to resolve these issues prior to applying for co-op jobs.
- Have any self-developed co-op approved by the cooperative education coordinator before accepting the position.
- Comply with any preemployment checks required by the employer, such as drug testing, credit checks, physical examinations, security clearance, and criminal record checks.
- Participate in Title IX training, as required.
- Complete any additional requirements (https://careers.northeastern.edu/students/student-co-op/global-co-op/) if participating in a global co-op.
- Work with the cooperative education coordinator if an Unsatisfactory (U) grade has been received for a past co-op to reestablish eligibility in accordance with the policies and requirements of the college.

TRANSFER AND INTERNATIONAL STUDENTS:

- Transfer students from other universities must have met the same requirements in their major's co-op program as nontransfers and must have completed at least one semester of classes before starting co-op.
- International students must attend one academic year, or its equivalent, and obtain proper authorization from the Office of Global Services before engaging in co-op.

Academic Requirements

1. **Be full-time while on co-op. Full-time status for co-op is defined as either:**
   a. One full-time co-op job; 32–40 hours per week
   b. Two simultaneous half-time co-op jobs; 16–31.99 hours each
   c. One half-time co-op job; 16–31.99 hours with graduate students taking 3 or more academic credits or undergraduate students taking 6 or more academic credits
      i. Undergraduate students on co-op in a summer 1 or summer 2 term may be registered for one half-time co-op without acquiring a second job or taking an accompanying class.
2. **Meet the minimum length requirements for an academic term:**
   a. Semester full-term: minimum of 11 weeks or 55 workdays
   b. Quarter full-term: minimum of 9 weeks or 45 workdays
   c. Summer 1 or summer 2 term: minimum of 5 weeks or 25 workdays
3. **Receive a grade of Satisfactory or Unsatisfactory for the co-op experience.**

Co-op Duration

Graduate Students Enrolled in Colleges Other than the College of Professional Studies:

- Students may be hired into co-op positions for periods of four to eight months in one of the following patterns:
  - Four months (spring, fall, or summer full terms)
  - Six months (spring term plus summer 1 term, or summer 2 term plus fall term)
  - Eight months (spring term plus summer full term, or summer full term plus fall term)
- In addition, students enrolled at a Canadian campus may be hired into co-op positions for periods of four to eight months, including continuous periods spanning the fall and spring semesters. In the case of such eight-month fall/spring term co-op assignments, students are required to enroll full-time in classes during the summer term immediately following the assignment. If a student only needs to take one additional

course to complete their program's requirements, they are only required to enroll in that one class in the summer term immediately following the assignment.

Graduate Students Enrolled in the College of Professional Studies:

- Students may be hired into co-op positions for periods of three months or six months.

Co-op Financial Planning

- No tuition is charged while a student is on co-op only (students will pay room and board if they stay in university housing).
- If a student takes a credit-bearing class while on co-op, tuition will be charged at the per-credit rate.
- Students who wish to register for more than 4 credits while on full-time co-op must complete the Petition Registration form (https://registrar.northeastern.edu/wp-content/uploads/sites/9/form-pet-reg-14.pdf).
- Financial aid will be distributed to match the student's tuition bill and other allowable expenses.
- Students on co-op are required to maintain the same health insurance coverage (either through a private provider or through the university program) as they would while attending classes.

Registration for Co-op

Students are registered for co-op based on a completed co-op record that meets the minimum hour and day requirements with accurate start and end dates in the university's official co-op database system. Students must be registered for the co-op work experience course by the end of the add period or alternately registered for classes if still searching for a job by this deadline. All co-op positions need to be approved by the university and entered as completed records in the official co-op database system by the last day to drop without a W for the respective semester.

Further Information

For more detailed information about co-op policies and procedures, see the *Cooperative Education Student Handbook* on the Cooperative Education website (https://www.northeastern.edu/coop/).

Departmental Jurisdiction

Certain departments of the university shall have the power to set down rules and regulations governing the operation of the departments' respective areas of responsibility. Such rules and regulations shall be in accord with the Student Bill of Academic Rights and Responsibilities (p. 63), as well as with the policies described in this document.

Dismissal from Class

Students dismissed from classes for insubordination or other disciplinary reasons may not return without the approval of the college and the senior vice chancellor for student affairs.

Dropping a Class

Not attending class does not constitute withdrawal. Students receiving a grade of W or NE in any course are responsible for the costs associated with that course. Students must drop courses using processes described below.

Note: College of Professional Studies graduate students should consult the CPS graduate section of this catalog *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/academic-policies-procedures/registration-and-taking-courses/*) for class drop timelines specific to CPS graduate terms.*

In Fall and Spring Semesters

- Through the third week of the semester, students may withdraw without any grade being posted to the transcript. Courses may be dropped via the Student Hub (https://me.northeastern.edu/).
- Between the fourth week and the last day of classes, course withdrawals are indicated by a W on the student's record. Courses may be dropped via the Student Hub. No financial adjustment is made for courses receiving a W grade.
- After the last day of classes, no withdrawals are accepted for any reason. A letter grade for the course will be posted on the transcript.
- Dropping below full-time enrollment may affect financial aid, health insurance eligibility, and the maintenance of proper nonimmigrant visa status.

In Summer Half Semesters

- Through the second week of the half semester, students may withdraw without any grade being posted to the transcript. Courses may be dropped via the Student Hub.
- Between the third week and the last day of classes, course withdrawals are indicated by a W on the student's record. Courses may be dropped via the Student Hub. No financial adjustment is made for courses receiving a W grade.
- After the last day of classes, no withdrawals are accepted for any reason. A letter grade for the course will be posted on the transcript.
- Dropping below full-time enrollment may affect financial aid.

Final Examinations and Related Policies on Other Exams

All final examinations, term papers, or projects must be returned to the student or be retained by the department for a period of one year.

Full-Time Status

Notes: Full-time status may be defined differently for federal loan purposes. The criteria below apply to students enrolled in colleges other than the College of Professional Studies. Please consult the College of Professional Studies section of this catalog (p. 791) *for criteria that apply to students in CPS.*

A graduate student is considered a full-time student if enrolled in a minimum of 8 semester/quarter hours of credit for the semester with the following considerations:

- Students who hold stipended graduate assistantships will be considered full-time if enrolled for a minimum of 6 semester hours of credit.
- Students for whom English is a second language, at the discretion of their departments, will be considered full-time if they are enrolled in a minimum of 8 semester hours or three courses, whichever is less.
- Students holding Dean's scholarships, Diversity fellowships, Double Husky awards, or being supported by Graduate Student Scholarships will be considered full-time if they are enrolled in a minimum of 8 semester hours.
- Students enrolled in Dissertation or Continuation are considered full-time.
- International students enrolled in graduate programs at Northeastern University must consult with the Office of Global Services (http://www.northeastern.edu/ogs/) on all matters regarding the maintenance of full-time status.

General Regulations

Review the general regulations that follow as well as all other regulations or limitations included throughout this catalog. Your success at Northeastern University depends, in part, on understanding your rights and fulfilling your responsibilities.

Legal Rights and Responsibilities

GRIEVANCE PROCEDURE—SEXUAL HARASSMENT

The university's complete Policy on Equal Opportunity is available at the University Policies site (https://policies.northeastern.edu/policy107/).

No employee, agent, supervisory personnel, or faculty member shall exercise their responsibilities or authority in such manner as to make submission to "sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature" as an explicit or implicit term or condition of evaluation, employment, admission, advancement, or reward within the university. Neither shall any employee, agent, supervisory personnel, or faculty member make submission to or rejection of such conduct the basis for employment or academic decisions affecting any employee or student. Neither shall any employee, agent, supervisory personnel, or faculty member conduct themselves with respect to verbal or physical behavior of a sexual nature where such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive work or classroom environment.

Though sexual harassment will not be tolerated, the university recognizes that it is difficult to regulate emotional relationships between consenting adults. However, a consensual relationship may be suspect in instances in which one of the individuals has authority over the other. Therefore, no faculty or employee involved romantically or sexually with a student may teach or supervise that person either individually or as part of a group in any activity connected to the university.

Any student, teaching assistant, employee, or faculty member who feels that they have been the victim of sexual harassment may bring the matter to the attention of the director of the Office for University Equity and Compliance. Copies of the sexual harassment grievance procedure can be obtained from the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/reporting-options/titleix-prohibited-offenses/).

HAZING

The university's Policy Prohibiting Hazing can be found at the University Policies site (https://policies.northeastern.edu/policy606/).
Additionally, Chapter 269 of the Massachusetts General Laws also prohibits hazing and requires that the university publish the following statutory provisions applicable in Massachusetts:

> Section 17. Whoever is a principal organizer or participant in the crime of hazing, as defined herein, shall be punished by a fine of not more than three thousand dollars or by imprisonment in a house of correction for not more than one year, or both such fine and imprisonment. The term hazing as used in this section and in sections eighteen and nineteen, shall mean any conduct or method of initiation into any student organization, whether on public or private property, which willfully or recklessly endangers the physical or mental health of any student or other person. Such conduct shall include whipping; beating; branding; forced calisthenics; exposure to weather; forced consumption of any food, liquor, beverage, drug, or other substance; or any other brutal treatment or forced physical activity which is likely to adversely affect the physical health or safety of any such student or other person, or which subjects such student or other person to extreme mental stress, including extended deprivation of sleep or rest or extended isolation. Notwithstanding any other provisions of this section to the contrary, consent shall not be available as a defense to any prosecution under this action.
>
> Section 18. Whoever knows that another person is the victim of hazing as defined in section seventeen and is at the scene of such crime shall, to the extent that such person can do so without danger or peril to himself or others, report such crime to an appropriate law enforcement official as soon as reasonably practicable. Whoever fails to report such crime shall be punished by a fine of not more than one thousand dollars.
>
> Section 19. Each institution of secondary education and each public and private institution of postsecondary education shall issue to every student group, student team, or student organization that is part of such institution or is recognized by the institution or permitted by the institution to use its name and facilities or is known by the institution to exist as an unaffiliated student group, student team, or student organization, a copy of this section and sections seventeen and eighteen; provided, however, that an institution's compliance with the section's requirements that an institution issue copies of this section and sections seventeen and eighteen to unaffiliated student groups, teams, or organizations shall not constitute evidence of the institution's recognition or endorsement of said unaffiliated student groups, teams, or organizations.
>
> Each such group, team, or organization shall distribute a copy of this section and sections seventeen and eighteen to each of its members, plebes, pledges, or applicants for membership. It shall be the duty of each such group, team, or organization, acting through its designated officer, to deliver annually to the institution an attested acknowledgement stating that such group, team, or organization has received a copy of this section and said sections seventeen and eighteen, that each of its members, plebes, pledges, or applicants has received a copy of sections seventeen and eighteen, and that such group, team, or organization understands and agrees to comply with the provisions of this section and sections seventeen and eighteen. Each institution of secondary education and each public or private institution of postsecondary education shall, at least annually, before or at the start of enrollment, deliver to each person who enrolls as a full-time student in such institution a copy of this section and sections seventeen and eighteen.
>
> Each institution of secondary education and each public or private institution of postsecondary education shall file, at least annually, a report with the regents of higher education and, in the case of secondary institutions, the board of education, certifying that such institution has complied with its responsibility to inform student groups, teams, or organizations and to notify each full-time student enrolled by it of the

provisions of this section and sections seventeen and eighteen and also certifying that said institution has adopted a disciplinary policy with regard to the organizers and participants of hazing and that such policy has been set forth with appropriate emphasis in the student handbook or similar means of communicating the institution's policies to its students. The board of regents and, in the case of secondary institutions, the board of education shall promulgate regulations governing the content and frequency of such reports and shall forthwith report to the attorney general any such institution that fails to make such report.

USE OF ALCOHOL AND DRUGS

The unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in or on any Northeastern property. Any university employee or student determined to have violated this policy may be subject to disciplinary action up to and including dismissal. The use of alcohol while on Northeastern property is prohibited except where specifically authorized by the university. No employee may report to work while under the influence of alcohol or illegal drugs. Violation of these regulations may be reason to require evaluation/treatment for substance abuse in coordination with the University Center for Counseling and Student Development and/or for disciplinary action up to and including dismissal. Northeastern works to provide a drug-free workplace for all university employees and students. The Center for Counseling and Student Development provides resources for treatment and referral for students and employees with substance abuse problems. Educational programs for students, employees, and managers are presented through Human Resources Management, the Office of Housing and Residential Life, the Office of Prevention and Education at Northeastern, and University Health and Counseling Services and cover the dangers of alcohol and drug abuse, the availability of assistance for counseling and rehabilitation, and penalties for violating university policies. To comply with federal law, the university requires that employees directly engaged in performance of a grant or contract must notify their employers of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after the conviction. The university must notify any federal contracting agency within 10 days of having received notice that an employee engaged in the performance of such contract has had a criminal drug statute conviction for a violation occurring in the workplace. The university will take appropriate action up to and including dismissal and/or require participation in an approved abuse assistance or rehabilitation program.

USE OF WEAPONS

The use or possession on campus of firearms; explosive agents of any kind; as well as chemicals, mace, and tear gas, is specifically forbidden by the university Policy on Weapons on Campus (https://policies.northeastern.edu/policy604/). Violation of this university policy is cause for disciplinary action up to and including expulsion. In addition, it is worth noting that Massachusetts law states: "Whoever, not being a law enforcement officer and notwithstanding any license obtained by him under the provisions of chapter one hundred and forty, carries on his person a firearm as hereinafter defined, loaded or unloaded, in any building or on the grounds of any college or university without the written authorization of the board or officer in charge of said college or university shall be punished by a fine of not more than one thousand dollars or by imprisonment for not more than one year or both. For the purpose of this paragraph, 'firearm' shall mean any pistol, revolver, rifle, or smoothbore arm from which a shot, bullet, or pellet can be discharged by whatever means."

Massachusetts general law prohibits the possession of nunchaku or karate sticks; switchblades; knives; starter's pistols; ammunition; leather armbands or other clothing that has metallic spikes, points, or studs; or other dangerous weapons or articles. A student who possesses any articles for sporting purposes (for example, bow and arrows) should check with the University Police Department or the Department of Residential Life to determine whether such articles are among those prohibited by statute or university regulation. Northeastern also prohibits the possession of knives other than food utensils.

Policies and Procedures

ANIMALS ON CAMPUS

Pets are generally prohibited in university buildings but may be allowed in outdoor areas on university property. Pets do not include service animals or assistance animals, which may be permitted as accommodations for persons with disabilities in accordance with applicable federal and state laws. The full Policy on Animals on Campus is available at the University Policies site (https://policies.northeastern.edu/policy610/).

APPROPRIATE USE OF COMPUTER AND NETWORK RESOURCES POLICY

The university Policy on Appropriate Use of Computer and Network Resources (https://policies.northeastern.edu/policy700/#_ga=2.156645435143605877016914082 42-357332625168570809 0) is available from the Office of Information Security (https://security.its.northeastern.edu/).

BEHAVIOR ON CO-OP, ON EXTERNSHIPS, AND IN THE NEIGHBORHOOD

As an urban institution, Northeastern is a part of the vibrant community and business life of the surrounding neighborhoods. Maintaining amicable and considerate relations between the university and local residents and businesses is essential to the continued cooperation of the university and its neighbors in civic projects and issues and to the furtherance of the university's broader mission to contribute to the general good of society. The university endeavors to foster conditions under which such beneficial relations exist. Consequently, the university must consider conduct on the part of members of the university community, whether on or off campus and whether isolated or continuing in nature, that is disruptive of these relations; that impairs, interferes with, or obstructs the lawful missions, processes, and functions of the university; or that is found by the university to be abhorrent or offensive to generally accepted standards of social behavior, as inimical to the university's interests.

The university's Code of Student Conduct governs student behavior on co-op, externships, and in the community surrounding the university. In addition, misbehavior in these settings may violate the law, policies of the co-op employer, or rules of the externship sponsor.

BICYCLES

Wherever possible, students should use the bike racks available at various locations on campus. Bicycles should not be chained to fences, doors, trees, or other objects, and under no circumstances may bicycles be brought into any university building. The fire code dictates that all entrances, exits, corridors, and stairwells must be free and clear at all times. Bicycles found in violation of this code will be removed from the area.

CAMPUS ACCESS

Northeastern is a private institution that retains the right to determine the policies and protocols regarding access to university property and premises and the use of campus facilities. Northeastern may, at its sole discretion, deny members of the public access at any time for any reason not prohibited by law, including but not limited to reasons related to university business, public safety, and/or to accommodate university or private events. Moreover, certain facilities, such as residence halls, are intended for use by residence hall residents only, and classrooms and laboratories are intended for use by members of the Northeastern academic community only. Access to such facilities is permitted only in accordance with applicable policies and directives. Certain of Northeastern's campuses maintain additional restrictions and procedures for campus access, which may be reviewed at the University Policies site (https://policies.northeastern.edu/) or on the campus's website. In all cases, the essential purposes of the university cannot be interrupted or disturbed by the access permitted to members of the public. The university reserves the right to rescind access privileges to any person who is violating or has violated university policy, protocol, procedure, practice, or applicable laws or regulations, regardless of whether the person is affiliated with the university.

COPYRIGHTABLE MATERIALS

It is the general policy of the university that student papers or projects submitted in partial fulfillment of course requirements remain the property of the student authors.

This policy does not apply to:

1. “Work for hire” as defined by intellectual property laws
2. Work derived wholly or in part from other patented or copyrighted material
3. Work done as part of external grants or contracts in which the contracting documents or regulations define ownership
4. Work in which the university or its agents or employees contribute substantial time or resources
5. Work considered a thesis or dissertation

The university owns the copyright to any work created or developed by one or more students with the significant use of funds, space, facilities, equipment, materials, or other university resources. The university will not normally construe the payment of salary from unrestricted funds or the provision of office and library facilities as constituting significant use of funds, space, facilities, equipment, materials, or other resources of or administered by the university. Use of laboratory and/or computer facilities or assistance from one or more faculty or staff members to a student author specifically pertaining to the work constitutes significant use of university resources. In all cases, the provost or their designee shall make a good faith determination concerning significant use, which shall be final and binding on all parties.

In the case of a thesis generated by research performed in whole or in part by a student in the course of or pursuant to an agreement for sponsored research or other written agreement, including an agreement between the author(s) and the university, or utilizing equipment or facilities provided to the university under conditions that impose copyright restrictions, ownership or control shall be determined in accordance with such agreement or restrictions. In the absence of such agreement or restrictions, copyright ownership in such a thesis shall reside in the student. However, the student, as a condition of a degree award, must grant the university the royalty-free right to reproduce and publicly distribute copies of the thesis for limited and noncommercial purposes.

Where necessary to secure to the university an ownership of copyright, students shall assign such rights of copyright, or grant the specified rights of reproduction and distribution, to the university. The university reserves the right to employ, at its discretion, the materials or portions of any work created or developed in the course of an author’s relationship with the university, or otherwise covered by the university Patent and Copyright Policy, for promotional, professional, or noncommercial purposes on a royalty-free basis. Certain courses taught at Northeastern involve students in individual or group assignments or projects involving the creation of materials, objects, or techniques that may be patentable or copyrightable. These courses generally require extraordinary levels of faculty organization and participation and/or substantial university resources.

1. Individual teachers or academic units may require that originals or copies of such papers or projects be retained either temporarily or permanently by the individual teacher or by the unit.
2. A thesis is a student work representing significant original or independent research and for which the student receives a substantial amount of credit toward a degree or certificate. Where there is a question concerning whether or not a student’s work is a thesis, the provost or their designee shall make a good faith determination concerning same, which shall be final and binding on all parties.
3. Copies of the university patent and copyright policies are available from the Division of Research Development, 405 Lake Hall, 617.373.4587.

In accordance with university patent and copyright policies, in such courses the university is the owner of all rights in technology, computer programs, or other creative work that may be developed by the undergraduate or graduate student as part of the student’s work in those courses. It is the university’s intention, where applicable, to disclose and authorize the use of such technology, programs, or work to nonprofit organizations and to government agencies without a fee. The university may also have the opportunity to license such materials to a commercial enterprise, and in this event, it is the university’s intention to share any revenue from such a license with student contributors in an amount determined in accordance with the then-existing university policy or plan. Students are informed early in the semester if the course in which they are enrolled falls within this category

and will be asked to sign a letter of agreement. Should the student decline to sign an agreement, they will be assigned to another course section—one in which such agreement is not required—or will be given alternative activities not involving such assignments or projects.

COPYRIGHTS AND PATENTS

Any student who makes, as sole or joint inventor, an invention that involved significant use of university resources, including funds, space, facilities, equipment, or materials, or that is subject to terms of a sponsored research or other agreement between the university and another party, shall assign this invention and all associated applications and patents to the university or its designee unless the invention has been released to the inventor in accordance with the applicable provisions of the university patent policy. Any student, whether before or after terminating their association with the university, shall do whatever is necessary to enable the university or its designee to take out patents in any and all countries on such invention. The cost and expense of making such assignments and procuring such patents shall be borne by the university or its designee. When an invention is made by a student not involving significant use of funds, space, facilities, equipment, materials, or other resources of or administered by the university, the university will waive its rights, and the invention will be the exclusive property of the student, provided the student's rights in the invention are not altered by the terms of any financial aid received, including external sponsorship, scholarships, fellowships, traineeships, thesis expenses, or other assistance, whether or not administered by the university and provided the invention is not subject to third-party rights.

DEMONSTRATIONS

The university supports as fundamental to the democratic process the rights of all members of the university community to express their views and to protest actions or opinions with which there is disagreement. A university is where individuals express diverse ideas and viewpoints in an atmosphere free of any physical force. The university insists that all demonstrations be peaceful and orderly and abide by university regulations.

- Demonstrators must not block corridors or entrances or use loud noise to disrupt a conference, meeting, or assembly.
- Demonstrations may not be conducted in faculty or administrative offices, classrooms, libraries, or study areas.
- Moving picket lines in university corridors are prohibited. (Protests may be registered by individuals or groups standing in a single line against a corridor wall, but corridors must be kept open at all times for the free passage of other members of the community.)

Students, faculty, or other members of the university community who violate these regulations will be subject to disciplinary action; violators also jeopardize their right to remain in the university community.

IDENTIFICATION CARDS

All students must have in their possession at all times the officially approved and properly validated photo identification card. It will be necessary to show this card as a means of identification when using the library and campus recreational facilities, at athletic contests, at student elections, at University Health and Counseling Services, at Student Accounts, at the Office of the University Registrar, to campus police, and elsewhere around the university. An official photo identification card will be issued to new students during their initial orientation and registration periods. Replacements for lost cards can be obtained through Husky Card Services (https://huskycard.sites.northeastern.edu/). All members of the community should be prepared and willing to identify themselves and their guests upon request by authorized personnel.

JURY DUTY

Northeastern expects students to fulfill their civic duties; the university cannot interfere in this process. Students who miss classes because of jury duty (p. 46) must notify their professors in writing, explaining which classes will be missed on which days. The professors will work with students to make up missed assignments or exams. Upon completion of their jury duty, students must bring a copy of the documentation of their service to the appropriate professors. Students on co-op are expected to inform their supervisors if called to jury duty.

MEDIA AND PUBLIC APPEARANCES

In all personal communications to newspapers or other media, as well as personal public appearances in which students identify themselves as members of the Northeastern community, it should be made clear that the opinions presented are a student's own and not necessarily those of the university. Students who appear on public programs as representatives of Northeastern must be particularly careful to avoid language or presentations that could be considered in bad taste or offensive.

SALES AND SOLICITATIONS

The university's Policy on Non-Solicitation and Sales is available at the University Policies site (https://policies.northeastern.edu/policy300/).

SMOKING

All locations, campuses, buildings, and outdoor areas owned and/or operated by the university are smoke free and tobacco free; details of the Policy on Tobacco and Smoke-Free Campus are at the University Policies site (https://policies.northeastern.edu/policy607/). The sale of cigarettes and other tobacco products is prohibited on campus. Smoking cessation information and programs are available. For further information, contact University Health and Counseling Services (https://www.northeastern.edu/uhcs/).

TAPE RECORDERS

Students may not use tape recorders in the classroom without the instructor's consent. Students with disabilities who need a tape recorder in the classroom may make arrangements through the Disability Resource Center (https://drc.sites.northeastern.edu/).

TEXTBOOKS

Students should purchase or have in their possession the assigned textbooks, problem books, manuals, and other supplies that may be necessary in a classroom or laboratory.

Graduation Requirements

To be eligible to receive degrees, students must meet all academic requirements. They must also clear all financial and disciplinary deficiencies.

In addition, each program of study has specific academic requirements. These are specified for each program under the various schools and colleges in this catalog.

Students are expected to monitor their progress toward degree completion or certificate completion throughout their studies via their online degree audit, accessible via the Student Hub.

All eligible degree candidates must complete the graduation application by the applicable deadline. Before you apply to graduate through the Student Hub, we recommend you take the time to review your current program information, i.e., degree, major, and concentration.

Minimum Cumulative GPA

Grades submitted to satisfy, in whole or in part, the requirements for any graduate degree or certificate of advanced study must yield a cumulative GPA of 3.000 or higher. This requirement may be supplemented by additional restrictions established by the graduate program or the college's graduate office such as, but not limited to, the maximum number of individual courses with grades below 3.000 that may be obtained without being required to withdraw or a minimum GPA in each semester.

Students falling below 3.000 are placed on academic probation. If the student remains on academic probation for two semesters, they may be terminated from the graduate program.

Not more than two courses or 6 semester hours of credit, whichever is greater, may be repeated to satisfy the requirements for the degree. The last grade earned in each of these repeated courses is counted in the calculation of the cumulative GPA.

More information regarding course grading and academic disputes may be found at Academic Appeals Policies and Procedures (p. 70).

Overload Conditions for Graduate Assistants

Graduate assistants are expected to devote full-time effort to their studies and the duties of their award.

They are not permitted to hold any other job during the term of their assistantship; however, they may be offered limited extra work on campus. Graduate assistants who are not on F-1 or J-1 visas can be offered overload work that does not exceed an average of 6 hours a week or 90 hours a semester, for a total of 270 hours a year (or three semesters). As part of this work, graduate assistants may be hired to teach one 3-semester-hour course as an overload during the year (180 hours). The hours worked during the weeks between semesters are included in this total.

Pass/Fail (Satisfactory/Unsatisfactory) Grading

The individual schools and colleges determine whether a course will be graded on a pass/fail basis.

Regulations and Requirements for All Graduate Degree Programs

A copy of each graduate degree program as approved by the Board of Trustees and as officially amended is on file in the Office of the Provost. This record contains the goals, learning objectives, and all requirements for the program. All descriptions of the program in the university, college, and department publications must conform to this officially approved record.

Standards of admission are specific to certificate and degree programs and are found on each each college's or offering unit's website.

Admission Requirements

Prior to beginning a graduate program at Northeastern University, students must have met one of the following criteria:

1. Received a bachelor's degree or equivalent from an accredited college or university
2. Received a master's degree or equivalent degree from an accredited college or university
3. Received a first professional or equivalent degree from an accredited college or university
4. Been accepted into an approved bachelor's-to-graduate-degree program at Northeastern

Transfer and Other Advanced Standing Credit

Transfer credits from other institutions (or other programs within the university) will only be accepted at the discretion of the student's destination academic unit and the associated college with the following constraints:

- For graduate certificate programs, a maximum of 3 semester hours or 4 quarter hours of credit earned at another institution may be accepted toward the credential being pursued at Northeastern, provided the credits meet the above-listed standards.
- For master's degree programs, a maximum of 30% of the credits required for the degree that are earned at another institution may be accepted toward the degree being pursued at Northeastern, provided the credits:

    1. Consist of work taken at the graduate level for graduate credit
    2. Carry grades of 3.000 or better
    3. Have been earned at an accredited institution
    4. Have not been used toward any baccalaureate or advanced degree or certificate at another institution

  Advanced standing is based on criteria established by the offering school or college and implemented in coordination with the Office of the University Registrar. When applied, advanced standing reduces the total credits required to complete the primary program.

  The combination of advanced standing and transfer credit shall not exceed 30% of the credits required for the degree. Credit for prior experiential or non-collegiate- sponsored learning is limited to 25% of the degree credits required for the degree.

  Graduate course credits earned at Northeastern by undergraduate students enrolled in a PlusOne program will be applied toward both the undergraduate and graduate degrees as prescribed by the graduate program in which the student is enrolled, not to exceed 16 semester hours or 21 quarter hours. Transfer credit may not be applied to graduate degrees that are completed as part of a PlusOne program. Deviations from this limit shall be considered on a case-by-case basis by the University Graduate Curriculum Committee.

- Students may credit-share specified courses taken while in undergraduate status for both the bachelor's and PhD degrees. A student who departs from the program before receiving PhD candidacy may opt to use those courses toward a master's degree earned. However, such credit sharing cannot be used for more than two credentials, i.e., degrees and certificates. Please see above for limits on credit sharing between credentials.
- For doctoral programs, a maximum of 30% of the total semester hours of required coursework may be granted upon the recommendation of the admitting college's graduate committee.

Transfer credits must have been earned within five academic years of the date of matriculation in the Northeastern program to which they are to be applied.

Grades earned in courses to be applied as transfer credits are not counted as part of the overall grade-point average earned at Northeastern and are posted with a grade of T to the transcript.

Provisional or Special Students

Students cannot be admitted under provisional conditions, i.e., requiring preparatory or remedial coursework that must be successfully completed for progression in the program. Special students are nondegree students taking courses, not to exceed 12 semester or 16 quarter hours, while not admitted to a specific program.

Uniform Credit System

One credit hour of academic credit consists of three hours of work per week throughout the term, usually one hour of class contact and two hours of outside work. When students are registered for thesis credits, directed study, or internship, the appropriate number of credit hours will be determined

using the same method. Programs may vary the ratio of class time to preparation time depending on the learning outcomes and accreditation standards appropriate in their field(s).

A quarter hour is evaluated as three-quarters of a semester hour.

When students are registered for thesis credits, directed study, or internship, the appropriate number of credit hours will be determined using the same method.

Additional information on course and credit guidelines can be found here (p. 50).

Undergraduate Credit for Graduate Courses

Undergraduate students who are juniors or seniors may enroll in graduate courses for credit toward their undergraduate degrees if they meet all prerequisites as determined by the graduate director and they receive permission from the instructor of the course and from the student's undergraduate academic advisor.

Time Limit for Course Credit

Course credits earned in the program of graduate study, or accepted by transfer, are valid for a maximum of seven years unless the relevant graduate office grants an extension.

Academic Progression

Grades submitted to satisfy, in whole or in part, the requirements for any graduate degree or certificate of advanced study must yield a cumulative GPA of 3.000 or higher. This requirement may be supplemented by additional restrictions established by the graduate office such as, but not limited to, the maximum number of individual courses with grades below 3.000 that may be obtained without being required to withdraw or a minimum GPA in each semester.

Students falling below 3.000 will be placed on academic probation. If the student remains on academic probation for two terms, they may be terminated from the graduate program. A PhD student will be considered to be on academic probation if their cumulative GPA falls below 3.000 and/or if they are not making acceptable research progress as defined by the college through an academic review process that occurs at least annually.

No more than two nonrepeatable courses may be retaken to satisfy the curricular requirements for the degree. A specific course may not be retaken more than once. The last grade earned in each of the retaken courses will be counted in the calculation of the cumulative GPA. Courses with a specified attribute of "repeatable" can be repeated up to the specified limit, and the earned grade in each occurrence of course completion will count toward the calculation of the cumulative GPA.

Any incomplete grades must be cleared in accordance with the university's policy concerning incomplete grades (p. 61).

Language Requirements

The committee in charge of the degree program may establish a language requirement.

Required Training

Graduate programs may require relevant training that all of the program' s students must complete by deadlines communicated by the university or by the student's graduate program advisor.

Regulations and Requirements for Graduate Certificate Programs

Certificates That Appear on the Transcript

DEFINITION

A graduate certificate program is a program of study requiring at least three graduate courses and not fewer than 12 semester hours or 16 quarter hours of graduate credit. Successful completion of such a certificate program will be recorded on the student's transcript. Appropriate graduate credits taken as part of a graduate certificate program may be counted toward a graduate degree, at the discretion of the graduate degree program.

ADMISSION

All students admitted to a certificate program must satisfy the general requirements for admission as a graduate student and the requirements for the specific certificate program.

PROCEDURES FOR THE APPROVAL OF NEW CERTIFICATE PROGRAMS

New certificate programs are developed following the procedure outlined in the Guidelines for New Degree Programs found on the Office of the Provost website. (https://provost.northeastern.edu/policies/.html)

All new certificate programs require the approval of the University Graduate Curriculum Committee and notification of the Faculty Senate.

PROCEDURES FOR CERTIFICATE PROGRAM REVIEW

Certificate programs will be reviewed in the context of departmental reviews. Information about these reviews can be found on the Office of the Provost website. (https://provost.northeastern.edu/policies/)

GENERAL REGULATIONS

Except as indicated herein, certificate programs shall be subject to the same regulations and procedures as master's degree programs.

TRANSCRIPT NOTATION

Only approved degrees, certificates, and concentrations appear on the transcript.

Regulations and Requirements for the Master's Degree

Admissions Requirements

All students admitted to a master's program must satisfy the general requirements for admission as a graduate student and the requirements for the specific master's program. To be eligible for admission, with the exception of PlusOne students, applicants must have a bachelor's degree from an accredited college or university.

Course Requirements

A candidate for the master's degree must satisfactorily complete an approved program conforming to the requirements of the graduate school and department or program in which the candidate is registered.

The requirements for the master's degree are a minimum of 30 semester hours beyond the bachelor's degree, except in the College of Professional Studies in which 45 quarter hours of graduate work are required. Undergraduate-level coursework will not be accepted to meet the requirements for the master's degree.

Comprehensive Examination

The committee in charge of the degree program may require a final written or oral comprehensive examination(s) for partial fulfillment of degree requirements.

Thesis

If a thesis is required in partial fulfillment of degree requirements, it must show independent work based, in part, on original material and must meet the approval of the student's thesis committee. The committee in charge of the degree program is responsible for providing instructions concerning preparation of the thesis.

The student must submit the thesis to ProQuest (or a university-sanctioned successor system) according to the time schedule provided by the relevant graduate office. Information on archiving a thesis is available in the relevant graduate office.

Regulations and Requirements for PlusOne Degree Combinations

"PlusOne program" refers to any program in which students accelerate the attainment of the postbaccalaureate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees.

Credit Sharing

Not more than four graduate courses or 16 semester hours (or 21 quarter hours), whichever is greater, taken while a student is in undergraduate status and participating in an accelerated master's (so-called PlusOne) program at Northeastern University, may be used to satisfy the requirements for both the undergraduate and graduate degrees. Exceptions to this credit-sharing limit (due to significantly higher credit requirements for the graduate degree or other special provisions) must be approved through governance processes.

Use of Master's-Level Credits Earned While in Undergraduate Status

Unless they have been accepted into and are enrolled in a designated PlusOne program before the undergraduate degree is conferred, students who took graduate classes to fulfill requirements toward an undergraduate degree at Northeastern may not use those credits later toward a master's degree. If the student took graduate classes resulting in credits beyond those used for the undergraduate degree program (were not used in undergraduate degree audit), those credits may be considered for use toward a subsequent degree program. If course credits are used toward both the undergraduate and graduate degrees in a PlusOne, they cannot be used for other credentials (e.g., a certificate).

Graduate course credits earned while a student was in undergraduate status and enrolled in a designated PlusOne program, used to fulfill requirements toward the undergraduate degree, and eligible to be applied toward the designated PlusOne master's degree program must be designated for such use within the subsequent three academic years after the student receives the bachelor's degree in which those credits were earned.

Regulations and Requirements for Professional Doctorate Degree Programs

Admissions Requirements

A student enrolled in a professional doctorate degree program must satisfy the general requirements for admission as a graduate student and the requirements for the specific professional doctorate degree program. To be eligible for admission, applicants must have a bachelor's degree from an accredited college or university.

Academic Classification and Degree Candidacy

- Doctoral student: Students in this classification have been admitted to a doctoral program.
- Doctoral candidate: Each program in which the term candidacy is used shall have a policy defining candidacy. Students in this classification will have completed all departmental, college, and university requirements except for the dissertation (if applicable). These requirements vary by program but minimally include completion of approximately 30 semester hours or 45 quarter hours of acceptable graduate work beyond the bachelor's degree or possession of a previously earned master's degree that is acceptable to the department and certification by the graduate office. The requirements frequently include a comprehensive examination and/or a proposal defense.

Academic Residency Requirement

In the context of a doctoral degree program, the residency requirement refers to either:

- A minimum number of credits or semesters that must be completed at the degree-granting institution
- A minimum duration during which the degree candidate must be enrolled full-time at the degree-granting institution

In those programs in which the term candidacy is used, after reaching candidacy, students must register for Dissertation for a minimum of two semesters in order to fulfill their formal residency requirement. Continuation status enrollment is for students who are postcandidacy, have completed all coursework and their residency requirement, and are actively engaged in completing a dissertation.

Responsible Conduct of Research

All doctoral students for whom Responsible Conduct of Research training is required must complete training according to the university's Policy on Responsible Conduct of Research (https://policies.northeastern.edu/policy500/).

Course Requirements

A candidate for the professional doctorate degree must satisfactorily complete an approved program conforming to the requirements of the graduate school and department or program in which the candidate is registered.

The requirements for the professional doctorate degree shall be determined by the program.

Undergraduate-level coursework will not be accepted to meet the requirements for the professional doctorate degree.

Qualifying Examination(s)

In departments that require qualifying examinations, students must be notified in writing of the nature and regulations governing these examinations and of how their performance on the examinations will affect their normal progress toward the degree. The graduate office shall be made aware of the department regulations concerning such examinations.

Dissertation Committee

For programs requiring the dissertation, the dissertation committee shall have at least three members, two of whom shall be from Northeastern University. The chair of the dissertation committee will be a faculty of Northeastern and will hold an appropriate terminal degree for the discipline. Exceptions to this policy may be granted by the dean of the relevant college (or their designee) based on the qualifications and experience of the faculty member who would serve as chair.

Comprehensive Examination

For programs requiring a comprehensive examination, the committee in charge of the degree program may require a final written or oral comprehensive examination(s) for partial fulfillment of degree requirements.

Thesis or Dissertation in Practice

If a thesis or dissertation in practice is required in partial fulfillment of degree requirements, it must show independent work based, in part, on original material and must meet the approval of the student's thesis committee. The committee in charge of the degree program is responsible for providing instructions concerning preparation of the thesis.

The student must submit the thesis to ProQuest (or a university-sanctioned successor system) according to the time schedule provided by the relevant graduate office. Information on archiving a thesis is available in the graduate office.

Time Limitation for Achieving Candidacy and Degree Completion

For programs in which the term candidacy is used, degree candidacy must be achieved within three years of entering the doctoral program. For all programs, the degree must be completed within seven years after entering the program. A student may request an extension of these time frames from the graduate office.

Pursuit of an Academic Credential Outside Student's Major

A student enrolled in a doctoral program may seek to pursue academic credentials (e.g., master's degree or certificate) outside of their major only if, prior to completing more than one-third of the required credits for that credential, they obtain the approval of their primary advisor, obtain the approval of the graduate office, and apply to and are accepted into the major offering that credential.

Regulations and Requirements for the Certificate of Advanced Graduate Study

The Certificate of Advanced Graduate Study provides specialized study above the master's degree. It is a course of study that falls between the master's and doctoral degree and culminates in a graduate certificate.

Admissions Requirements

An applicant for the CAGS must hold a master's degree in a related field from an accredited institution and must complete the admission procedure described in the material of the graduate schools. All students admitted to a CAGS program must satisfy the general requirements for admission as a graduate student and the requirements for the specific CAGS program.

Course Requirements

A candidate for the CAGS must satisfactorily complete an approved program conforming to the requirements of the graduate school and department or program in which the candidate is registered. The candidate must complete a minimum of 24 semester hours or, in the case of the College of Professional Studies, 32 quarter hours of credit beyond the master's degree.

Regulations and Requirements for Doctor of Philosophy (PhD) Programs

The formal requirements for the PhD degree are the following: completion of the coursework mandated by the individual degree program, fulfillment of the residency requirement, formal training in the Responsible Conduct of Research for students as appropriate, qualifying and/or comprehensive examination(s) or equivalent as required by the degree program, continuous registration, a final oral examination conducted by the student's PhD committee, and submission of a dissertation to the relevant graduate office and to ProQuest (or a university-sanctioned successor system) for archiving. The dissertation must be based on original and independent research.

Admissions Requirements

All students admitted to a doctor of philosophy program must satisfy the general requirements for admission as a graduate student and the requirements for the specific PhD program.

Academic Classification and Degree Candidacy

1. Doctoral student: Students in this classification have been admitted to a doctoral program.
2. Doctoral candidate: Every degree program shall have a policy defining candidacy. Students in this classification will have completed all departmental, college, and university requirements except for the dissertation. These requirements vary by program but minimally include completion of approximately 30 semester hours of acceptable graduate work beyond the bachelor's degree or possession of a previously earned master's degree that is acceptable to the admissions committee and certification by the graduate office. The requirements frequently include a comprehensive examination and/or a proposal defense.

Academic Residency Requirement

In the context of a doctoral degree program, the residency requirement refers to either:

1. A minimum number of credits or semesters that must be completed through the degree-granting institution
2. A minimum duration during which the degree candidate must be enrolled full-time at the degree-granting institution

After reaching candidacy, students must register for Dissertation for a minimum of two consecutive semesters in order to fulfill their formal residency requirement. Continuation status enrollment is for students who are postcandidacy, have completed all coursework and their residency requirement, and are actively engaged in completing a dissertation.

Responsible Conduct of Research

All doctoral students for whom Responsible Conduct of Research training is required must complete training according to the university's Policy on (https://www.northeastern.edu/policies/Policy_on_Responsible_Conduct_of_Research.pdf) Responsible Conduct of Research. (https://www.northeastern.edu/policies/Policy_on_Responsible_Conduct_of_Research.pdf)

Course Requirements

The program committee in charge of the degree program specifies the doctoral course requirements.

Requirements for Candidacy

In programs that require qualifying examinations, students must be notified in writing of the nature and regulations governing these examinations and of how their performance on the examinations will affect their normal progress toward the degree. The graduate office shall be made aware of the program regulations concerning such examinations.

Annual Review of Student Progress

Units shall define milestones for achieving satisfactory academic progress and shall establish a published process by which the academic progress of every PhD student will be evaluated through an annual review. A copy of each review shall be submitted to the student and the graduate office. If the annual academic review reports that a student is not making sufficient academic progress due to research performance, the PhD student will be placed on academic probation. After two consecutive semesters on academic probation, the student may be dismissed.

PhD Dissertation Committee

The dissertation committee shall have at least three faculty members, two of whom shall be from Northeastern University. The chair of the dissertation committee (who is presumed to be the thesis advisor) will be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD (or other research doctorate) or an appropriate terminal degree for the discipline. Colleges, the provost, or provost-designee may permit full-time faculty from other ranks: 1) on a case-by-case basis to serve in this role based on the research qualifications and experience of individual faculty members or 2) based on equivalent faculty definitions at locations operating under different faculty rank systems.

The PhD committee should be appointed early enough to advise in the formulation of the student's program and in refining the research topic for the dissertation. Within the constraints of the above criteria, the PhD program faculty will determine the process by which dissertation committees are established. The final list of dissertation committee members shall be reported to the college's associate dean for graduate education or administrative unit managing the degree program.

If a student's major advisor leaves Northeastern (including transition to emeritus status), that person may continue the research direction of the dissertation or thesis. However, a co-advisor must be appointed from the academic department or program. The student will then have two advisors, one an official member of the Northeastern faculty who will be available for research and administrative matters and the ex-Northeastern advisor. If a new major advisor is appointed, the former Northeastern faculty member may serve as an outside member of the committee.

Comprehensive Examination(s) and/or Proposal Defenses

Degree programs may require a comprehensive examination(s) and/or an oral defense of the dissertation proposal as the final step before becoming a PhD candidate. The purpose of the comprehensive examination(s) is to test the knowledge and skills of the student in a particular area and their knowledge of recent research developments in the field. The administrative home unit for each PhD program shall establish the process by which comprehensive examination committees are established. Units may require an oral defense of the dissertation proposal in lieu of, or in addition to, a comprehensive examination.

Dissertation

Candidates for the degree of Doctor of Philosophy must complete a dissertation that embodies the results of extended research and makes an original contribution to the field.

Oral Defense of the Dissertation

An oral defense of the dissertation is required and must be held at least 14 calendar days before the degree conferral date. The defense shall be public and conducted with the committee members present either in person or via electronic means. After the public session, a private session may be held to examine material that is subject to a confidentiality agreement. Following the presentation, the candidate will field questions from the committee in public or private. In the case where neither the candidate nor the committee members are present in person on campus (i.e., the candidate and all committee members are connected only remotely via electronic means), there shall be a location established and technology enabled for public, in-person attendance of the defense by the university community and this accommodation made known to the university.

Submission of the Dissertation

The student must submit the dissertation to ProQuest (or a university-sanctioned successor system) according to the time schedule provided by the relevant graduate office.

Time Limitation for Achieving Candidacy and Degree Completion

Degree candidacy must be achieved within three years of entering the PhD program, and the PhD degree must be completed within seven years after entering the PhD program. A student may request an extension of these time frames from the graduate office.

Pursuit of an Academic Credential Outside Student's Major

A student enrolled in a PhD program may seek to pursue academic credentials (e.g., master's degree or certificate) outside of their major only if, prior to completing more than one-third of the required credits for that credential, they obtain the approval of their primary advisor, obtain the approval of the graduate office, and apply to and are accepted into the major offering that credential.

Regulations and Requirements for Interdisciplinary Graduate Degrees

Northeastern University offers both university- and college-approved interdisciplinary graduate programs for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. The program will correspond in scope and depth to Northeastern's established degree standards but need not agree exactly with the regulations of individual units.

The general regulations and requirements for graduate programs apply to all interdisciplinary programs. Additional requirements are as follows.

Interdisciplinary degrees approved by the Board of Trustees and with curriculum listed in the Graduate Catalog will be administered by a unit designated by the provost. The unit may be within the Office of the Provost or within a college. Faculty oversight of these programs will be through a designated program committee or oversight group. For programs in colleges, the processes followed shall be determined by that unit. For degree programs administered through the Office of the Provost, a faculty group appointed by the provost will provide the faculty oversight.

Definitions

- "College" refers to the College of Arts, Media and Design; the Bouvé College of Health Sciences; the D'Amore-McKim School of Business; the Khoury College of Computer Sciences; the College of Engineering; the College of Professional Studies; the College of Science; the College of Social Sciences and Humanities; the School of Law; and Mills College at Northeastern.
- "Graduate office" refers to either the designated graduate administration office in the a college (as defined above) or an equivalent academic and academic support office that exists outside a college that serves the functions of a college-based graduate office.
- "Graduate program" refers to all postbaccalaureate degree, nondegree, and certificate programs and packages of courses offered for graduate credit. Graduate programs shall not include programs or courses that are offered by the School of Law in support of the JD or LLM degree.

PhD Programs

Overview

Northeastern University offers the following PhD programs. The Experiential PhD (p. 107) page has additional information on doctoral programs that connect Northeastern to industry, government, and nonprofit partners.

B

- Bioengineering, PhD (p. 349)
- Biology, PhD (p. 940)
- Biomedical Science, PhD (p. 694)

C

- Chemical Engineering, PhD (p. 366)
- Chemistry, PhD (p. 953)
- Civil and Environmental Engineering, PhD (p. 382)
- Computer Engineering, PhD (p. 411)
- Computer Science, PhD (p. 267)
- Counseling Psychology, PhD (p. 634)
- Criminology and Justice Policy, PhD (p. 1052)
- Cybersecurity, PhD (p. 302)

E

- Economics, PhD (p. 1060)
- Electrical Engineering, PhD (p. 419)
- English, PhD (p. 1067)

H

- History, PhD (p. 1075)
- Human Behavior and Sustainability Sciences, PhD (p. 980)
- Human Movement and Rehabilitation Sciences, PhD (p. 620)

I

- Industrial Engineering, PhD (p. 475)
- Interdisciplinary, PhD (p. 104)
- Interdisciplinary Design and Media, PhD (p. 147)
- Interdisciplinary Engineering, PhD (p. 357)

M

- Marine and Environmental Sciences, PhD (p. 975)
- Mathematics, PhD (p. 991)
- Mechanical Engineering, PhD (p. 478)
- Medicinal Chemistry and Drug Discovery, PhD (p. 701)

N

- Network Science, PhD (p. 273)
- Nursing, PhD (p. 669)

P

- Personal Health Informatics, PhD (p. 314)
- Pharmaceutics and Drug Delivery, PhD (p. 707)
- Pharmacology, PhD (p. 713)
- Physics, PhD (p. 1005)
- Political Science, PhD (p. 1082)
- Population Health, PhD (p. 646)
- Psychology, PhD (p. 1024)
- Public Policy, PhD (p. 1093)

S

- School Psychology, PhD (p. 636)
- Sociology, PhD (p. 1126)

PhD Network

The Northeastern University PhD Network is designed to build distinctive Experiential PhD (p. 107) opportunities and community among PhD students, providing students with support and resources universitywide to enhance their educational experience and career exploration.

At Northeastern, every PhD student has opportunities to acquire experience beyond traditional dissertation research. Exposure to and integration with our many industry and academic partners—through internships, fieldwork, and other collaborations—and in authentic settings—from laboratories, startup companies, and nonprofit institutions—lead to research with greater impact and broader career opportunities, both within and beyond academia. The PhD Network works with internal and external partners to grow and facilitate opportunities for PhD students.

Shared values unite PhD-centered activities at Northeastern:

- **Excellence with purpose:** All PhD programs combine academic rigor with societal impact, preparing critical thinkers to tackle the world's most challenging problems.
- **Innovative thinking:** Our education programs, mentoring activities, and research scholarship develop novel content and pathfinding approaches.
- **Crossing boundaries:** PhD students transcend disciplinary and international boundaries during their innovative educational journey.
- **Integrative education:** The integration of scholarship and research training with collaborative fieldwork and professional development provides a uniquely experiential education.
- **Inclusive diversity:** Students and faculty from diverse cultures and backgrounds drive excellence by bringing a wide range of perspectives to our distinctive programs.

Explore the PhD Network website (https://phd.northeastern.edu/network/resources/) to learn more about:

- Resources that support PhD students' educational, professional, and personal lives
- Events created especially for PhD students, both at Northeastern and through our partners
- Funding in support of fellowships, internships, and conference attendance

Interdisciplinary PhD - Overview

Offering an individually tailored program of study, the Northeastern University Interdisciplinary Doctor of Philosophy program enables students to draw from the disciplines supporting their fields of research and provides flexibility to train the next generation of transdisciplinary and multidisciplinary researchers who will be needed to tackle society's most pressing problems that cross disciplinary boundaries.

The graduate group, consisting of faculty from across Northeastern, provides the overarching faculty oversight to the curriculum that is expected to cross multiple Northeastern colleges. The Interdisciplinary PhD option will only be available when the desired research curriculum cannot be supported by one of Northeastern's existing PhD programs. This PhD program is administered by the Office of the Provost.

Minimum academic standards, oversight, requirements, and milestones related to this new PhD are described below.

GRADUATE GROUP

This refers to the faculty committee that will provide academic oversight for the PhD program as a whole.

DISSERTATION COMMITTEE

Established by the graduate group for each PhD student, the dissertation committee consists of at least three faculty qualified to supervise the student's research and establishes the curriculum requirements in support of the PhD student's anticipated dissertation research. There should be at least one dissertation committee member representing each discipline associated with the proposed PhD, and it is strongly encouraged that an external individual is added as a fourth member of the dissertation committee. This external member must be qualified to supervise and guide PhD-level research. The dissertation committee also establishes the milestone requirements, specifically the format for the qualifying exam at the time of admission. One member of the dissertation committee will serve as the committee chair. Cochairs are permitted and encouraged to guide research at the intersection of disciplines.

AREA OF SPECIALIZATION

Students select an area of specialization, supported by their approved coursework and research areas and denoted on the student's transcript. The area of specialization will be recommended by the dissertation committee. The graduate group will review these areas of specialization within the context of existing PhD specializations. The graduate group will make the final decision about the area of specialization for each student. Area of specialization should be established by the end of the first year of academic study.

ADMISSION TO CANDIDACY

The admission to candidacy recognizes the wide range of disciplines that may participate in in this degree. To reach candidacy, PhD students must demonstrate their research ability through the application and synthesis of skills and knowledge and their ability to pose questions and solve problems. Students should achieve candidacy by the end of the second year of study. The admission to candidacy will include an assessment about the candidate's ability to perform societally impactful research by an external evaluator. Students who require more than

18 months to meet the requirements for candidacy will need to petition the dissertation committee and the graduate group to request extended time. Candidacy will be achieved with the following:

- The qualifying examination subject areas will be established at the time of admission, which will be aligned with the student's proposed research project. A representative from the graduate group will convene the dissertation committee for the qualifying exams. To assess the student's ability to perform impactful research, it is strongly recommended that an evaluator outside Northeastern (and not a member of the dissertation committee) be included as an examiner. The qualifying examination will normally include a written exam, oral exam, response to a journal paper, and/or other format deemed acceptable by the dissertation committee for the involved disciplinary areas.
- Progression to candidacy may also require a research paper requirement. Any paper requirements will be communicated at admission.
- The committee may require a presentation from the student before making its recommendation.

DISSERTATION PROSPECTUS/PROPOSAL

After the student has achieved sufficient depth in a field of study, the student prepares a proposal for a PhD dissertation. This process should take place within a year of achieving candidacy. The dissertation proposal describes the proposed research, including the relevant background materials from literature. The proposal should clearly specify the research questions to be addressed, the methods to be used, and a schedule of milestones to completion. A representative from the graduate group will convene the dissertation committee for the dissertation proposal. The dissertation proposal must be approved by the dissertation committee. It is strongly encouraged that the dissertation committee include an individual qualified to guide the research from outside Northeastern. Upon approval of the written proposal, the student must present the proposed work orally in a public forum, followed by a closed-door oral examination from the dissertation committee. The dissertation committee will submit the dissertation proposal results to the representative from the graduate group who will review and communicate the results to the student. The student may take the dissertation proposal examination twice, at most.

DISSERTATION DEFENSE

The dissertation defense is held in accordance with the bylaws of the University Graduate Curriculum Committee of the Northeastern Faculty Senate. The defense is convened by a representative from the graduate group and is chaired by a Northeastern faculty member approved by the graduate group and outside the dissertation committee. The dissertation committee will include an external examiner who is an individual with expertise in the area of study but not affiliated with the Northeastern global campus system or previously involved with the student's research. The defense chair will communicate the results to the PhD candidate.

Interdisciplinary PhD - Bachelor's Degree Entry

Program Requirements for Bachelor's Degree Entry

Milestones

Core requirements *(curricula established by the dissertation committee)*
Annual progress review
Admission to candidacy
Qualifying examination
Dissertation prospectus/proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 30 semester hours of coursework in consultation with your dissertation committee.		30

The dissertation committee will provide oversight in coursework selection, provided that each student has training (via courses or experience) in prerequisite domain knowledge, research methods, and specific contexts. Students are required to enroll in a minimum of 30 semester hours of coursework approved by the dissertation committee. This coursework may include traditional courses, special topics courses, independent study, and discussant or other coursework taken via partner institution. The coursework should also include opportunities to develop the professional skills (such as communication, teaching, and leadership) required for the student's field of research. Courses delivered at a partner outside Northeastern University may satisfy these course requirements provided an education or experiential PhD agreement exists with that organization. The dissertation committee will ensure that the 30 semester hours represent a balance of coursework across domain knowledge, research methods, application contexts, research integrity, colloquia, the research itself, and professional development. The dissertation committee should submit a plan of study to the graduate group during the first semester of a PhD student's enrollment.

Program Credit / GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Interdisciplinary PhD - Master's Degree Entry

Program Requirements for Master's Degree Entry

Milestones

Core requirements *(curricula established by the dissertation committee)*
Annual progress review
Admission to candidacy

Qualifying examination
Dissertation prospectus/proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 12 semester hours of coursework in consultation with your dissertation committee.		12

The dissertation committee will provide oversight in coursework selection, provided that each student has training (via courses or experience) in prerequisite domain knowledge, research methods, and specific contexts. Students are required to enroll in a minimum of 12 semester hours of coursework approved by the dissertation committee. This coursework may include traditional courses, special topics courses, independent study, and discussant or other coursework taken via partner institution. The coursework should also include opportunities to develop the professional skills (such as communication, teaching, and leadership) required for the student's field of research. Courses delivered at a partner outside Northeastern University may satisfy these course requirements provided an education or experiential PhD agreement exists with that organization. The dissertation committee will ensure that the 12 semester hours represent a balance of coursework across domain knowledge, research methods, application contexts, research integrity, colloquia, the research itself, and professional development. The dissertation committee should submit a plan of study to the graduate group during the first semester of a PhD student's enrollment.

Program Credit / GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Experiential PhD

Overview

The future of research will be collaborative. Researchers across academic institutions, industry, government, and other organizations will team up to solve complex real-world problems. Researchers will require technical proficiency as well as the ability to work with others, form teams, manage projects, and more—skills that go beyond the classroom. At Northeastern University, every PhD student and postdoctoral research associate has opportunities to acquire experiences beyond traditional research. Exposure to and integration with our many partners through unique programs in authentic settings from laboratories to startup companies to nonprofit institutions leads to greater impact and broader career opportunities, both within and beyond academia.

Northeastern's Experiential PhD programs offer such opportunities for current Northeastern PhD students and postdoctoral research associates and for full-time master's-level employees at companies, laboratories, and organizations who want to pursue a doctoral degree at Northeastern. The former occurs through the LEADERs program (p. 107), while the latter occurs through the Industry PhD program (p. 108). Traditional internships and sponsored research agreements are available to Northeastern students.

The LEADERs program is designed to enable researchers to develop professional skills through authentic career exploration opportunities at organizations in industry, government, and the nonprofit sector. Beyond the comfort zone of their own university research group, PhD students and postdoctoral research associates encounter new experiences that help shape their research perspective. They also bring fresh ideas and talent to their host organizations. Northeastern is one of the only universities in the world to offer students in all of its research-based doctoral-degree programs the option to learn and pursue research outside of their primary research group. These real-world placements are highly flexible and customizable, tailored to meet the needs of both Northeastern's PhD students and postdoctoral research associates and our institutional partners.

The Industry PhD is a first-of-its kind research-based doctoral program for full-time master's-level employees. Designed with input from external partners, employees pursue a research-based doctoral degree while maintaining their job and conducting research at the employer site. This enables employees to acquire new skills that will help them to advance in their careers and provides the organization with an opportunity to invest in their future leaders. By working closely with Northeastern faculty, employees will explore their research from a broader scientific perspective, enabling them to appreciate the research foundation of their day-to-day work and to pursue new areas of research for the company.

Experiential PhD programs offer robust benefits to both students and institutional partners. Students solve complex problems as part of their education and chart careers as future innovators. Our institutional partners receive many benefits as well, including:

- A deeper engagement in rapidly evolving fields of research
- Access to university facilities and senior faculty expertise
- Opportunities for senior leadership to mentor and copublish with students and to serve on their dissertation committees
- A chance to recruit emerging talent
- Opportunities to partner with Northeastern, an entrepreneurial research university known for its innovative collaborations with academia, government, and industry

Experiential PhD Leadership, Graduate Certificate

At Northeastern University, PhD students enjoy a uniquely broad range of immersive opportunities to expand critical inquiry, learn, perform original research, and chart a path to professional success. Experiential PhD opportunities enable PhD students to step outside the comfort zone of their campus research group where students can pursue challenging, creative, customized assignments within industry, government, or the nonprofit sector that inform and enhance their pursuit of a research doctorate.

This Graduate Certificate in Experiential PhD Leadership aims to:

• **Challenge students to address complex problems** through experience within the context of real-world needs and challenges faced by industry, government, or nonprofit-sector organizations, broadening students' view of stakeholders and impact, shaping the very questions they raise and answer.

• **Equip students for a lifetime with the cultural agility, creativity, and professional skills**—public speaking and communications, meeting goals and expectations (e.g., project management for personal and professional purposes), teamwork, leadership, peer influence, leading from the middle—that they will need to translate their findings into impactful solutions.

• **Enrich every student's research group and, ultimately, fields of expertise** by fostering a collaborative, entrepreneurial, innovative approach to knowledge creation that expands their network far beyond academia to include intellectual and professional mentors and collaborators.

This graduate certificate designed for PhD students across all of Northeastern's research-based PhD programs provides students embarking on an experiential PhD with the preparation, project delivery, and guidance for contextual integration within the context of leadership development. All students pursuing this leadership certificate will be mentored by their sponsor supervisor and dissertation advisor(s).

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in each course.

Requirements

Code	Title	Hours
PHDL 7600	Leading Self and Others	4
PHDL 7660	Experiential PhD Challenge Project 1	4
PHDL 7662	Experiential PhD Challenge Project 2	4
PHDL 7666	Contextual Integration	0

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Industry PhD

The Industry PhD is a first-of-its kind research-based doctoral program designed with input from external partners to provide a pathway for full-time master's-level employees. Designed with input from external partners, employees pursue a research-based doctoral degree while maintaining their job and conducting research at the employer site. This enables employees to acquire new skills that will help them to advance in their careers and provides the organization with an opportunity to invest in their future leaders. By working closely with Northeastern University faculty, employees will explore their research from a broader scientific perspective, enabling them to appreciate the research foundation of their day-to-day work and to pursue new areas of research for the company.

Experiential PhD programs offer robust benefits to both students and institutional partners. Students solve complex problems as part of their education and chart careers as future innovators. Our institutional partners receive many benefits as well, including:

- A deeper engagement in rapidly evolving fields of research
- Access to university facilities and senior faculty expertise
- Opportunities for senior leadership to mentor and copublish with students and to serve on their dissertation committees
- A chance to recruit emerging talent
- Opportunities to partner with Northeastern, an entrepreneurial research university known for its innovative collaborations with academia, government, and industry

The Industry PhD is applicable to any of our 35 doctoral programs. Applicants should follow the requirements of the program to which they are applying. In addition, the following Industry PhD terms (https://phd.northeastern.edu/industry-and-experiential-phd-program/) apply.

College of Arts, Media and Design

Website (https://camd.northeastern.edu/)

Elizabeth Hudson, PhD, Dean

Casper Harteveld, PhD, Associate Dean for Graduate Programs
Michael Hoppmann, PhD, Associate Dean for Undergraduate Programs
Deirdre Loughridge, PhD, Associate Dean of Faculty Affairs
Thomas Michael, MBA, Associate Dean for Administration and Finance
Andrea Raynor, MFA, Associate Dean for Network, Global Experience, and Partner Programs
Brooke Welles, PhD, Associate Dean of Research
Timothy Blank, MA, Assistant Dean of Student Experience
Katherine Calzada, MEd, Assistant Dean for Faculty Development
Ian Canning, MBA, Assistant Dean for Mobility, Executive, and Partner Programs

617.373.3682

617.373.5084 (fax)

Graduate Enrollment and Student Services
617.373.5329 or 617.373.2566
gradcamd@northeastern.edu

The College of Arts, Media and Design offers graduate programs that build on existing knowledge and establish innovative areas of inquiry and practice. We work with students to frame, research, and answer transformative questions. Together, we challenge, engage, and shape global cultures and marketplaces.

Our Mission

We create a distinctive experiential education by leveraging emergent practices and scholarship in the arts, media, and design. Our unique combination of disciplines empowers innovative thinking and making. Our students become informed citizens and creative leaders with an entrepreneurial spirit.

Graduate Studies in the College of Arts, Media and Design

Welcome to graduate studies at CAMD. We deliver an outstanding graduate education in traditional areas while exploring new approaches to this generation's transformative questions. Our graduate programs highlight intersectional approaches that bring together human, technological, and data literacies to push the boundaries of our disciplines.

We offer diverse program types to meet individual career and academic goals, including terminal degrees (Doctor of Philosophy, Master of Fine Arts, Master of Architecture); professional degrees (Master of Science, Master of Arts, Master of Design); PlusOne pathways; and Graduate Certificates. Our graduate degree programs are inherently interdisciplinary, led by research faculty across the departments of Art + Design, Architecture, Journalism, Music, and Theatre. Coursework incorporates a range of scholarly, applied, and experiential perspectives, complemented by lively community activities including lecture series, exhibitions, symposia, and more.

This is an exciting time to pursue advanced education and scholarship in creative fields. Never have the arts and culture been so clearly essential to our social, economic, and environmental future: From cultural outreach in underserved communities to designing ethical virtual environments for health and security; from green building innovation to cutting-edge journalism; from provocative performances and thought-provoking installations to incisive data visualizations that change how we view the world—our faculty and students are involved in a wealth of academic endeavors, creative enterprises, and professional experience.

Please use these resources to familiarize yourself with the diverse ranges of programs we offer. Don't hesitate to reach out to the graduate program faculty listed in your fields of interest, and be sure to visit CAMD's graduate programs website (https://camd.northeastern.edu/graduate-students/) often, where you'll find current news and links.

Academic Policies and Procedures

- General Information (p. 111)
- Master's Degree Policies (p. 112)
- Graduate Student Classification (p. 113)

General Information

Four units in the College of Arts, Media and Design offer programs at the graduate level:

- Architecture (p. 114)
- Art + Design (p. 125)
- Interdisciplinary (p. 146)
- Journalism (p. 141)

Master's Degree Policies

The College of Arts, Media and Design graduate studies sets minimum standards for all students to fulfill. In addition, departments and programs may have requirements that exceed the standards outlined below. Finally, the CAMD Graduate Programs General Regulations booklet (found at the college's webpage (https://camd.northeastern.edu/graduate-resources-policies/)) further summarizes the expectations for student conduct, academic life, and the responsibilities of the students and the college to one another.

A candidate for the master's degree must complete a minimum of 30 semester hours of graduate-level coursework and such other study as may be required by the department in which the student is registered. To qualify for the degree, a minimum cumulative grade-point average of 3.000, equivalent to a grade of B, must be obtained. This average will be calculated each semester. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be terminated from the program.

To maintain current student status within CAMD, graduate students must make satisfactory progress in their degree, including working toward the graduation requirement of a GPA of 3.000 and the timely completion of coursework. See the university's policy on academic standing ("Minimum Cumulative GPA (p. 88)").

All students must be registered in the last semester of their program. Any student who does not attend Northeastern University for a period of one year will be required to apply for readmission.

Electives

No more than 8 semester hours of electives may be taken outside of CAMD. Any additional non–CAMD elective hours will not count toward the degree.

Graduate Student Scholarship

Students who are registered in degree programs are eligible for a CAMD Graduate Student Scholarship. Award recipients will receive an official award letter from CAMD graduate studies. Pay attention to this letter as it is an official contract that should be read carefully. The GSS is contingent on satisfactory academic progress toward the degree and meeting department-specific guidelines. Recipients must be in full-time status and be registered for a minimum of 8 semester hours. Note, however, that recipients remain eligible for the GSS in their final semester even if they are enrolled in less than 8 semester hours. Receipt of financial support administered by CAMD graduate studies requires that all students receiving awards must maintain a 3.000 cumulative GPA. Students whose cumulative GPA is below 3.000 will be placed on academic probationary status and are not eligible to receive the award while on probation. The GSS can be reactivated by raising the cumulative GPA to 3.000 in the subsequent semester; students who do not meet the minimum GPA requirement at the end of the next semester cannot receive additional probationary periods.

Leave of Absence

Full-time students who are not involved in any academic endeavor for a period of time are required to petition the manager of student services, through their department, for a leave of absence (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/) by completing the leave of absence petition through the Student Hub (https://me.northeastern.edu). CAMD graduate studies will not accept retroactive leave requests. Note that if a student is requesting a leave for medical reasons, students should contact University Health and Counseling Services (http://www.northeastern.edu/uhcs/forms/) at 617.373.2772. Leaves of absence generally are not approved for more than one calendar year at a time. International students must consult with an advisor at the Office of Global Services (https://international.northeastern.edu/ogs/) for proper guidance. Leaves of absence are not appropriate for master's degree students who are working on a thesis but are away from the Northeastern campus. Except in the case of medical leaves, being on an approved leave of absence does not extend the amount of time allowed for degree completion or the makeup of incomplete grades.

Time Limitation

For the master's degree, course credits earned in the program of graduate study are valid for a maximum of seven years.

If students wish to apply for an extension of the time limit, they must submit a petition to their department of study. The petition must include a detailed plan for completion of all remaining degree requirements. In the case of time-limit extension requests for master's degree coursework, the department must certify that the content of each of the courses has not changed since the time the student completed the course. If deemed appropriate, the department will recommend approval of the extension to CAMD graduate studies.

Changes in Requirements

The continuing development of CAMD graduate studies forces regular revision of curricula. When no hardship is imposed on the student because of changes and the facilities (e.g., equipment, technology, studios, etc.) of the college permits, the student is encouraged to meet the more recent program requirements. This requires application to change the catalog term of the student's program of study. To accomplish this, the student's advisor can assist the student with the process of applying to change catalog term. However, if it can be demonstrated that doing so imposes a substantial hardship, the requirements of the year in which the student matriculated will be applicable.

Thesis

Theses are required in some programs and should demonstrate the individual's capacity to execute independent work based on original material. Registration for the thesis course is required. Theses must be approved by the departmental graduate committee and must receive a grade of B (3.000) or better to be accepted. Students who have not completed their thesis after having registered for the specified number of thesis credits must register and pay for Thesis Continuation.

Graduate Student Classification

Regular Student

Those students who are admitted to a degree program.

Conditional Student

Students whose admissions files are missing documentation. A student who has not provided required documentation for admission by the due date for final grades for the student's first academic term will not be permitted to register for a future term.

Special Student

Special students are enrolled on a part-time basis (no more than 6 semester hours per semester). Credit can be earned for a maximum of 12 semester hours over time. Students interested in taking more than 12 semester hours must make a formal application to the degree program through Northeastern University's online application portal (https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantConnectLogin.asp?id=neu-grad). Special students who do not register for four consecutive semesters (excluding summer semester) will be subject to review and possible withdrawal by CAMD graduate studies.

Student Status

For academic purposes, a graduate student is considered a full-time student if enrolled in a minimum of 8 semester hours of credit for the semester, with the following exceptions:

- A student is considered full time if enrolled in a full-time co-op (p. 76).
- Students enrolled in Dissertation or Continuation are considered full time.

Note: Full-time status may be defined differently for federal loan purposes. For information, contact Student Financial Services (https://studentfinance.northeastern.edu/), 617.373.5899.

School of Architecture

Website (https://camd.northeastern.edu/architecture/)

Daniel Adams, MArch
Associate Professor and Director of the School of Architecture
617.373.4637
da.adams@northeastern.edu

Master of Architecture

Northeastern University offers a Master of Architecture degree accredited by the National Architectural Accrediting Board (http://www.naab.org).

The program leverages the school's outstanding faculty and pragmatically grounded curriculum. The physical and cultural context of Boston serves as a laboratory for the program's design studios and is design focused but with a different approach than many schools. We find opportunities for innovation within the real estate and construction industries and current policy debates—rather than outside them. This is how we intend to move architects to the center of the discussion about the future of our cities.

Students take courses in urban housing, practice-integrated design, and do original research on market-driven building types. The final degree project in the design studio offers an opportunity to leverage this research with real innovations in hybrid types, strategic alterations to existing ones, and to take on the challenge of finding prototypical solutions for systemic problems.

In addition to studio courses, graduate students take seminars in architectural theory and design strategy; and electives are available in real estate development, sustainable building techniques, urban landscape, and other topics. There is also a unique course that looks at case studies of architecture firms in practice, problem solving, and innovation. We seek to have students leave our program with a unique balance of technical, theoretical, and strategic tools to make a real difference in the profession.

Master of Design for Sustainable Urban Environments

The Master of Design for Sustainable Urban Environments (MDes-SUEN) brings together the allied professional fields of environmental design, landscape architecture, and urban planning to offer advanced study and research opportunities in the design of ecologically and economically productive urban environments. The program seeks to supply graduates for the rapidly growing field of sustainable urbanism through a dynamic curricular mix of design, dialogue, and technical courses, enriched by diverse interdisciplinary electives.

The pedagogic and research focus of the MDes is the design, implementation, and management of sustainable urban environments from the scale of individual parcels to regional systems. Key topics include brownfield and waterfront revitalization, sustainable and secure pedestrian environments, urban habitat design and management, and green and blue infrastructure design and planning with an emphasis handling increased storm water and tidal influx in the urban landscape.

The MDes is a unique program of study in which urban landscape design, planning, and policy dovetail with environmental engineering, environmental science, art, and visualization. Boston's history of innovation in environmental design as well as its legacy of urban redevelopment provide a rich backdrop and laboratory of urban, infrastructural, and ecological prototypes that ideally position the program to creatively and critically explore local issues with global implications.

Contemporary urban theory includes a significant body of writing in the area of "Landscape-" and "Ecological-Urbanism," a critical discourse that looks at the full range of environmental strategies for urban sites with an emphasis on ecological thinking. The paradigm of sustainable environmental design is moving away from form-based planning toward dynamic ecosystem services. This program seeks to prepare students to be innovative and entrepreneurial designers able to combine economic, environmental, and social priorities to make next-generation public spaces and systems.

Programs

Master of Architecture (MArch)

- One-Year Program (p. 115)
- Two-Year Program (p. 116)
- Three-Year Program (p. 118)
- Three-Year Program—Advanced Degree Entrance (p. 120)

Master of Design for Sustainable Urban Environments (MDes-SUEN)

- One-Year Program (p. 122)
- Two-Year Program (p. 123)

Master of Architecture—One-Year Program

This program gives eligible candidates the opportunity to get a NAAB-accredited (http://www.naab.org) Master of Architecture degree in one year.

Open to candidates with either a Bachelor of Science in Architecture from Northeastern University or a professional Bachelor of Architecture degree from an accredited North American program with at least one year of IDP-approved professional experience.

Students engage in a two-semester research and design project based on pertinent contemporary topics chosen by the graduate faculty, or students may propose an independent research and design project. Team research is conducted and compiled into online and physical research books. This body of compiled research then becomes the basis of the intellectual framework for the individual students' design projects. This final degree project parallels an in-depth two-semester professional practice sequence that analyzes all of the contingencies of successful architectural projects, including architectural offices and their project management strategies, real estate development criteria, and associated project finance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Professional Practice		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 6330	Seminar in Modern Architecture	4
ARCH 6340	Graduate Topics in Architecture	4
Research and Project		
ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Elective

Code	Title	Hours
Students must complete a 4-semester-hour graduate elective.		4

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 6330	4	ARCH 6340	4	Vacation	0	Vacation	0
ARCH 6430	4	ARCH 6440	4				
ARCH 7130	6	ARCH 7140	6				
Elective (Required)	4						
	18		**14**		**0**		**0**

Total Hours: 32

Master of Architecture—Two-Year Program

This program offers students who have earned a Bachelor of Science in Architecture from an institution other than Northeastern to engage in the urban-focused curriculum that is offered at the School of Architecture. Students are awarded a M.Arch degree, which is NAAB-accredited (http://www.naab.org).

YEAR ONE

Options Studio offers topical content that best aligns with the research and practice expertise of the faculty, which provides students with the latest concepts in architectural design, theory, and research on a consistently updated and rotating basis. Students select their top choices of studio topics and instructors, giving them more flexibility in the areas for which they would like to focus their education. The Comprehensive Design Studio challenges the students to consider architectural connections at all scales, from the nut and bolt to the scale of the door or window to the scale of the whole building and the city. Additionally, students take classes in technology as well as architecture seminars.

YEAR TWO

In the final year, students engage in a two-semester research and design project based on pertinent contemporary topics chosen by the graduate faculty, or students may propose an independent research and design project. Team research is conducted and compiled into online and physical research books. This body of compiled research then becomes the basis of the intellectual framework for the individual students' design projects. This final degree project parallels an in-depth two-semester professional practice sequence that analyzes all of the contingencies of successful architectural projects, including architectural offices and their project management strategies, real estate development criteria, and associated project finance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Building and Environment		
ARCH 5210	Environmental Systems	4
ARCH 5220	Integrated Building Systems	4
Studio		
ARCH 5115	Option Studio	6
ARCH 5120	Comprehensive Design Studio	6
Case Study		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 5310	Design Tactics and Operations	4
ARCH 6330	Seminar in Modern Architecture	4
ARCH 6340	Graduate Topics in Architecture	4
Research and Project		
ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Electives

Code	Title	Hours
Complete 8–16 semester hours (5000 level or above) from outside the following subject area:		8-16
ARCH		

Program Credit/GPA Requirements

60–68 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 5115	6	ARCH 5120	6	Vacation	0	Vacation	0
ARCH 5210 and ARCH 5211	4	ARCH 5220	4				
ARCH 5310	4	Elective (Required)	4				

Elective (Required)	4	Elective (Optional)	4		
	18		**18**	**0**	**0**

Year 2

Fall	Hours	Spring	Hours
ARCH 6330	4	ARCH 6340	4
ARCH 6430	4	ARCH 6440	4
ARCH 7130	6	ARCH 7140	6
Elective (Optional)	4		
	18		**14**

Total Hours: 68

Master of Architecture—Three-Year Program

Open to candidates who do not have a Bachelor of Science in Architecture or equivalent.
Applicants from all disciplines are welcome. Those who have some architecture course work may be eligible for advanced placement.

The program requires three years of study. Students have the option to pursue a summer co-op opportunity managed by the university's co-op program.

After completing a first-year introductory curriculum, students in the three-year program merge into the two-year MArch curriculum. This is a NAAB-accredited (http://www.naab.org) degree program.

YEAR ONE

In the first year, students take intensive studios, technology classes, and architectural history classes to immerse them in the studio culture of the school and to give them a strong foundation to begin the upper-level studios. The introductory graduate skills and design studios are specifically designed for the students in this program who do not have experience doing architectural drawing and designing. Students complete a series of projects that will give them an opportunity to develop the skills and the critical thinking needed in the graduate curriculum.

YEAR TWO

The Option Studio offers topical content that best aligns with the research and practice expertise of the faculty, which provides students with the latest concepts in architectural design, theory, and research on a consistently updated and rotating basis. Students select their top choices of studio topics and instructors, giving them more flexibility in the areas for which they would like to focus their education. The Comprehensive Design Studio in the second semester challenges the students to consider architectural connections at all scales, from architectural detail, to architectural systems, to the whole building and its urban context.

YEAR THREE

In the final year, students engage in a two-semester research and design project based on pertinent contemporary topics chosen by the graduate faculty, or students may propose an independent research and design project. Team research is conducted and compiled into online and physical research books. This body of compiled research then becomes the basis of the intellectual framework for the individual students' design projects. This final degree project parallels an in-depth two-semester professional practice sequence that analyzes all of the contingencies of successful architectural projects, including architectural offices and their project management strategies, real estate development criteria, and associated project finance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
History		
ARCH 2330	Architecture and the City in the Nineteenth Century	4
ARCH 2340	Modern Architecture	4
Building, Design, and Environment		
ARCH 2240	Architectonic Systems	4
ARCH 3450	Advanced Architectural Communication	4
ARCH 5210	Environmental Systems	4
ARCH 5220	Integrated Building Systems	4
ARCH 5230	Structural Systems	4
Studio		
ARCH 5115	Option Studio	6
ARCH 5120	Comprehensive Design Studio	6
ARCH 6100	Graduate Skills Studio	6
ARCH 6200	Graduate Studio 1: Architectural Design	6
Professional Practice		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 5310	Design Tactics and Operations	4
ARCH 6330	Seminar in Modern Architecture	4
Complete the following (repeatable) course twice:		8
ARCH 6340	Graduate Topics in Architecture	
Research and Project		

ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Electives

Code	Title	Hours
Required Electives		
Complete 8 semester hours of non-ARCH courses (required).		8
Optional Electives		
Complete 4 semester hours of ARCH courses (optional). Electives outside architecture may be taken in consultation with your faculty adviser.		

Program Credit/GPA Requirements

96–104 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ARCH 2240	4	ARCH 2340 and ARCH 2341	4	Vacation	0
ARCH 2330 (and)	4	ARCH 3450 (or required elective)	4		
ARCH 2331		ARCH 5210	4		
ARCH 6100	6	ARCH 5211			
Elective (Required)	4	ARCH 6200	6		
	18		**18**		**0**

Year 2

Fall	Hours	Spring	Hours
ARCH 5115	6	ARCH 3450 (or required elective)	4
ARCH 5230 (and)	4	ARCH 5120	6
ARCH 5231		ARCH 5220	4
ARCH 5310	4	ARCH 6340 (1 of 2)	4
Optional elective	4		
	18		**18**

Year 3

Fall	Hours	Spring	Hours
ARCH 6330	4	ARCH 6340 (2 of 2)	4
ARCH 6430	4	ARCH 6440	4
ARCH 7130	6	ARCH 7140	6
Elective (optional)	4		
	18		**14**

Total Hours: 104

Total credits for the three-year track may range from 96–104 depending on optional electives.

Master of Architecture—Three-Year Program—Advanced Degree Entrance

Open to candidates who do not have a Bachelor of Science in Architecture or an equivalent degree.
Students with some background in architecture may be eligible for advanced placement into the program. Advanced placement will be determined by an applicant's transcript and portfolio.

After completing a first-year introductory curriculum, students in the three-year program merge into the two-year MArch curriculum. This is a NAAB-accredited (http://www.naab.org/)degree program.

Only select courses in the first year of the program will be waived. All waivers are at the discretion of the school and applicants will be required to provide documentation for any waivers (78–100 credits total based on waivers).

The minimum course work for all students in the first year of the program is:

- Two studio courses (minimum 10 credits total)
- Two graduate electives (minimum 8 credits total)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

All advanced-entry students must complete a minimum of 10 semester hours per semester in the first year. Course waivers are determined by the faculty and students should consult with their advisor.

Prerequisites

Courses listed below may be waived as determined by faculty advisor.

Code	Title	Hours
History		
ARCH 2330	Architecture and the City in the Nineteenth Century	4
ARCH 2340	Modern Architecture	4
Building, Design, and Environment		
ARCH 2240	Architectonic Systems	4
ARCH 5210	Environmental Systems	4
ARCH 5230	Structural Systems	4

Core Requirements

Code	Title	Hours
Building, Design, and Environment		
ARCH 3450	Advanced Architectural Communication	4
ARCH 5220	Integrated Building Systems	4
Studio		
ARCH 5115	Option Studio	6
ARCH 5120	Comprehensive Design Studio	6
ARCH 6100	Graduate Skills Studio	6
ARCH 6200	Graduate Studio 1: Architectural Design	6
Professional Practice		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 5310	Design Tactics and Operations	4
ARCH 6330	Seminar in Modern Architecture	4
Complete the following (repeatable) course twice:		8
ARCH 6340	Graduate Topics in Architecture	
Research and Project		
ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Electives

Code	Title	Hours
Required Electives		
Complete 8 semester hours of non-ARCH courses.		8
Additional Elective or Topics		
Complete 8 semester hours of non-ARCH courses.		8

Program Credit/GPA Requirements

78–100 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
ARCH 2240	4	ARCH 2340 and ARCH 2341	4
ARCH 2330 (and)	4	ARCH 3450 (or Required Elective)	4
ARCH 2331		ARCH 6200	6
ARCH 5210 (and)	4	Elective (Optional)	4
ARCH 5211			
ARCH 6100	6		
	18		**18**

Year 2

Fall	Hours	Spring	Hours
ARCH 5115	6	ARCH 3450 (or Required Elective)	4
ARCH 5230 (and)	4	ARCH 5120	6
ARCH 5231		ARCH 5220	4
ARCH 5310	4	ARCH 6340 (1 of 2)	4
Optional Elective	4		
	18		**18**

Year 3

Fall	Hours	Spring	Hours
ARCH 6430	4	ARCH 6340 (2 of 2)	4
ARCH 6330	4	ARCH 6440	4
ARCH 7130	6	ARCH 7140	6
Elective (Optional)	4		
	18		**14**

Total Hours: 104

Total credits for the AP track may range from 78–104 depending on waivers and optional electives.
Note: Only courses in year one may be waived. Course waivers are at the discretion of the program director.

Sustainable Urban Environments, MDes—One-Year Program

The one-year Master of Design for Sustainable Urban Environments (MDes-SUEN) is open to students holding an accredited, first-professional degree in landscape architecture, architecture, planning, or urban design. The 36-credit program offers a core sequence of advanced design research studios, proseminars, and urban ecology and technology workshops complemented by interdisciplinary electives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Studio		
SUEN 7130	Master's Research Studio: Design and the Resilient City	6
SUEN 7140	Master's Research Studio: Master's Project	6
Proseminar		
Complete 8 semester hours from the following (repeatable) courses:		8
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments	
SUEN 6340	Topics in Urban Environmental Design	
Technology		
SUEN 7230	Urban Ecologies and Technologies 1	4
SUEN 7240	Urban Ecologies and Technologies 2	4

Electives

Electives in other disciplines may be taken in consultation with your faculty adviser.

Code	Title	Hours
Complete 8 semester hours from the following subject areas:		8
SUEN, ARCH, LARC, PPUA, LPSC, and SBSY		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
SUEN 7130	6	SUEN 7140 (or co-op*)	6
SUEN 7230	4	SUEN 7240	4
SUEN 7320 or 6340	4	SUEN 7320	4
Elective (required)	4	Elective (required)	4
	18		**18**

Total Hours: 36

*Students may opt to do a graduate co-op. Co-op does not count toward degree credits.

Sustainable Urban Environments, MDes—Two-Year Program

The two-year Master of Design for Sustainable Urban Environments (MDes-SUEN) is open to students entering with a bachelor's degree in any field. The 64-credit program provides a full year of core skill sets including design; site analysis, implementation, and visualization; history/theory; and policy. This includes introduction to basic earthworks, water, and plants systems as well as the principles of landscape and urban ecology.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Studio		
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	6
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	6
SUEN 7130	Master's Research Studio: Design and the Resilient City	6
SUEN 7140	Master's Research Studio: Master's Project	6
Cities: Design and Planning		
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	4
LPSC 7312	Cities, Sustainability, and Climate Change	4
Proseminar		
Complete 8 semester hours from the following (repeatable) courses:		8
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments	
SUEN 6340	Topics in Urban Environmental Design	
Technology		
SUEN 6210	Implementation and Visualization for Urban Environments 1	4
SUEN 6220	Implementation and Visualization for Urban Environments 2	4
SUEN 7230	Urban Ecologies and Technologies 1	4
SUEN 7240	Urban Ecologies and Technologies 2	4

Electives

Electives in other disciplines may be taken in consultation with your faculty adviser.

Code	Title	Hours
Complete 8 semester hours from the following subject areas:		8
SUEN, ARCH, LARC, PPUA, LPSC, SBSY		

Program Credit/GPA Requirements

64 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SUEN 6110	6	SUEN 6120	6	Vacation	0	Vacation	0
SUEN 6210	4	SUEN 6220	4				
SUEN 6310	4	LPSC 7312	4				
Elective (Required)	4	Elective (Required)	4				
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours
SUEN 7130	6	SUEN 7140 (or co-op)*	6
SUEN 7320 (or)	4	SUEN 7320	4
SUEN 6340		SUEN 7240	4
SUEN 7230	4	Elective (Optional)	4

Elective (Optional)	4	
	18	**18**

Total Hours: 72

**Note:* Students may opt to do a graduate co-op. Co-op does not count toward degree credits.
Total credits required are 64 (with two optional electives, 72).

Art + Design

Website (https://camd.northeastern.edu/graduate-overview/)

Dietmar Offenhuber, PhD
Chair

Julia Hechtman, MFA
Associate Chair

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The graduate programs in the Department of Art + Design are designed to cultivate capacity and fluency in a range of disciplines and practices to create and deliver value and benefit for an increasingly connected and diverse world. Spanning many subjects, interests, and intentions across disparate fields and manifold practices of art, media, and design, our master's and certificate programs will challenge and inspire you to push the boundaries of cultural production and stewardship and social and civic impact. We strive to empower you to bring your ideas to life through design conversations, media making, and artistic expression and enjoy richly rewarding careers and lives.

Programs

Master of Fine Arts (MFA)

- Experience Design (p. 126)
- Information Design and Data Visualization (p. 128)

Master of Science (MS)

- Experience Design (p. 131)
- Game Science and Design (p. 133)
- Information Design and Data Visualization (p. 135)
- Media Innovation and Data Communication (p. 144)

Graduate Certificate

- Experience Design (p. 137)
- Game Experience Design (p. 138)
- Game Science (p. 139)
- Information Design and Visualization (p. 140)

Experience Design, MFA

The Master of Fine Arts in Experience Design embraces research-driven design thinking for entrepreneurship, innovation, and other areas, preparing students to be vital contributors and leaders at the intersection of innovation and design.

Experience design is a holistic and integrative approach to design that utilizes investigation into the human experience in specific situations to improve its quality, given an understanding of human goals, needs, and desires. For example, in the context of healthcare, an experience designer does not focus on the design of any one technology product, information system, or physical space. Instead, the designer is charged with understanding and improving the overall sequence of events that impact the patient before and during a hospital stay as well as through follow-up care.

The experience design program moves beyond design thinking to produce outcomes that demonstrate the value of human-centered research and design methods. It draws on findings from a range of professional and scholarly disciplines (including business, psychology, human-computer interaction, engineering, cybernetics) to understand and shape specific situations. It extends across many industries and aspects of life: healthcare, technology, services, travel, education, entertainment, shopping, dining, and the nature of work itself.

Through examining how people behave in a real context in relation to emerging technologies, the Master of Fine Arts in Experience Design allows graduates from design and related disciplines (such as communications, computer science, business, architecture, art, journalism, humanities, and the social sciences) to gain knowledge and experience in the design competencies. To accomplish these goals, students study how to invoke cooperation, collaboration, and integration across disciplines and practices.

The Master of Fine Arts in Experience Design seeks to prepare students to be vital contributors and leaders of professional experience design teams where technological innovation intersects with design. Successful graduates should be able to analyze how people undergo real-world situations, enabling them to enrich experience by orchestrating new design-driven relationships. They will be equipped with the skills to identify shortcomings as well as opportunities for improved engagement between systems and elements—virtual or physical—with the humans who encounter them.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
ARTG 5120	Research Methods for Design	4
ARTG 5600	Experience Design Studio 1: Principles	4
ARTG 5610	Design Systems	4
ARTG 5620	Notational Systems for Experience	4
ARTG 5640	Prototyping for Experience Design	4
ARTG 6310	Design for Behavior and Experience	4
ARTG 6600	Experience Design Studio 2: Group and Interpersonal	4
ARTG 6700	Design Studio 3: Synthesis	4
Thesis		
ARTG 7100	Critical Design and Research Seminar	4
ARTG 7910	Design Project and Exhibition	4
ARTG 7990	Thesis	4

Electives

Code	Title	Hours
Complete 16 semester hours of elective courses, such as these, in consultation with your advisor (multiple completions of ARTG 5000 may apply toward the elective requirement):		16
ARTG 5000	Topics in Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5710	Design for Dignity	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6900	Special Topics in Design	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
ARTG 5600	4	ARTG 5610	4	Co-op or vacation	
ARTG 5120	4	ARTG 6310	4		
ARTG 5620	4	ARTG 6600	4		
ARTG 5640	4	Elective	4		
	16		**16**		**0**

Year 2

Fall	Hours	Spring	Hours
ARTG 6700	4	ARTG 7100	4
Elective	4	ARTG 7910	4
Elective	4	ARTG 7990	4
Elective	4		
	16		**12**

Total Hours: 60

Information Design and Data Visualization, MFA

The Master of Fine Arts in Information Design and Data Visualization program uniquely combines design training and analytical methods with distinctive approaches to theoretical, visual, and technical aspects of visual communication. Successful graduates gain expertise in the visual and technological languages of data, applying modes of visual cognition, and using analytics tools to create interactive, data-driven communication and installations.

This design-centric program seeks to prepare graduates to collaborate across a variety of fields and settings, crossing the bridge between technology, public communication, and systems design. Successful graduates are prepared to be professional information designers and data visualization experts in design agencies, research institutions, industry, and public institutions, able to lead and collaborate in this dynamic and burgeoning interdisciplinary field of practice and research. Students also are well positioned to pursue PhDs and academic careers. Students have the unique advantage of studying at a major research university known for interdisciplinary collaboration located in Boston—a global center for technology, science, education, and culture—offering diverse opportunities for practice and research in information design and data visualization.

The MFA-IDDV curriculum includes studio courses and seminars in graphic, information, and interaction design; creative inquiry; research methodologies; data literacies; and visualization technologies. It integrates faculty instruction with visiting artists and researchers. The degree requires 60 credit hours over two academic years, with an option to engage in Northeastern's renowned co-op program. A thesis project, a written thesis, and an accompanying work exhibition in the thesis show are required.

Learn more about IDDV projects, students, and faculty at Information Design and Data Visualization (http://northeastern.edu/visualization/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Studio		
ARTG 5100	Information Design Studio 1: Principles	4
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	4
ARTG 6700	Design Studio 3: Synthesis	4
Theory and Research Methods		
ARTG 5310	Visual Cognition	4
ARTG 5320	Statistics for Design	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4
ARTG 6110	Information Design Theory and Critical Thinking	4
Design and History		
ARTG 5110	Information Design History	4
ARTG 5130	Visual Communication for Information Design	4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
Thesis		
ARTG 7100	Critical Design and Research Seminar	4
ARTG 7910	Design Project and Exhibition	4
ARTG 7990	Thesis	4

Electives

Code	Title	Hours
In consultation with faculty advisor, complete two courses from the following (one of the electives can be chosen from any Northeastern graduate courses; multiple completions of ARTG 5000 may apply toward the elective requirement):		8
ARTG 5000	Topics in Design	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5430	Visualization Technologies 2: Advanced Practices	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 5710	Design for Dignity	
ARTE 5901	Special Topics in Art and Design Studio	
ARTG 6310	Design for Behavior and Experience	

ARTG 6330	Information Design Mapping Strategies
ARTG 6555	Graphic Design Synthesis
ARTG 6900	Special Topics in Design
JRNL 6341	Telling Your Story with Data

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, Optional Summer Co-op

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
ARTG 5100	4	ARTG 5310	4	Co-op or vacation	0
ARTG 5130	4	ARTG 5330	4		
ARTG 5150	3	ARTG 6100	4		
ARTG 5151	1	ARTG 6110	4		
ARTG 5320	4				
	16		**16**		**0**

Year 2

Fall	Hours	Spring	Hours
ARTG 5110	4	ARTG 7100	4
ARTG 6700	4	ARTG 7910	4
Elective	4	ARTG 7990	4
Elective	4		
	16		**12**

Total Hours: 60

Sample Three Years, Co-op in Fall

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5130	4	ARTG 5330	4
ARTG 5150	3	ARTG 6100	4
ARTG 5151	1	ARTG 6110	4
ARTG 5320	4		
	16		**16**

Year 2

Fall	Hours	Spring	Hours
Co-op	0	ARTG 7100	4
ARTG 6700	4	ARTG 7910	4
		Elective	4
	4		**12**

Year 3

Fall	Hours
ARTG 5110	4
ARTG 7990	4
Elective	4
	12

Total Hours: 60

Sample Three Years, Co-op in Spring

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5130	4	ARTG 5330	4
ARTG 5150	3	ARTG 6100	4
ARTG 5151	1	ARTG 6110	4
ARTG 5320	4		
	16		**16**

Year 2

Fall	Hours	Spring	Hours
ARTG 5110	4	Co-op	0
ARTG 6700	4		
	8		**0**

Year 3

Fall	Hours	Spring	Hours
Elective	4	ARTG 7100	4
Elective	4	ARTG 7910	4
		ARTG 7990	4
	8		**12**

Total Hours: 60

Sample Three Years, Two Co-ops

(Research co-op track)

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5130	4	ARTG 5330	4
ARTG 5150	3	ARTG 6100	4
ARTG 5151	1	ARTG 6110	4
ARTG 5320	4		
	16		**16**

Year 2

Fall	Hours	Spring	Hours
ARTG 6700	4	Co-op*	0
Co-op	0		
	4		**0**

Year 3

Fall	Hours	Spring	Hours
ARTG 5110	4	ARTG 7100	4
Elective	4	ARTG 7910	4
Elective	4	ARTG 7990	4
	12		**12**

Total Hours: 60

*The second co-op must be a research-oriented co-op related to the thesis after completion of Design Studio 3: Synthesis (ARTG 6700) with the permission of the program coordinator.

Experience Design, MS

The Master of Science in Experience Design embraces research-driven design thinking for entrepreneurship, innovation, and other areas, preparing students to be vital contributors and leaders at the intersection of innovation and design.

Experience design is a holistic and integrative approach to design that utilizes investigation into the human experience in specific situations to improve its quality, given an understanding of human goals, needs, and desires. For example, in the context of healthcare, an experience designer does not focus on the design of any one technology product, information system, or physical space. Instead, the designer is charged with understanding and improving the overall sequence of events that impact the patient before and during a hospital stay as well as through follow-up care.

The experience design program moves beyond design thinking to produce outcomes that demonstrate the value of human-centered research and design methods. It draws on findings from a range of professional and scholarly disciplines (including business, psychology, human-computer interaction, engineering, cybernetics) to understand and shape specific situations. It extends across many industries and aspects of life: healthcare, technology, services, travel, education, entertainment, shopping, dining, and the nature of work itself.

Through examining how people behave in a real context in relation to emerging technologies, the Master of Science in Experience Design allows graduates from design and related disciplines (such as communications, computer science, business, architecture, art, journalism, humanities, and the social sciences) to gain knowledge and experience in the design competencies. To accomplish these goals, students study how to invoke cooperation, collaboration, and integration across disciplines and practices.

The Master of Science in Experience Design seeks to prepare students to be vital contributors and leaders of professional experience design teams where technological innovation intersects with design. Successful graduates should be able to analyze how people undergo real-world situations, enabling them to enrich experience by orchestrating new design-driven relationships. They will be equipped with the skills to identify shortcomings as well as opportunities for improved engagement between systems and elements—virtual or physical—with the humans who encounter them.

The MS degree is intended for graduate students from related fields—media, design, communications, data science, and more—who would like to acquire competencies in experience design to complement their skills and address their professional needs. Embedded in the course offering of our Master of Fine Arts in Experience Design (p. 126) program, students in the MS program will have the opportunity to join MFA students for activities such as attending guest lectures and workshops.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5120	Research Methods for Design	4
ARTG 5600	Experience Design Studio 1: Principles	4
ARTG 5610	Design Systems	4
ARTG 5620	Notational Systems for Experience	4
ARTG 6310	Design for Behavior and Experience	4
ARTG 6600	Experience Design Studio 2: Group and Interpersonal	4

Electives

Code	Title	Hours
Complete two elective courses (4 credits each), such as these, in consultation with your advisor; multiple completions of ARTG 5000 may apply toward the elective requirement; other electives may be chosen in consultation with the program coodinator):		8
ARTG 5000	Topics in Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5640	Prototyping for Experience Design	
ARTG 5710	Design for Dignity	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6900	Special Topics in Design	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
ARTG 5120	4	ARTG 5610	4
ARTG 5600	4	ARTG 6310	4
ARTG 5620	4	ARTG 6600	4
Elective	4	Elective	4
	16		**16**

Total Hours: 32

*Students may opt to do a graduate co-op. Co-op does not count toward credits required for the degree.

Game Science and Design, MS

The **Master of Science (MS) in Game Science and Design** is a program that seeks to give students a comprehensive understanding of how successful game products are created in a player-centric environment. Successful graduates who wish to become professional game developers or game user research experts should be able to collaborate effectively in this dynamic and burgeoning field of practice and research. Focusing on the science of game development, students have an opportunity to learn the design and technological skills needed to build a game and develop a deep understanding of playability and analytics that makes products successful in an increasingly competitive marketplace.

The game industry has expanded to include social and mobile gaming; augmented and virtual reality; as well as games in health, education, and training. Rapid innovations are happening in player psychology, middleware, graphics and authoring tools, game mechanics, and artificial intelligence and narrative techniques. It has become an increasingly competitive space.

The selectiveness of the industry and the diversity of the skills required mean that students seeking entry need both broad and deep skills. As an emergent industry using diverse technology and collaborative practices, the game industry needs professionals with interdisciplinary skill sets who can blend knowledge about development with knowledge about evaluation methods and players' behavior and psychology.

Jointly offered by Northeastern's College of Arts, Media and Design and Khoury College of Computer Sciences (https://www.khoury.northeastern.edu/), the **Master of Science in Game Science and Design** is a one-of-a-kind interdisciplinary program that seeks to prepare students to meet this need by weaving together science and design. This is a two-year, 34-credit-hour program.

All admitted students will be assigned to an advisor who will help them select a pathway with a coherent set of electives depending on their career goals. The advisor will also monitor their progress through the master's degree.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5122	Business Models in the Game Industry	1
GSND 5130 and GSND 5131	Mixed Research Methods for Games and Recitation for GSND 5130	4
Thesis		
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	4
GSND 7990	Thesis	4

Electives

Code	Title	Hours
Game Design or Development		
Complete one of the following:		4
CS 5150	Game Artificial Intelligence	
CS 5850	Building Game Engines	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	
Game User Research or Analytics		
Complete one of the following:		4
CS 5340	Computer/Human Interaction	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Code	Title	Hours
Other Electives List		
Complete any two of the previously listed courses or from the following (courses not listed below may be completed in consultation with your program coordinator).		8
If ARTG 5000 or GSND 6000 or GSND 6001 is completed more than once, the additional completions may be allowed toward the electives.		
Elective courses outside of CAMD are subject to availability and registration policy of the home college.		
ARTG 5000	Topics in Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5310	Visual Cognition	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
GSND 6000	Advanced Topics in Game Design	
GSND 6001	Advanced Topics in Game Science	
INSH 5302	Information Design and Visual Analytics	
JRNL 6341	Telling Your Story with Data	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
GSND 5110 and GSND 5111 and GSND 5112	5	Elective	4	Co-op (optional)	0
GSND 5130 and GSND 5131	4	Elective	4		
	9		**8**		**0**

Year 2

Fall	Hours	Spring	Hours
GSND 5122	1	GSND 7990	4
GSND 6330 and GSND 6331	4	Elective	4
Elective	4		
	9		**8**

Total Hours: 34

Note: Co-op or Thesis Co-op is optional in consultation with faculty advisor.

Information Design and Data Visualization, MS

The Master of Science in Information Design and Data Visualization is a two-semester research- and analysis-oriented program focusing on visual interfaces to communicate and explore digital information. Successful graduates may become professional information designers and data visualization experts able to collaborate effectively in this dynamic and burgeoning field of practice and research, prepared to work in data-driven areas including design, technology, business, health, education, and public institutions. The curriculum is designed to train students in design principles, critical inquiry, and the analytical and creative practices needed to assume leadership roles in an evolving interdisciplinary field. Coursework focuses on the translation of data and information into visual languages and the integration of theoretical, cognitive, and technical aspects of visualizations that engage a broad range of audiences. From this master's program, students have multiple options to expand their advanced studies along diverse avenues, including adding graduate certificates in related topics such as user analytics, data analytics, experience design, and cultural entrepreneurship; engaging in co-op opportunities; and applying to proceed academically into a terminal Master of Fine Arts degree.

To learn more visit the Information Design and Data Visualization (https://camd.northeastern.edu/program/information-design-and-visualization/) page.

Program Requirements

Boston-based students complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5100	Information Design Studio 1: Principles	4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
ARTG 5310	Visual Cognition	4
ARTG 5320	Statistics for Design	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	4
ARTG 6110	Information Design Theory and Critical Thinking	4

Elective

Thesis (ARTG 7890) is required in lieu of an elective for Vancouver-based students in consultation with program coordinator.

Code	Title	Hours
Complete one of the following:		4
ARTG 5000	Topics in Design	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5430	Visualization Technologies 2: Advanced Practices	
ARTG 5710	Design for Dignity	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6555	Graphic Design Synthesis	
ARTG 7890	Thesis	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plans of Study

Two Semesters, No Co-op [1]

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5150 and ARTG 5151	4	ARTG 5330	4

ARTG 5320	4	ARTG 6100	4
Elective	4	ARTG 6110	4
	16		**16**

Total Hours: 32

[1] Summer co-op is optional in consultation with the program coordinator.

Four Semesters, No Co-op [2]

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5320	4	ARTG 5150 and ARTG 5151	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
ARTG 5330	4	ARTG 6110	4
ARTG 6100	4	Elective	4
	8		**8**

Total Hours: 32

[2] Students can choose to do a co-op in the summer between year 1 and year 2.

Experience Design, Graduate Certificate

The Graduate Certificate in Experience Design embraces research-driven design thinking for entrepreneurship, innovation, and other areas, preparing students to be vital contributors and leaders at the intersection of innovation and design.

Experience design is a holistic and integrative approach to design that utilizes investigation into the human experience in specific situations to improve its quality, given an understanding of human goals, needs, and desires. For example, in the context of healthcare, an experience designer does not focus on the design of any one technology product, information system, or physical space. Instead, the designer is charged with understanding and improving the overall sequence of events that impact the patient before and during a hospital stay as well as through follow-up care.

The Graduate Certificate in Experience Design moves beyond design thinking to produce outcomes that demonstrate the value of human-centered research and design methods. It draws on findings from a range of professional and scholarly disciplines (including business, psychology, human-computer interaction, engineering, cybernetics) to understand and shape specific situations. It extends across many industries and aspects of life: healthcare, technology, services, travel, education, entertainment, shopping, dining, and the nature of work itself.

Through examining how people behave in a *real* context in relation to emerging technologies, the Graduate Certificate in Experience Design allows working professionals or graduates from design and related disciplines (such as communications, computer science, business, architecture, art, journalism, humanities, and the social sciences) to gain knowledge and experience in the design competencies. To accomplish these goals, students need to learn how to invoke cooperation, collaboration, and integration across disciplines and practices.

The Graduate Certificate in Experience Design is designed to prepare students to be vital contributors and leaders of professional experience design teams where technological innovation intersects with design. Successful graduates will be able to analyze how people undergo real-world situations, enabling them to enrich experience by orchestrating new design-driven relationships. They will be equipped with the skills to identify shortcomings as well as opportunities for improved engagement between systems and elements—virtual or physical—with the humans who encounter them.

The certificate is intended for practitioners and graduate students from related fields—media, design, communications, data science, and more—who would like to acquire competencies in experience design to complement their skills and address their professional needs. Embedded in the course offering of our Master of Fine Arts in Experience Design (p. 126) program, students in the certificate program will have the opportunity to join MFA students for activities such as attending guest lectures and workshops.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5610	Design Systems	4
ARTG 5620	Notational Systems for Experience	4
ARTG 6310	Design for Behavior and Experience	4

Elective

Code	Title	Hours
Complete 4 semester hours of 5000- to 6000-level course work in the following subject area:		4
ARTG		

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Game Experience Design, Graduate Certificate

The Graduate Certificate in Game Experience Design offers training in the skills, tools, and methods needed to design successful game products, including social and mobile gaming; augmented and virtual reality; as well as games for health, education, and science. Students gain hands-on experience in designing games under faculty with industry expertise in game design. Game design courses focus on innovation; societal impact; and player-centric, experiential design approaches. The Graduate Certificate in Game Experience Design is a one-year, 17-semester-hour program. Upon successful completion of the certificate, students can opt to apply to the Master of Science in Game Science and Design and, if accepted, transfer credits gained through the certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5130	Mixed Research Methods for Games	4

Electives

Code	Title	Hours
Complete 8 semester hours from the following (multiple completions of ARTG 5000 or GSND 6000 may apply to the elective requirement):		8
ARTG 5000	Topics in Design	
ARTG 5640	Prototyping for Experience Design	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	

Program Credit/GPA Requirements

17 total semester hours required
Minimum 3.000 GPA required

Game Science, Graduate Certificate

The Graduate Certificate in Game Science offers training in assessing, tracking, and analyzing player experience using game analytics methods and techniques, biometrics, and research methods including interviews and surveys. Students gain hands-on experience with these methods and techniques under faculty guidance with industry experts in game science. The game development process has shifted from “design, develop, release” to “design, develop, release, and continuously fine-tune based on user data.” Game science plays a critical role in this new process. The Graduate Certificate in Game Science is a one-year, 17-semester-hour program. Upon successful completion of the certificate, students can opt to apply to the Master of Science in Game Science and Design and, if accepted, transfer credits gained through the certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5130	Mixed Research Methods for Games	4

Electives

Code	Title	Hours
Complete two of the following (multiple completions of ARTG 5000 or GSND 6001 may apply toward the elective requirement):		8
ARTG 5000	Topics in Design	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Program Credit/GPA Requirements

17 total semester hours required
Minimum 3.000 GPA required

Information Design and Visualization, Graduate Certificate

The Graduate Certificate in Information Design and Visualization focuses on the data-driven analytical and visual design of information, preparing students to communicate visually while engaging advanced data analytics to produce meaningful information environments.

Successful graduates of the Certificate in Information Design and Visualization are professionals who are prepared to tackle new information communication challenges and communicate and collaborate with researchers in a variety of fields, as well as stakeholders and the public. Throughout the course of the certificate, students master how to think visually, while also learning how to produce effective, meaningful visual information from various sources of data.

The certificate is intended for practitioners and graduate students from related fields—media, design, communications, data science, and more—who would like to acquire competencies in information design and data visualization to complement their skills and address their professional needs. Embedded in the course offering of our Master of Fine Arts in Information Design and Visualization (p. 128) program, students in the certificate program have the opportunity to join MFA students for activities such as attending guest lectures and workshops.

To learn more, visit the Information Design and Visualization (https://camd.northeastern.edu/visualization/) portal.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5130	Visual Communication for Information Design	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4

Electives

Code	Title	Hours
Complete two of the following (multiple completions of ARTG 5000 may apply toward the elective requirement):		8
ARTG 5000	Topics in Design	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5110	Information Design History	
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5430	Visualization Technologies 2: Advanced Practices	
ARTG 5710	Design for Dignity	
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6555	Graphic Design Synthesis	
ARTG 6900	Special Topics in Design	
ARTG 5000 or 6000 level course		

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

School of Journalism

Website (http://www.northeastern.edu/camd/journalism/)

Jonathan Kaufman, MA
Professor and Director

617.373.3236

Welcome to the graduate programs at Northeastern University's School of Journalism. Our school offers three degrees: a Master of Arts in Journalism, a Master of Science in Media Innovation and Data Communication, and a Master of Science in Media Advocacy.

The Master of Arts in Journalism degree is designed to merge traditional journalism with the latest technology. Students new to the field or those with experience can choose one of two tracks—professional journalism or media innovation—to prepare them for the challenges faced by legacy and new media in the digital age. The Master of Science in Media Innovation and Data Communication degree focuses on new forms of data-driven media practice, creative digital storytelling, and strategies for fostering innovation in media fields. The Master of Science in Media Advocacy degree is designed to teach strategic advocacy skills and prepare graduates to succeed as resilient, media-empowered citizens in a global society. Moreover, these programs offer students hands-on training in preparation for careers in reporting, editing, multimedia design and production, social media, and data journalism.

As part of Northeastern's College of Arts, Media and Design, our graduate students are also part of an interdisciplinary and creative community. Our core curriculum is supplemented by electives that take advantage of course offerings from within our college and from other colleges in the university. And with our experiential education opportunities and outstanding co-op program, students do not have to wait until after graduation to begin developing skills as reporters, media advocates, or public relations professionals.

It is our goal to help you put your passion into practice. To that end, our graduate programs afford students the opportunity to study in Boston with a small and dedicated faculty of specialists with years of experience and extensive contacts in the media world.

Programs

Master of Arts (MA)

- Journalism (p. 142)

Master of Science (MS)

- Media Advocacy (p. 143)
- Media Innovation and Data Communication (p. 144)

Journalism, MA

The School of Journalism offers a dynamic Master of Arts degree that seeks to prepare students for the challenges faced by media organizations in the digital age. The degree trains students to become rigorous, ethical, and creative news reporters, editors, and content producers, as well as social media managers and video/audio specialists.

Both students new to the field and those with some experience can choose courses tailored to help them thrive in particular subject areas, such as criminal justice or climate change, or around specific technologies, such as podcasting or data visualization. Our programs are designed to merge the skills of professional journalism with knowledge of the latest information technologies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
JRNL 6200	Enterprise Reporting 1	4
JRNL 6201	Enterprise Reporting 2	4
JRNL 6202	Perspective on Journalism Ethics	4
JRNL 6340	Fundamentals of Digital Journalism	4

Electives

Code	Title	Hours
Complete 20 semester hours in the following range:		20
JRNL 5309 to JRNL 7976		
Courses from other disciplines may be taken in consultation with your faculty advisor.		
No more than two courses outside of CAMD may be taken.		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study: Two Years with Co-op in Summer 2

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 6100	1	JRNL 6201	4	Vacation	0	Co-op	0
JRNL 6200	4	JRNL 6202	4				
JRNL 6340	4	Elective 2	4				
Elective 1	4						
	13		**12**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours
Co-op	0	Elective 3	4
		Elective 4	4
		Elective 5	4
	0		**12**

Total Hours: 37

Media Advocacy, MS

The Master of Science in Media Advocacy places particular focus on developing direct and indirect advocacy skills: that is, to influence government decision makers directly and to change minds indirectly through shifting public opinion. The program uniquely combines grounding in governmental structures and the legal system with sophisticated training in the latest communication techniques including social media, web communications, and videography, as well as data analytics and data-driven storytelling. Successful graduates will be empowered to promote the public agenda of employers ranging from mission-driven organizations, such as the ACLU or the Sierra Club, to industry leaders, such as hospitals and technology companies, to lobbying and strategic communications groups and political consulting firms.

Program Requirements

Core Requirements

Code	Title	Hours
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 5480	Research for Media Strategy	4
LW 6400	Law, Policy and Legal Argument	4
LW 7667	Law and Ethics of Advocacy	3

Electives

Code	Title	Hours
A minimum of 17 credits of electives is required. No more than 8 semester hours can be taken outside of the College of Arts, Media, and Design or the School of Law.		17
	Complete a minimum of 4 semester hours of coursework from the College of Arts, Media, and Design. Choose from recommended focus areas of JRNL, ARTD, ARTG, COMM, and INAM (additional areas may be chosen in consultation with your adviser).	
	Complete a minimum of 5 semester hours of coursework from the School of Law.	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample One-and-a-Half Years with No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 5400	4	JRNL 5480	4	Vacation	0	Vacation	0
LW 6400	4	Elective 2	3-4				
Elective 1	3-4	Elective 3	3-4				
	11-12		**10-12**		**0**		**0**

Year 2

Fall	Hours
LW 7667	3
Elective 4	3-4
Elective 5	3-4
Elective 6	3-4
	12-15

Total Hours: 33-39

Media Innovation and Data Communication, MS

The Master of Science will offer a distinctive approach to knowledge and innovation in media fields, an approach rooted in the rigor of professional journalism—with its emphasis on empowered knowledge acquisition, empirical verification, and storytelling in the public interest—but one keenly attuned to emerging, data-driven technologies and their potential. The program capitalizes on the revolution in data storytelling and computational methods in media work; the rapid evolution in video, animation, and augmented/virtual reality technologies; and social networks and digital analytics. Our graduates will be prepared to become leaders in media firms and outlets engaged with cutting-edge technologies and innovative digital startups, as well as a broad range of media and communications organizations across the rapidly evolving digital economy.

Program Requirements

Core Requirements

Code	Title	Hours
ARTG 5330	Visualization Technologies 1: Fundamentals	4
JRNL 6306	Media Innovation Studio 1	4
JRNL 6307	Media Innovation Studio 2	4
JRNL 6340	Fundamentals of Digital Journalism	4
JRNL 6341	Telling Your Story with Data	4

Electives

Code	Title	Hours
Students must complete 16 semester hours.		16
Note: Courses in other disciplines may be taken in consultation with your faculty advisor. No more than two courses outside of CAMD may be taken.		

Program Credit/GPA Requirements

36 total semester hours required

Minimum 3.000 GPA required

Plan of Study

Three Semesters and No Co-op

Year 1

Fall	Hours	Spring	Hours
JRNL 6340	4	JRNL 6306	4
JRNL 6341	4	ARTG 5330	4
Elective	4	Elective	4
	12		**12**

Year 2

Fall	Hours
JRNL 6307	4
Elective	4
Elective	4
	12

Total Hours: 36

Four Semesters and One Six-Month Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 6340	4	JRNL 6306	4	Vacation		Co-op	0
JRNL 6341	4	ARTG 5330	4				
Elective	4	Elective	4				
	12		**12**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours
JRNL 6307	4	Elective	4

Co-op	0	Elective	4
	4		**8**

Total Hours: 36

Three Semesters and One Summer Co-op

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
JRNL 6340	4	JRNL 6306	4	Co-op	0
JRNL 6341	4	ARTG 5330	4		
Elective	4	Elective	4		
	12		**12**		**0**

Year 2

Fall	Hours
JRNL 6307	4
Elective	4
Elective	4
	12

Total Hours: 36

Interdisciplinary Programs

Welcome to interdisciplinary graduate studies in the College of Arts, Media and Design. Here you'll find courses and programs that embrace shared dialogue and experiential learning across creative fields. These interdisciplinary doctoral programs, master's programs, and graduate certificates place collaboration at the core of their mission, integrating frameworks, methods, and practices to support students in developing truly innovative approaches and outcomes. Our interdisciplinary degree and certificate options provide a strong foundation of use-inspired, experientially informed coursework and research opportunities.

The PhD in Interdisciplinary Design and Media offers an innovative, globally aware, human-centered approach to advanced graduate study, focusing on practice-based research and scholarship applied to or conducted through making or creation.

The Master of Science in Creative Practice Leadership program brings together faculty, scholars, and practitioners across the performing arts, fine arts, and design fields to work with students to explore new forms of practice and leadership within contemporary culture. Students engage in a shared core, then develop a customized course of study, allowing focus on a breadth of issues.

The Master of Science in Arts Administration and Cultural Entrepreneurship and graduate certificate programs give students foundational to advanced training in the skills and techniques essential to leading arts and culture organizations today, combining the human literacies of collaboration and communication with the technical basis of arts organizational visioning, planning, and sustainable management.

The Master of Science in Urban Planning and Policy program is jointly offered between the college's School of Architecture and the School of Public Policy and Urban Affairs within the College of Social Sciences and Humanities. The curriculum provides a strong foundational knowledge base and allows specialization into the closely related areas of sustainable urban planning and contemporary approaches to urban policy for global cities.

Programs

Doctor of Philosophy (PhD)

- Interdisciplinary Design and Media (p. 147)

Master of Science (MS)

- Arts Administration and Cultural Entrepreneurship (p. 152)
- Creative Practice Leadership (p. 156)
- Extended Realities
- Urban Planning and Policy (p. 163)

Graduate Certificate

- Arts Administration (p. 167)
- Cultural Entrepreneurship (p. 168)

Interdisciplinary Design and Media, PhD

The PhD provides a rigorous, globally aware, practice-based, and human-centered approach to advanced scholarship. It aims to cultivate researcher-designers with a versatile repertoire of methods and a passion for applying those skills to the emerging epistemic perspective of integrated human, technological, and data frameworks within creative collaboration across disciplinary boundaries. The degree is designed to attract entrepreneurial self-starters who seek to break ground and invent new fields through hybrid and integrated approaches to knowledge creation.

The PhD emphasizes four pillars of excellence within a research culture:

- Engaging with the nature of human experience through innovative, interdisciplinary approaches to design
- Investigating new forms of digital media and data-driven communication across diverse disciplines
- Articulating how creativity can embrace connections between artistic practices, innovation, entrepreneurship, and research
- Connecting with changing forms of technology and media to foster shared experiences and exchange within local and global communities

The PhD is unique in its focus on practice-based research or scholarship applied to or conducted through making or creation. This is an emerging area that has been applied internationally to a wide range of creative fields and industries, many of which are represented within the College of Arts, Media and Design: music, theatre, design, studio art, games, architecture, journalism, and others. It differs from other forms of knowledge creation in that it rigorously cultivates the creation of artifacts as a mode of producing new knowledge, theories, and methodologies. Practice-based research integrates fields such as creativity and cognition or human-computer interaction to understand how practice operates, to enact that knowledge in practical applications, and to use the acts of creation themselves as a research methodology. PhD students will be encouraged to conduct their research in—and in some cases create—"living labs" embedded in real-world contexts and through on- and off-campus research partnerships.

The PhD degree program is composed of a common core and pathways of specialization. The core is centered around three areas: design research, which provides a methodology for understanding the ways design and media touch every aspect of daily life at every level of society; ethical practice, which engages with the humanistic concerns of design and cultural production; and experiential learning, which offers students the opportunity to produce research and conduct fieldwork with partner organizations.

Specialized pathways, customized according to the program of study as approved by the PhD advisors and vetted by external experts, include:

- Information design and visualization
- Design research
- Creative research

Degree Requirements

POSTBACCALAUREATE ENTRY

The PhD degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need five years to complete the program.

ADVANCED ENTRY

Students can petition for an advanced entry, which requires completion of at least 28 semester hours. Advanced entry requires an advanced degree (MS, MA, MFA, etc.) or extensive experience aligned with the research direction of the candidate. While students can qualify for advanced entry upon acceptance, the decision for students to continue in the advanced program is made after the first year, where they have to demonstrate that they do not need additional coursework and can complete the program in four years.

Qualifying Examination

The qualifying exam is a written and/or oral examination in the primary and secondary research fields that ensures the student is intimately familiar with the relevant scholarly work in their area of concentration. The pedagogical role is not in the examination itself but in the rigorous preparation of the primary and secondary fields by the student, approved by the advisor. Prior to the qualifying exam, the student prepares a document that outlines the selected primary and secondary fields, provides an overview of the current state of research, and assembles a list of relevant literature that will serve as the basis for the examination. The emphasis of the examination (for example, short essays, a lecture presenting a scholarly argument) is to be useful for the dissertation research. Typically, the student takes the qualifying examination during the second year.

Dissertation Proposal Defense

To ensure students complete satisfactory dissertations that are appropriate for their focus area(s), all students are required to submit and defend a dissertation proposal prior to advancing to candidacy. The dissertation proposal is a detailed document outlining the scholarly context, methods, arguments, and activities underpinning the dissertation. It will include a detailed research plan and timeline and is to be approved by the student's dissertation committee, which the student has to assemble in advance. The student then defends the accepted dissertation proposal in the context of the research seminar, inviting feedback from faculty and other students. The dissertation proposal defense is open to the entire CAMD PhD community and constitutes the last step before degree candidacy.

Degree Candidacy

A student is considered a PhD degree candidate after:

- Successfully completing core and specialization courses with a minimum of a 3.000 cumulative GPA and no grades lower than a B in core courses
- Passing the qualifying exam
- Submitting and successfully defending the dissertation proposal

Advising and Committee Formation

Each entering student will be assigned to a faculty advisor based on their interests who will guide students in completing their core requirements of their degree. Ideally, this person will also serve as their thesis committee chair, but they may transition to another committee chair as they transition into ABD status. As part of this process, in addition to their thesis committee chair, they will also be expected to identify two other readers representing their secondary and, if applicable, tertiary discipline areas. The advisory committee will be responsible for guiding the students through their individual research proposal process, helping them to develop a robust research methodology and clear plan for completion. The advisory committee will also be responsible for identifying an appropriate external expert to consult at key stages of degree progression. The advisors will also guide the students through the thesis project and its written component. Where applicable, committee members will also mentor and support the student through funded research.

Dissertation Defense

Each student will, with the aid of their advisor and committee, define the final product. The research component will typically consist of empirical and/or theoretical scholarship created using a methodology appropriate for the topic and field that is fully integrated with the practice component. The synergy between creative practice and research can take the form of knowledge production through a variety of potential means: production of digital and physical artifacts, software and hardware applications, games, paintings, documentaries, comics, exhibitions, design projects or products, theatrical productions, musical compositions, performances, or other formats. The work will include a written dissertation that can also be paired with other modes of conveyance, such as a documentary, demonstration, performance, or exhibition. A key function of the dissertation will be to contextualize the practical work in contemporary scholarship and discourse, clearly articulating its rationale and contribution to the field. Over the course of their studies, students are expected to produce peer-reviewed submissions based on their work.

The dissertation defense follows a similar format to the proposal defense. Acceptable dissertation models may include long-form (book-style) dissertations, multiple publishable papers, a system build-evaluate model, or other creative formats enumerated above.

Program Requirements

Milestones

Annual review
Individual path (including advisors)
Teaching requirement
Qualifying examination
Dissertation proposal
Dissertation committee
Dissertation defense

Required Coursework

Code	Title	Hours
INAM 7000	Introduction to Research in Interdisciplinary Design and Media	4
INAM 7001	Research Methods in Interdisciplinary Design and Media	4
INAM 7900	Research Seminar	4
INAM 7901	Dissertation Writing Seminar	4
Research Methods Elective		
Complete one research methods elective from this list or in consultation with your advisor.		4
ARCH 6340	Graduate Topics in Architecture	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5620	Notational Systems for Experience	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6900	Special Topics in Design	
GSND 5110	Game Design and Analysis	
GSND 5130	Mixed Research Methods for Games	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
GSND 6984	Research	

INAM 6300	Models for Applied Inquiry in Creative Practice
JRNL 5400	Media and Advocacy in Theory and Practice
Dissertation	
INAM 9990	Dissertation Term 1
INAM 9991	Dissertation Term 2

Discipline-Specific Coursework

Code	Title	Hours
Complete 28 semester hours of discipline-specific coursework in consultation with your domain-specific advisor and committee members.		28

A minimum of 48 credit hours of coursework beyond the undergraduate degree is required.
A minimum 3.000 cumulative GPA and no grades lower than a B in core courses are required.

Plan of Study

Year 1					
Fall	**Hours**		**Spring**	**Hours**	
INAM 7000		4	INAM 7900		4
INAM 7001		4	Research methods elective		4
Discipline-specific coursework		4	Discipline-specific coursework		4
		12			**12**
Year 2					
Fall	**Hours**		**Spring**	**Hours**	
Discipline-specific coursework		4	Discipline-specific coursework		4
Discipline-specific coursework		4	Discipline-specific coursework		4
Discipline-specific coursework		4	INAM 7901		4
		12			**12**
Year 3					
Fall	**Hours**		**Spring**	**Hours**	
Qualifying exams		0	Teaching requirement, TA		0
Teaching requirement, TA		0	INAM 9991		
INAM 9990					
		0			**0**
Year 4					
Fall	**Hours**		**Spring**	**Hours**	
Teaching requirement, teacher of record		0	Teaching requirement, teacher of record		0
INAM 9996		0	INAM 9996		0
		0			**0**
Year 5					
Fall	**Hours**		**Spring**	**Hours**	
INAM 9996		0	INAM 9996		0
		0			**0**

Total Hours: 48

Advanced Entry Program Requirements

Milestones

Annual review
Individual path (including advisors)
Teaching requirement
Qualifying examination
Dissertation proposal
Dissertation committee
Dissertation defense

Required Coursework

Code	Title	Hours
INAM 7000	Introduction to Research in Interdisciplinary Design and Media	4
INAM 7001	Research Methods in Interdisciplinary Design and Media	4
INAM 7900	Research Seminar	4
INAM 7901	Dissertation Writing Seminar	4
Research Methods Elective		
Complete one research methods elective from this list or in consultation with your advisor:		4
ARCH 6340	Graduate Topics in Architecture	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5620	Notational Systems for Experience	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6900	Special Topics in Design	
GSND 5110	Game Design and Analysis	
GSND 5130	Mixed Research Methods for Games	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
GSND 6984	Research	
INAM 6300	Models for Applied Inquiry in Creative Practice	
JRNL 5400	Media and Advocacy in Theory and Practice	
Dissertation		
INAM 9990	Dissertation Term 1	
INAM 9991	Dissertation Term 2	

Discipline-Specific Coursework

Code	Title	Hours
Complete 8 semester hours of discipline-specific coursework in consultation with your domain-specific advisor and committee members.		8

A minimum of 28 semester hours of coursework beyond the graduate degree is required.
A minimum 3.000 cumulative GPA and no grades lower than a B in core courses are required.

Advanced Entry Plan of Study

Year 1

Fall	Hours	Spring	Hours
INAM 7000	4	INAM 7900	4
INAM 7001	4	Research methods elective	4
Discipline-specific coursework	4	Discipline-specific coursework	4
	12		**12**

Year 2

Fall	Hours	Spring	Hours
Qualifying exams	0	Teaching requirement, TA	0
Teaching requirement, TA	0	INAM 7901	4
INAM 9990	0	INAM 9991	0
	0		**4**

Year 3

Fall	Hours	Spring	Hours
Teaching requirement, teacher of record	0	Teaching requirement, teacher of record	0
INAM 9996	0	INAM 9996	0
	0		**0**

Year 4

Fall	Hours	Spring	Hours
INAM 9996	0	INAM 9996	0
	0		**0**

Total Hours: 28

Arts Administration and Cultural Entrepreneurship, MS

The arts and cultural industries are key drivers of each nation's economy, contributing more than $730 billion annually in the United States alone. While the economic impact of the arts and cultural industries can be measured, their social impacts are often underestimated. Music, dance, visual art, and theatre are critical to how we perceive, interpret, and critique the world and people around us. The arts articulate our beliefs, politics, familial and community ties, and history.

Arts administrators are the bridge between creative practitioners and audiences and between arts institutions and supportive stakeholders. In today's digitally driven, highly competitive, and increasingly global economy, traditional institutions for visual and performing arts face critical sustainability challenges. Leaders in the arts must adopt the creative thinking and problem-solving skills of an entrepreneur in order to envision new models for creative practice, audience engagement, and funding.

The interdisciplinary Master of Science in Arts Administration and Cultural Entrepreneurship (AACE) prepares arts leaders to both convey the human necessity of creative expression and apply creative thinking to manage resources, inspire audience engagement, and sustain financial support. The arts, and audience opportunities to experience them, are more dynamic and diverse than ever before, flourishing in major arts institutions as well as nonhierarchical organizations, from artist-run spaces and community organizations to annual festivals and pop-up exhibitions. It is time for a transformation in leadership training that matches the ingenuity of today's most exciting experiments in music, dance, theatre, and the visual arts. Arts leaders must also be equipped with the administrative, analytical, and technological skill sets necessary to excel within the complex, interdependent arts ecosystem.

The AACE curriculum is designed to meet the changing needs of arts leaders, from administrators in arts institutions to creative practitioners and entrepreneurs eager to make their art startup a reality. The program focuses on leadership innovation in a range of performance, visual arts, and cultural organizations. As an intellectual and practical course of study that merges the expertise of academics, creative professionals, administrators, and entrepreneurs, the program's aim is to support sustainable creative practice.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Arts Administration Foundation		
AACE 6000	Arts and Culture Organizational Leadership	3
AACE 6010	Planning for Arts and Cultural Organizations	3
AACE 6020	Experiential Study in Arts Administration	3
Cultural Entrepreneurship Foundation		
AACE 6200	Programming and Community Engagement for Cultural Entrepreneurs	3
AACE 6210	Building Value Through Cultural Enterprise	3
AACE 6300	Fundraising in the Arts	3

Electives

Code	Title	Hours
Arts Administration Directed Elective		
Complete one of the following:		3
AACE 6110	Information Technology for Arts and Cultural Organizations	
AACE 6120	Advocacy and the Arts	
Cultural Entrepreneurship Directed Elective		
Complete one of the following:		3
AACE 6220	Innovative Approaches to Audience Engagement	
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
ENTR 6218	Business Model Design and Innovation	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6250	Lean Design and Development	
Experiential Electives in Arts Leadership		
Complete two of the following courses not taken to fulfill the above requirements:		6
AACE 6110	Information Technology for Arts and Cultural Organizations	

AACE 6120	Advocacy and the Arts
AACE 6220	Innovative Approaches to Audience Engagement
ARTG 6310	Design for Behavior and Experience
LW 6110	Law of Information and Records
LW 6120	Law and Strategy
LW 6160	Regulation and Global Business Strategies
MUSI 6000	Management of Music Organizations
MUSI 6300	Intellectual Property for Creative Practice Leadership

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plans of Study

TWO YEARS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
AACE 6000	3	AACE 6010	3	Arts Administration Directed Elective	3
AACE 6200	3	AACE 6300	3		
	6		**6**		**3**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours
AACE 6020	3	Cultural Entrepreneurship Directed Elective	3	Experiential Elective 2	3
AACE 6210	3	Experiential Elective 1	3		
	6		**6**		**3**

Total Hours: 30

ONE AND A HALF YEARS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
AACE 6000	3	AACE 6010	3	Arts Administration Directed Elective	3
AACE 6200	3	AACE 6020	3		
AACE 6210	3	AACE 6300	3		
	9		**9**		**3**

Year 2

Fall	Hours
Cultural entrepreneurship directed elective	3
Experiential elective 1	3
Experiential elective 2	3
	9

Total Hours: 30

Creative Collaboration and Multidisciplinary Design, MS

Overview

The Master of Science in Creative Collaboration and Multidisciplinary Design is an executive education degree rooted in the creative process as the main driver for adaptive thinking, dynamic communication, and empowering collaboration. In today's highly networked organizational structures, current and future leaders will need the skills to navigate the creative process, respond to shifting landscapes with agility, and articulate their vision through multiple modalities in ways that inspire, connect, and call others to action. This highly interactive, experiential degree will provide students with a combination of design skills and creativity techniques in a project-based learning environment to foster innovative leadership and empower communication. Graduates will leave with a flexible toolkit to nurture their individual creativity, adaptability in the face of rapid change, and skills to become well-rounded strategists and communicators.

Program Requirements

Program Requirements

Code	Title	Hours
Foundation		
INAM 5300	Principles of Design	2
INAM 5305	User Observation and Design Planning	2
INAM 5310	Principles of Creative Collaboration	2
Seminars		
INAM 5507	Foundations of Data Visualization	1
INAM 5508	Visual Data Encodings	1
Experiential		
INAM 5400	Facilitating Creative Collaboration	2
INAM 5405	The Agile Mindset and Design-Led Innovation	2
INAM 5410	Persuasion and the Power of Storytelling	2
Studio		
INAM 5415	Design Studio: Fundamentals of Iterative Prototyping	2
Capstone		
INAM 6900	Interdisciplinary Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours of electives from one of the ranges below (or in consultation with your graduate advisor):		12
INAM 5300 to INAM 5349		
INAM 5400 to INAM 5449		
INAM 5500 to INAM 5549		
INAM 6500 to INAM 6549		

Plan of Study

Sample Full-Time Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INAM 5300	2	INAM 5400	2	INAM 5415	2
INAM 5305	2	INAM 5405	2	INAM 5507	1
INAM 5310	2	INAM 5410	2	INAM 5508	1
Electives	6	Electives	6	INAM 6900	4
	12		**12**		**8**

Total Hours: 32

Sample Part-Time Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INAM 5300	2	INAM 5400	2	INAM 5415	2
INAM 5305	2	INAM 5405	2	INAM 5507	2
INAM 5310	2	INAM 5410	2	INAM 5508	2

Elective		2	Elective	2	Elective 2
		8		**8**	**8**
Year 2					
Fall	**Hours**				
Electives		4			
INAM 6900		4			
		8			

Total Hours: 32

Creative Practice Leadership, MS

Admissions to this program have been suspended.

Website (https://camd.northeastern.edu/program/creative-practice-leadership/)

Through a series of four transdisciplinary core courses and four discipline-weighted, student-selected electives in the performing and visual arts, the MS Creative Practice Leadership offers a two-semester, intensive, Masters-level program of training in and exploration of new approaches to leadership in the fields of critical creative practice, cultural entrepreneurship, and innovation in the arts and entertainment industries. Grounded in a broadly interdisciplinary approach, the goal is to enable administrators and practitioners in the creative professions to become transformational leaders and change agents for a rapidly evolving cultural environment.

The MS Creative Practice Leadership engages administration, curation, advocacy and other forms of cultural communication and intermediation from the point of view that creative practice leadership must become more than an outwardly successful business or administrative exercise; rather, such leadership must re-examine past assumptions about, and envision new parameters for how, success is defined. The ethos underlying the design of courses in this program is that leadership in the arts and creative industries brings a responsibility to the progress, vitality and sustainability of the world that those creative enterprises seek to embrace, a responsibility that requires critical thinking and deeply thoughtful exploration, along with the skills necessary for implementation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INAM 6100	Critical Foundations of Creative Practice	4
INAM 6200	Topics in Communication Strategies	4
INAM 6210	Projects in Interdisciplinary Creative Practice	4
INAM 6300	Models for Applied Inquiry in Creative Practice	4

Electives

Code	Title	Hours
Complete 16 semester hours in the following subject areas in consultation with your advisor:		16
AACE, ARTG, ARTH, COMM, INAM, JRNL, MUSI, THTR, 5000 level or above		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample One Year, No Co-op

Year 1

Fall	Hours	Spring	Hours
INAM 6100	4	INAM 6210	4
INAM 6200	4	INAM 6300	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 32

Sample Two Year, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INAM 6100	4	INAM 6210	4	Elective	4	Co-op	
INAM 6200	4	INAM 6300	4				
Elective	4						
Elective	4						
	16		**8**		**4**		**0**

Year 2	
Fall	**Hours**
Co-op	
Elective[1]	4
	4

Total Hours: 32

1 International students cannot take an online elective in their last term as their only class.

Extended Realities, MS

Overview

The Master of Science in Extended Realities seeks to open the new technologies, methods, practices, and skills of extended realities (XR) to students. XR includes augmented, virtual, and mixed reality. XR technologies have seen explosive growth over the last decade of mixed reality.

This program is structured to allow students flexibility and specialization to choose a path that matches their interest. Students have the opportunity to focus on a single concentration area or a mix of course electives depending upon their professional background and aspirations. The College of Arts, Media and Design partners closely with Bouvé College of Health Sciences, the College of Engineering, the D'Amore McKim School of Business, and Khoury College of Computer Sciences to offer additional concentrations that provide breadth and depth of knowledge.

The Master of Science in Extended Realities welcomes students from a diverse range of backgrounds because of the applications of XR technology used in many disciplines and industries, including medicine, business, entertainment, architecture, and journalism.

Some concentrations may require a technical background and are noted in the requirements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Extended Reality Core

Code	Title	Hours
Required Courses		
EXRE 5010 and EXRE 5011	Immersive Media: Extended Realities (XR) History, Theory, and Impact and Seminar for EXRE 5010	5
EXRE 5020	Developing Extended Realities (XR)	4
EXRE 5030	Designing Extended Realities (XR)	4
EXRE 6500	Extended Realities (XR) Studio	4
EXRE 7500 or EXRE 7990	Extended Realities (XR) Project Thesis	4
GSND 5122	Business Models in the Game Industry	1

Extended Reality Concentration Options

Complete one of the following options:

- Artificial Intelligence (p. 158)
- Data Visualization (p. 159)
- Entrepreneurship (p. 159)
- Experience Design (p. 159)
- Game Design (p. 159)
- Game Science (p. 160)
- Human Computer Interaction (p. 160)
- Human Movement Science (p. 160)
- Information Ethics (p. 160)
- Marketing (p. 161)
- Media Innovation and Advocacy (p. 161)
- Public History (p. 161)
- Wireless Networking (p. 161)
- XR Design (p. 162)
- XR Development (p. 162)

Program Credit/GPA Requirements

34 total semester hours required. Some concentrations may require more than 34 semester hours to complete.
Minimum 3.000 GPA required

ARTIFICIAL INTELLIGENCE CONCENTRATION

Code	Title	Hours
Requires a background in computer science.		
Complete three of the following:		12

CS 5097	Mixed Reality
CS 5100	Foundations of Artificial Intelligence
CS 6120	Natural Language Processing
CS 6140	Machine Learning

DATA VISUALIZATION CONCENTRATION

Code	Title	Hours
Required Courses		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4
Electives		
Complete 4 semester hours from the following:		4
ARTG 5310	Visual Cognition	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	

ENTREPRENEURSHIP CONCENTRATION

Code	Title	Hours
Required Courses		
INNO 6200	Enterprise Growth and Innovation	3
Electives		
Complete 9 semester hours from the following:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

EXPERIENCE DESIGN CONCENTRATION

Code	Title	Hours
Required Courses		
ARTG 5610	Design Systems	4
ARTG 6310	Design for Behavior and Experience	4
Electives		
Complete 4 semester hours from the following:		4
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	

GAME DESIGN CONCENTRATION

Code	Title	Hours
Required Courses		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
Electives		
Complete 8 semester hours from the following:		8
GSND 6000	Advanced Topics in Game Design	

GSND 6240	Exploratory Concept Design
GSND 6250	Spatial and Temporal Design

GAME SCIENCE CONCENTRATION

Code	Title	Hours
Required Courses		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
Electives		
Complete at least 8 semester hours from the following:		8
GSND 6001	Advanced Topics in Game Science	
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

HUMAN COMPUTER INTERACTION CONCENTRATION

Code	Title	Hours
Required Courses		
CS 5340	Computer/Human Interaction	4
Electives		
Complete 8 semester hours from the following:		8
ARTG 5710	Design for Dignity	
CS 5097	Mixed Reality	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 6350	Empirical Research Methods	
CS 7390	Special Topics in Human-Centered Computing	
GSND 6340	Biometrics for Design	

HUMAN MOVEMENT SCIENCE CONCENTRATION

Code	Title	Hours
Required Courses		
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
Electives		
Complete 7–8 semester hours from the following:		7-8
PT 5133	Kinesiology	
PT 5150	Motor Control, Development, and Learning	
PT 5321	Applications of Biomechanics in Human Function and Movement	
PT 5410	Functional Human Neuroanatomy	
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation	
PT 7020	Technologies in Movement and Rehabilitation Science	

INFORMATION ETHICS CONCENTRATION

Code	Title	Hours
Required Courses		
Complete two of the following:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Elective		
Complete one of the following:		4
PHIL 5001	Global Justice	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

MARKETING CONCENTRATION

Code	Title	Hours
Required Courses		
MKTG 6200	Creating and Sustaining Customer Markets	3
Electives		
Complete 9 semester hours from the following:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

MEDIA INNOVATION AND ADVOCACY CONCENTRATION

Code	Title	Hours
Required Courses		
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 6340	Fundamentals of Digital Journalism	4
Elective		
Complete one of the following:		4-5
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
JRNL 5311	Design for Storytelling	
JRNL 6305	Topics (and optional ARTG 5151)	
JRNL 6341	Telling Your Story with Data	

PUBLIC HISTORY CONCENTRATION

Code	Title	Hours
Required Courses		
HIST 5237	Issues and Methods in Public History	4
Complete the following (repeatable) course twice:		4
HIST 8410	Fieldwork in History 1 (to be taken twice)	
Elective		
Complete one of the following:		4
HIST 5241	Exhibits and Museums	
HIST 7219	Topics in Cultural History	
HIST 7250	Topics in Public History	

WIRELESS NETWORKING CONCENTRATION

Code	Title	Hours
Required Courses		
EECE 7374	Fundamentals of Computer Networks	4
Electives		
Complete 8 semester hours from the following:		8
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	

XR DESIGN CONCENTRATION

Code	Title	Hours
Required Courses		
GSND 6520	3D Modeling and Asset Creation Principles	4
Electives		
Complete at least 8 semester hours from the following:		8-9
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 5310	Visual Cognition	
ARTG 5610	Design Systems	
ARTG 6310	Design for Behavior and Experience	
EXRE 5973	Topics in Extended Realities (XR)	
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	
GSND 6250	Spatial and Temporal Design	
GSND 6330	Player Experience	
GSND 6340	Biometrics for Design	
GSND 6460	Generative Game Design	
JRNL 6340	Fundamentals of Digital Journalism	

XR DEVELOPMENT CONCENTRATION

Code	Title	Hours
Required Courses		
CS 5097	Mixed Reality	4
Electives		
Complete 8 semester hours from the following:		8
CS 5150	Game Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5310	Computer Graphics	
CS 5335	Robotic Science and Systems	
CS 5340	Computer/Human Interaction	
CS 5850	Building Game Engines	
CS 6140	Machine Learning	

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours
EXRE 5010 and EXRE 5011	5	EXRE 5030	4
EXRE 5020	4	GSND 5110 and GSND 5111 and GSND 5112	5
	9		**9**

Year 2

Fall	Hours	Spring	Hours
EXRE 6500	4	EXRE 7500	4
GSND 5122	1	GSND 6350	4
GSND 6340	4		
	9		**8**

Total Hours: 35

Urban Planning and Policy, MS

The Master of Science in Urban Planning and Policy program trains leaders interested in building just and sustainable solutions to today's critical urban problems. Students in the program develop the theoretical and analytical tools to understand contemporary challenges of social, racial, and environmental injustice in cities and urban regions. They develop professional tools to work effectively in the realms of planning, policy, politics, and advocacy to impact urban challenges, including affordable housing provision, equitable and sustainable economic growth, sustainable transportation, and climate change adaptation and mitigation. This innovative program combines the expertise in urban planning and policy analysis data analytics of the School of Public Policy and Urban Affairs with expertise in physical planning, design, and data visualization at the School of Architecture. The core curriculum of the program provides students with a solid foundation in essential skills and concepts, including techniques of effective community engagement, research design and statistics, economic analysis, legal foundations of urban planning and policy, and the history of urban development and urban planning. Students also have the opportunity to develop substantial expertise in a specialization area, including urban analytics, urban sustainability and resilience, urban design and physical planning, and urban development policy and planning.

The optional cooperative education experience (co-op) is available to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

In addition to the co-op option, students in the program have opportunities to gain experience in the application of their knowledge and skills via internships, class projects, and a capstone research report. They graduate prepared for careers working for state and local government, federal agencies, community development corporations and other nonprofit organizations, research institutes, and as private-sector planning consultants.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Planning and Policy		
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	4
PPUA 6502	Economic Analysis for Policy and Planning	4
SUEN 6340	Topics in Urban Environmental Design	4
Research Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
Students in the urban analytics focus area are encouraged to take INSH 5301.		
Choose one from the following:		4
INSH 5301	Introduction to Computational Statistics	
INSH 6500	Statistical Analysis	
Planning Law		
Choose one from the following:		2-4
LPSC 5201	Law and the City	
PPUA 5201	Urban Planning and the Law	
Planning and Social Justice		
Choose one from the following:		2-4
PPUA 5233	Contemporary Community Development	
PPUA 5235	Participatory Community Planning Methods	
PPUA 6219	Race, Justice, and Belonging in Planning Practice	

Focus Areas

Complete one of the following focus areas:

- Urban Design and Physical Planning (p. 164)
- Urban Analytics (p. 164)
- Sustainability and Resilience (p. 164)
- Urban Development Policy and Planning (p. 165)

URBAN DESIGN AND PHYSICAL PLANNING

Code	Title	Hours
Gateway Course		
ARCH 6340	Graduate Topics in Architecture	4
Tracks		
Complete one of the following tracks:		8
Urban Design and Real Estate		
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
Physical Planning and Design for Sustainable Urbanism		
SUEN 7230	Urban Ecologies and Technologies 1	
SUEN 7240	Urban Ecologies and Technologies 2	
Urban Experience Track		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 6310	Design for Behavior and Experience	
Capstone		
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	6

URBAN ANALYTICS

Code	Title	Hours
Gateway Course		
PPUA 5262	Big Data for Cities	4
Required Courses		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4

SUSTAINABILITY AND RESILIENCE

Code	Title	Hours
Gateway Course		
LPSC 7312	Cities, Sustainability, and Climate Change	4
or SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	
Methods		
Complete one of the following:		4
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
SUEN 7230	Urban Ecologies and Technologies 1	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5231	Transportation Policy	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5249	Sustainable Urban Coastal Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6220	Implementation and Visualization for Urban Environments 2	
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	

SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

URBAN DEVELOPMENT POLICY AND PLANNING

Code	Title	Hours
Gateway Course		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5233	Contemporary Community Development	
PPUA 5265	Global Urbanization and Planning	
Methods		
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
or PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
PPUA 5265	Global Urbanization and Planning	
PPUA 5270	Food Systems and Public Policy	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6551	Nonprofit Organizations and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6340	Topics in Urban Environmental Design	

Electives

Code	Title	Hours
Complete 4-8 semester hours of the following:		4-8
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
ARCH 6100	Graduate Skills Studio	
ARCH 6330	Seminar in Modern Architecture	
ARCH 6340	Graduate Topics in Architecture	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 6330	Information Design Mapping Strategies	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5302	Information Design and Visual Analytics	
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	

PPUA 5234	Land Use and Urban Growth Policy
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers
PPUA 5238	Climate Change and Global Urbanization
PPUA 5239	Problems in Metropolitan Policymaking
PPUA 5244	Comparative Public Policy and Administration
PPUA 5245	Education Policy in the United States
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5260	Ecological Economics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5265	Global Urbanization and Planning
PPUA 5270	Food Systems and Public Policy
PPUA 6202	Research Toolkit for Python for Policy
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing
PPUA 6506	Techniques of Policy Analysis
PPUA 6551	Nonprofit Organizations and Social Change
PPUA 7237	Advanced Spatial Analysis of Urban Systems
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems
SUEN 6210	Implementation and Visualization for Urban Environments 1
SUEN 6220	Implementation and Visualization for Urban Environments 2
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory
SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

48 total semester hours required (50 with optional co-op)
Minimum 3.000 GPA required

Arts Administration, Graduate Certificate

Today's arts sector is more vital and dynamic than ever, flourishing in both arts institutions and "non-hierarchical organizations," from artist-run spaces to community organizations. This context, paired with changes in the funding climate over the past 30 years, has generated a need to transform leadership training in the arts. Creative thinkers must be equipped with administrative, analytical, entrepreneurial, and technological skill sets to work within the complex, interdependent arts and cultural ecosystem.

The **Graduate Certificate in Arts Administration** offers an interdisciplinary graduate program focused on leadership innovation in performance, visual arts, cultural, and community organizations.

The Graduate Certificate in Arts Administration challenges students to create diverse, viable, and sustainable arts and culture projects and organizations; to use entrepreneurial practices in order to create transformation; to develop and deploy new arts and culture sector-focused business and analytic skills; and to design innovative planning and engagement strategies. Course and project work embeds experiential opportunities to explore and demonstrate transformational arts management approaches.

The required curriculum includes three core and one directed elective for a total of 12 credit hours. All courses can be completed online.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
AACE 6000	Arts and Culture Organizational Leadership	3
AACE 6010	Planning for Arts and Cultural Organizations	3
AACE 6020	Experiential Study in Arts Administration	3

Elective

Code	Title	Hours
Complete one of the following:		3
AACE 6110	Information Technology for Arts and Cultural Organizations	
AACE 6200	Programming and Community Engagement for Cultural Entrepreneurs	
AACE 6210	Building Value Through Cultural Enterprise (Building Value through Cultural Enterprise)	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Cultural Entrepreneurship, Graduate Certificate

Cultural entrepreneurs combine their passion for creative and cultural products and programs with creative, out-of-the-box thinking to forge the resilience of the arts sectors and the wider communities they serve. Cultural entrepreneurs employ innovative approaches to audience engagement – like a roving theater company, pop-up museum, or a smartphone app for artistic collaboration – to deliver artistic value to wide and diverse audiences and make a positive social, environmental, and economic impact. Today's cultural entrepreneurs operate in diverse professional environments, from consulting for organizational transformation to launching a creative startup. By understanding community impacts and activating a range of cultural and creative experiences, cultural entrepreneurs play a crucial role in ensuring the vitality of artistic engagement, advancing community goals, and strengthening society.

The **Graduate Certificate in Cultural Entrepreneurship** empowers students with a critical, creative perspective on arts programming and management and a myriad of creative management tools that harness new technologies for artistic engagement.

The Graduate Certificate in Cultural Entrepreneurship offers an interdisciplinary program to create diverse and viable projects and organizations for artistic experience and positive social impact. The program prepares students to become innovators in a range of artistic and cultural disciplines, from music, visual art, theater, and dance to community-building and transformation. The curriculum offers students the opportunity to identify opportunities for evolution in the arts and cultural sectors and to develop critical, creative practices; leadership acumen; and skill sets in arts management, strategic planning, and performance analysis to conceive and implement creative, cultural programming for community engagement and positive impact.

The program learning objectives provide students with opportunities to:

- Develop an understanding of methods and tools used to conceptualize, scope, pilot, evaluate, iterate and launch cultural entrepreneurship projects;
- Align creative practice and arts enterprise strategies with opportunities, challenges and resources to achieve desired impact;
- Apply communication, engagement and evaluation techniques to develop and sustain diverse audiences and stakeholder relationships;
- Engage in critical analysis of the work of peers and industry leaders by analyzing and contextualizing the quality, viability and sustainability of culturally-driven entrepreneurship.

The required curriculum includes three core courses and one directed elective for a total of 12 semester hours. All courses can be completed online.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
AACE 6200	Programming and Community Engagement for Cultural Entrepreneurs	3
AACE 6210	Building Value Through Cultural Enterprise (Building Value through Cultural Enterprise)	3
AACE 6220	Innovative Approaches to Audience Engagement (Experiential Study in Cultural Entrepreneurship)	3

Elective

Code	Title	Hours
Complete one of the following:		3
AACE 6000	Arts and Culture Organizational Leadership	
AACE 6010	Planning for Arts and Cultural Organizations	
AACE 6110	Information Technology for Arts and Cultural Organizations	
ENTR 6212	Business Planning for New Ventures	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

D'Amore-McKim School of Business

Website (https://damore-mckim.northeastern.edu/?utm_medium=website&utm_source=catalog)

David De Cremer, PhD, Dunton Family Dean

Kate E. Klepper, MBA, Associate Dean of Graduate Programs

Northeastern University's D'Amore-McKim School of Business has built and sustained a legacy of excellence for 100 years. Our graduate programs prepare leaders with a curriculum focused on technology, data analytics, and uniquely human skills like critical thinking, creativity, and an entrepreneurial mindset.

D'Amore-McKim is part of a thriving global network, attracting some of the best and brightest faculty across the business world. Many are founders of tech startups and respected management leaders, and our students benefit daily from their research and expertise.

Experience-fueled learning is at the heart of everything we do. Our students do more than master skills in their chosen business field. They put the knowledge gained from a demanding curriculum to work as they apply what they've learned to authentic business challenges. This educational model sets us apart.

Graduate School of Business Administration
617.373.5992

Most graduate degrees: gradbusiness@northeastern.edu
Most graduate certificates: gradcertificates@northeastern.edu
Online MBA and Online Graduate Certificates: onlinemba@northeastern.edu

Graduate School of Professional Accounting
617.373.3244
gspa@northeastern.edu

Master of Science

Northeastern University's D'Amore-McKim School of Business develops leaders and thinkers who will guide the future of work in an ever-evolving digital landscape.D'Amore-McKim master's degree programs#help students build specialized expertise and gain a competitive advantage.

Our innovative master's programs—taught with D'Amore-McKim's focus on the tech economy—prepare students to excel in a data-driven business world.Students learn from our respected business faculty, many of whom are consultants, founders of tech start-ups, and respected management leaders. Students study alongside diverse classmates who share their passions and interests.

Students enroll in D'Amore-McKim's master's degrees for full-time or part-time study.

Programs

Master of Science (MS)

- Business Analytics (p. 171)
- Business Analytics—Online (p. 172)
- International Management (p. 173)
- Management (p. 174)

Master of Science in Accounting (MSA)

- Accounting (p. 185)

Master of Science in Finance (MSF)

- Finance (p. 187)
- Quantitative Finance (p. 188)

Business Analytics, MS

Northeastern University D'Amore-McKim School of Business's Master of Science in Business Analytics (https://damore-mckim.northeastern.edu/programs/ms-business-analytics/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=msba) prepares students to lead in a business world driven by Big Data.

Make Data-Driven Business Decisions

Students build the skills to know what data to analyze and understand how to leverage that data for strategic decision making. Classwork provides exposure to data mining, statistical and quantitative analysis, multivariate testing, and predictive modeling. Students explore how to build sales, enhance marketing, or strengthen a company's infrastructure.

Integrate Classroom and Professional Experiences

Through in-class case studies and a capstone project, professors share real company data so that students apply their knowledge to actual business challenges. They gain unique perspectives as they learn from renowned experts who have led through times of rapid change. Through an optional graduate co-op, students translate ideas into action as they complete a project for an organization.

Complete the Degree in as Few as 12 Months

Students complete seven courses throughout the first two semesters and an optional career management class developed by the Graduate Career Center advisor. Students may complete their final three courses over the summer term or can extend their studies and complete their program in the fall term.

Students enroll in this 30-semester-hour master's degree program for full-time study.

Program Requirements

Core Requirements

Code	Title	Hours
MISM 6200	Introduction to Business Analytics	3
MISM 6202	Foundations of Data Analysis for Business	3
MISM 6205	Data Wrangling for Business	3
MISM 6210	Information Visuals and Dashboards for Business	3
MISM 6212	Data Mining and Machine Learning for Business	3
MISM 6213	Business Information Design, Quality, and Strategy	3
MISM 6214	Business Analytics Capstone	3

Elective Coursework

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
HRMG 6223	Global Talent Management	
MISM 6201	Database Management for Business	
MISM 6206	Modeling for Business	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	
MKTG electives as advised		

Optional Career Management Course

Code	Title	Hours
BUSN 6200	Career Management	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Business Analytics, MS—Online

Northeastern University D'Amore-McKim School of Business's Online Master of Science in Business Analytics (https://damore-mckim.northeastern.edu/programs/ms-business-analytics/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=msba) prepares working professionals to lead in a business world driven by Big Data.

Make Data-Driven Business Decisions

Students build the skills to know what data to analyze and understand how to leverage that data for strategic decision making. Classwork provides exposure to data mining, statistical and quantitative analysis, multivariate testing, and predictive modeling. Students explore building sales, enhancing marketing, or strengthening a company's infrastructure.

Integrate Classroom and Professional Experiences

Through in-class case studies and a capstone project, professors share real company data so that students apply their knowledge to actual business challenges. They gain unique perspectives as they learn from renowned experts who have led through times of rapid change.

Learn From Anywhere, Anytime

Listen to lectures, access course materials, and submit assignments by deadlines in this 100% online program. All courses are seven weeks long, and you'll focus on one course at a time for an intensive learning experience.

Students enroll in this 30-semester-hour master's degree program for online study.

Program Requirements

Core Requirements

Code	Title	Hours
MISM 6200	Introduction to Business Analytics	3
MISM 6202	Foundations of Data Analysis for Business	3
MISM 6205	Data Wrangling for Business	3
or MISM 6203	Business Analytics Methods	
MISM 6210	Information Visuals and Dashboards for Business	3
MISM 6212	Data Mining and Machine Learning for Business	3
MISM 6213	Business Information Design, Quality, and Strategy	3
MISM 6214	Business Analytics Capstone	3

Elective Coursework

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
HRMG 6223	Global Talent Management	
MKTG 6232	Engaging Customers and Markets	
MKTG 6294	Customer-Centric Research Methods for Marketing	
MKTG 6295	Customer Performance Modeling	
STRT 6210	Workforce Metrics and Analytics	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

International Management, MS

Northeastern University D'Amore-McKim School of Business's Master of Science in International Management program is designed to prepare students to bridge local and international operations quickly and confidently.

Develop a Global Mindset

Students have an opportunity to develop critical thinking skills to handle the challenges organizations and businesses face when operating across borders and cultures. Core courses focus on cultural agility, leadership, and workforce management. Students explore topics ranging from international trade to globalization of the world economy.

Integrate Classroom and Professional Experiences

Students obtain real-world experiences that help them to gain a fresh perspective while using relevant skills. They apply their knowledge to actual business challenges through class projects.

Students can gain experience tackling real business issues faced by a company aligned with their career aspirations through the "Make Your Case" consulting program. Students build storytelling and case-writing skills while gaining inside exposure to their chosen industry.

Students may enroll in this 30-semester-hour master's degree program for full-time and part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
INTB 6200	Managing the Global Enterprise	3
INTB 6226	Becoming a Global Leader	3
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met:		3
STRT 6210	Workforce Metrics and Analytics (or graduate-level INTB elective)	
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
FINA 6204	International Financial Management	
INNO 6200	Enterprise Growth and Innovation	
INTB 5000 - 6999		
INTB 6230	Global Field Study	
MKTG 6212	International Marketing	
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
INTB 6260	Advanced Topics in Global Management and Strategy	
STRT 6200	Strategic Decision Making in a Changing Environment	

Electives

Code	Title	Hours
In consultation with advisor, complete 15 graduate-level semester hours from the following for which prerequisites have been met:		15
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Management, MS

Overview

Northeastern University's D'Amore-McKim School of Business MS in Management (https://damore-mckim.northeastern.edu/programs/ms-x/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=msx) program enables students to gain the business knowledge and specialized expertise needed in today's digitally driven economy.

Students enroll in this 30-semester-hour master's degree program for full-time, part-time, or hybrid study. There are four ways to earn this master's degree:

MS in Management: Boston Campus

The MS program in management on our Boston campus allows students to personalize all aspects of their degree, including core coursework, to match their specific professional goals. Four core classes each represent a key domain: managing organizations, data-driven management, strategy and growth, and finance and operations. Students without a background in these areas have an opportunity to build foundational skills, and those with previous experience expand their knowledge in higher-level courses.

Students may focus their learning by selecting a market-aligned concentration. They'll personalize their program by selecting electives from the entire portfolio of graduate-level courses taught by D'Amore-McKim's industry-leading faculty. Or they may choose to take one elective from a diverse list of eligible graduate courses offered by other Northeastern colleges.

MS in Management: Oakland Campus

CONCENTRATION IN ENTREPRENEURSHIP

The MS program in management on our Oakland campus helps students build the expertise and perspective to succeed in a new business venture. All students take the same entrepreneurship-focused core coursework fostering networking within the cohort. Students have an opportunity to learn to design winning competitive strategies, from product and service development to venture financing, business plans, go-to-market strategy, and managing high-performance teams. Students also complete a four-course concentration in entrepreneurship to deepen their learning.

By studying in the Bay Area, students have access to some of the most successful tech and social ventures, allowing them to build their network while gaining the tangible skills to launch their own enterprise.

MS in Management: Online Only

CONCENTRATION IN DIGITAL TRANSFORMATION IN HEALTHCARE
CONCENTRATION IN HEALTHCARE ADMINISTRATION

The online MS program in management focuses on healthcare and leverages a unique partnership between Northeastern University and the Mayo Clinic College of Medicine and Science. Coursework provides a deep understanding of the technical skills, regulatory frameworks, and managerial competencies necessary to join the next generation of healthcare pioneers.

Students choose one of two concentrations: digital transformation in healthcare or healthcare administration. Digital transformation in healthcare is designed for current healthcare executives who want to leverage emerging technologies better. Healthcare administration offers business and healthcare knowledge tailored for those entering the industry.

MS in Management: Online with On-Campus Residencies

CONCENTRATION IN STRATEGIC TECHNOLOGY LEADERSHIP

The MS program in management with a concentration in strategic technology leadership is designed to prepare executives and senior leaders to harness digital technology and innovation. They develop expertise in solving challenges with cutting-edge technologies and deepen their knowledge of strategies for managing technology adoption.

Students develop a project business plan under the guidance of a seasoned executive mentor. Classes are hybrid, with live online interactive courses and three in-person residencies in Boston or London.

Program Requirements

Core Requirements

Code	Title	Hours
Managing Organizations		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
HRMG 6200	Managing People and Organizations	
HRMG 6212	Creating an Innovative Organization	
HRMG 6223	Global Talent Management	
INTB 6226	Becoming a Global Leader	
MGMT 6213	Managing Ethics in the Workplace and Marketplace	
MGMT 6214	Negotiations	

MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
Data-Driven Management		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
MISM 6200	Introduction to Business Analytics	
MISM 6202	Foundations of Data Analysis for Business	
MISM 6203	Business Analytics Methods	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MKTG 6200	Creating and Sustaining Customer Markets	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	
Strategy and Growth		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
INNO 6200	Enterprise Growth and Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INTB 6200	Managing the Global Enterprise	
MKTG 6216	Market Focused Strategy	
SCHM 6213	Global Supply Chain Strategy	
STRT 6200	Strategic Decision Making in a Changing Environment	
Finance and Operations		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
FINA 6309	Foundations of Accounting and Finance	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	

Concentration Options

Students may complete one of the following concentrations. Not all concentrations are available at all locations; please refer to your advisor or admissions coach for the course availability each semester at your location. Courses taken to fulfill concentrations may be used toward the elective section below.

- Accounting Analytics (p. 177)
- Analytics (p. 177)
- Brand Management
- Business Management for Healthcare (p. 178)
- Corporate Finance
- Corporate Innovation
- Digital Transformation in Healthcare
- Entrepreneurship (p. 179)
- Healthcare Administration (p. 179)
- International Business (p. 180)
- Investments (p. 180)
- Leading People and Organizations (p. 180)
- Marketing (p. 181)
- Marketing Analytics (p. 181)
- Operations and Supply Chain Management (p. 181)

- Public Health (p. 182)
- Strategic Technology Leadership (p. 182)
- Sustainability and Business (p. 182)

Electives

Code	Title	Hours
In consultation with advisor, complete 18 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		18
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, MISM, SCHM, STRT		
In consultation with advisor, students may also select an interdisciplinary elective, for which prerequisites have been met, offered in partnership with other Northeastern University colleges. Choose from the following:		
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 6214	Experimental Design and Biostatistics	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 5110	Introduction to Data Management and Processing	
ECON 5140	Applied Econometrics	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 6600	Computation and Visualization for Analytics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7374	Special Topics in Industrial Engineering	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

JRNL 5311	Design for Storytelling
JRNL 5400	Media and Advocacy in Theory and Practice
JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

30 total semester hours required

Minimum 3.000 GPA required

CONCENTRATION IN ACCOUNTING ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
MISM 6202	Foundations of Data Analysis for Business	3
MISM 6205	Data Wrangling for Business	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
ACCT 6203	Business Entity Taxation	
ACCT 6205	Auditing in a Big Data Environment	
ACCT 6207	Contemporary and Emerging Issues in Financial Reporting	
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	
ACCT 6231	Corporations and Shareholders	
ACCT 6235	Partners and Partnerships	
MISM 6210	Information Visuals and Dashboards for Business	

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
or MISM 6203	Business Analytics Methods	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6200	Creating and Sustaining Customer Markets	3

MKTG 6223	Brand and Advertising Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
FINA 6220	Healthcare Finance	3
or SCHM 6223	Managing Healthcare Supply Chain Operations	
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Optional Electives		
Note: Electives are not required; the following course(s) are suggested beyond the concentration:		
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6205	Financial Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6204	International Financial Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
Electives		
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	

INNO 6200	Enterprise Growth and Innovation
INNO 6217	Lean Innovation
INNO 6222	Competing in Dynamic, Innovation-Driven Markets
INNO 6225	Acquisitions, Alliances, and Growth
MGMT 6280	Innovation for Next-Generation Products and Systems

CONCENTRATION IN DIGITAL TRANSFORMATION IN HEALTHCARE

Code	Title	Hours
To earn the Concentration in Digital Transformation in Healthcare, students must complete the following four core courses of the core curriculum of this program:		
MISM 6200	Introduction to Business Analytics	
MGMT 6213	Managing Ethics in the Workplace and Marketplace	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	
Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6404	Patient Engagement Informatics and Analytics	3
INNO 6200	Enterprise Growth and Innovation	3
MGSC 6281	Service Innovation and Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6220	Healthcare Finance	
or FINA 6309	Foundations of Accounting and Finance	
HINF 5105	The American Healthcare System	
HRMG 6220	Health Organization Management	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
Electives		
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6340	The Technical Entrepreneur as Leader	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

CONCENTRATION IN HEALTHCARE ADMINISTRATION

Code	Title	Hours
To earn the Concentration in Healthcare Administration, students must complete the following four core courses of the core curriculum of this program:		
FINA 6309	Foundations of Accounting and Finance	
or SCHM 6223	Managing Healthcare Supply Chain Operations	
MISM 6200	Introduction to Business Analytics	
MGMT 6213	Managing Ethics in the Workplace and Marketplace	

STRT 6220	Strategic Management for Healthcare Organizations	
Required		
HRMG 6200	Managing People and Organizations	3
HRMG 6223	Global Talent Management	3
INNO 6200	Enterprise Growth and Innovation	3
MGMT 6214	Negotiations	2-3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6309	Foundations of Accounting and Finance (If not taken towards concentration core)	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6404	Patient Engagement Informatics and Analytics	
HRMG 6220	Health Organization Management	
HRMG 6230	Leading a Diverse and Inclusive Organization	
MGSC 6281	Service Innovation and Management	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
SCHM 6223	Managing Healthcare Supply Chain Operations (If not taken towards concentration core)	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6200	Managing the Global Enterprise	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
INTB 6212	Cultural Aspects of International Business	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6203	Investment Analysis	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
Required		
HRMG 6200	Managing People and Organizations	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
HRMG 6212	Creating an Innovative Organization	

HRMG 6218	Great Companies
HRMG 6220	Health Organization Management
HRMG 6223	Global Talent Management
MGMT 6214	Negotiations
STRT 6210	Workforce Metrics and Analytics

CONCENTRATION IN MARKETING

Code	Title	Hours
Required		
MKTG 6200	Creating and Sustaining Customer Markets	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6200	Creating and Sustaining Customer Markets	3
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
Required		
SCHM 6201	Operations and Supply Chain Management	3
SCHM 6213	Global Supply Chain Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN PUBLIC HEALTH

Code	Title	Hours
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 6208	Urban Community Health Assessment	3

CONCENTRATION IN STRATEGIC TECHNOLOGY LEADERSHIP

Code	Title	Hours
To earn the Concentration in Strategic Technology Leadership, students must complete the following four core courses of the core curriculum of this program:		
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INTB 6226	Becoming a Global Leader	
MISM 6212	Data Mining and Machine Learning for Business	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
Required		
Complete the following course twice:		6
INNO 6250	Integrated and Applied Technology Leadership Project	3
Complete the following:		
INNO 6240	Strategic Disruption Residency 1	1
INNO 6241	Strategic Disruption Residency 2	1
INNO 6242	Strategic Disruption Residency 3	1
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, MISM, SCHM, or STRT		
Students may also select preapproved interdisciplinary electives, for which prerequisites have been met, offered in partnership with other Northeastern University colleges.		

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
Required		
MECN 6200	Global Competition and Market Dominance	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

Plan of Study

Sample Plans of Study

Not all concentrations are available at all locations; please refer to your advisor or admissions coach for the course availability each semester at your location.

MS IN MANAGEMENT: BOSTON CAMPUS (12 MONTHS)

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Core area course 1	3	Core area course 3	3	Core area course 4	3
Core area course 2	3	Concentration course 2 or elective	3	Concentration course 4 or elective	3
Concentration course 1 or elective	3	Concentration course 3 or elective	3	Elective	3

		Elective	3		
	9		**12**		**9**

Total Hours: 30

MS IN MANAGEMENT: BOSTON CAMPUS (16 MONTHS)

Year 1

Fall	Hours	Spring	Hours
Core area course 1	3	Core area course 3	3
Core area course 2	3	Concentration course 2 or elective	3
Concentration course 1 or elective	3	Concentration course 3 or elective	3
		Elective	3
	9		**12**

Year 2

Fall	Hours
Core area course 4	3
Concentration course 4 or elective	3
Elective	3
	9

Total Hours: 30

MS IN MANAGEMENT: OAKLAND CAMPUS (12 MONTHS)

Concentration in Entrepreneurship

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Core area course 1		Core area course 3		Core area course 4	
INNO 6222	3	FINA 6309	3	HRMG 6200	3
Core area course 2		Concentration course 2		Concentration course 4	
MISM 6202	3	ENTR 6241	3	ENTR 6219	3
Concentration course 1		Concentration course 3		Elective 2	
ENTR 6212	3	ENTR 6300	3	ENTR 6214	3
		Elective 1			
		INNO 6230	3		
	9		**12**		**9**

Total Hours: 30

MS IN MANAGEMENT: OAKLAND CAMPUS (16 MONTHS)

Concentration in Entrepreneurship

Year 1

Fall	Hours	Spring	Hours
Core area course 1		Core area course 3	
INNO 6222	3	FINA 6309	3
Core area course 2		Concentration course 2	
MISM 6202	3	ENTR 6241	3
Concentration course 1		Concentration course 3	
ENTR 6212	3	ENTR 6300	3
		Elective 1	
		INNO 6230	3
	9		**12**

Year 2

Fall	Hours
Core area course 4	
HRMG 6200	3
Concentration course 4	
ENTR 6219	3

Elective 2	
ENTR 6214	3
	9

Total Hours: 30

MS IN MANAGEMENT: ONLINE ONLY
Concentration in Digital Transformation

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INNO 6200	3	MISM 6200	3	MGMT 6213	3
STRT 6220	3	HINF 6404	3	Elective	3
MGSC 6281	3	SCHM 6223	3		
Elective	3	HINF 5101	3		
	12		**12**		**6**

Total Hours: 30

MS IN MANAGEMENT: ONLINE ONLY
Concentration in Healthcare Administration

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INNO 6200	3	MISM 6200	3	MGMT 6213	3
STRT 6220	3	HRMG 6222	3	Elective	3
HRMG 6200	3	MGMT 6214	3		
FINA 6309 (or elective)	3	SCHM 6214 (or elective)	3		
	12		**12**		**6**

Total Hours: 30

MS IN MANAGEMENT: ONLINE, WITH ON-CAMPUS RESIDENCIES [1]
Concentration in Strategic Technology Leadership

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INNO 6222	3	MKTG 6230	3	Elective	3
INTB 6226	3	MISM 6212	3	Elective	3
INNO 6250	3	INNO 6250	3		
INNO 6240	1	INNO 6241	1		
	10		**10**		**6**

Year 2

Fall	Hours
Elective	3
INNO 6242	1
	4

Total Hours: 30

1 Students will take courses online but will be required to attend an on-campus residency in Boston and/or London.

Accounting, MSA

Northeastern University D'Amore-McKim School of Business's Master of Science in Accounting is designed to prepare students for a career in the rapidly evolving accounting industry.

Build Deep Accounting Expertise

Students build on their undergraduate accounting major and have an opportunity to gain the knowledge, skills, and credit hours needed to pursue CPA licensure and launch their careers in just seven months. Classwork deepens their expertise through advanced accounting topics, management best practices, and data analytics skills. The Board of Public Accountancy in Massachusetts has approved the program curriculum.

Select a Track

Students may specialize in either audit or tax, guiding them toward the career that best suits their goals. The audit track offers intense exposure to ethics, auditing research, and forensic accounting. The tax track explores the intricacies of the tax industry so that students may gain a comprehensive understanding of taxation at all levels, from local to international.

Integrate Classroom and Professional Experiences

Students have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills.#They#apply their knowledge to actual business challenges through class projects. Students gain unique perspectives as they learn from industry-leading faculty with years of practice as both PhDs and CPAs at Big 4 and other public accounting firms.

Students enroll in this 30-semester-hour master's degree program for full-time study.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6203	Business Entity Taxation	3
ACCT 6204	Financial Reporting for Integrated Multinational Enterprises	3
ACCT 6229	Accounting for Foreign Currency Transactions	1
Ethics		
ACCT 6253	Ethics in the Accounting Profession	3
Financial Reporting		
ACCT 6207	Contemporary and Emerging Issues in Financial Reporting	3
ACCT 6216	Financial Reporting for Governments and Nonprofit Entities	2

Tracks

Complete one of the following tracks:

AUDIT TRACK

Code	Title	Hours
ACCT 6205	Auditing in a Big Data Environment	3
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	3
ACCT 6254	Accounting Research and Communication	3

TAXATION TRACK

Code	Title	Hours
ACCT 6231	Corporations and Shareholders	3
ACCT 6235	Partners and Partnerships	3
ACCT 6254	Accounting Research and Communication	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
ACCT 5255	Forensic Accounting	
ACCT 5256	Internal Auditing	
ACCT 6239	State and Local Taxation	
ACCT 6240	International Taxation: Inbound Transactions	

ACCT 6243	Advanced Flow-Through Entities
ACCT 6248	Income Taxation of Trusts and Estates
ACCT 6292	Tax Research, Practice, and Ethics

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Finance, MSF

Northeastern University D'Amore-McKim School of Business' Master of Science in Finance (https://damore-mckim.northeastern.edu/programs/ms-finance/?utm_medium=website&utm_source=catalog&utm_campaign=ptmsf) helps students cultivate the high-level knowledge needed to drive financial strategy in today's tech economy.

Develop Deep Finance Expertise

Core courses and elective offerings help students become financial experts with the skills to diversify financial portfolios, effectively minimize risks, maximize return on investments, and sustain growth. Students interested in pursuing the Chartered Financial Analyst designation will find CFA preparations integrated into their coursework.

Integrate Classroom and Professional Experiences

Students will have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills. They apply their knowledge to actual business challenges through class projects.

Students can apply to participate in a student-managed mutual fund, The 360 Huntington Fund, where they gain valuable experience performing equity research and portfolio management. By participating in the Fund, students may earn one semester hour per semester with the option to fulfill a 3 semester hours elective course requirement by participating for three terms.

Students enroll in this 30-semester-hour master's degree program for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6202	Analysis of Financial Institutions and Markets	3
FINA 6203	Investment Analysis	3
FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3

Electives

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6220	Healthcare Finance	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6292	Advanced Topics in Finance	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
A maximum of one graduate-level business course may be taken from the following subject codes:		
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Quantitative Finance, MSF

Northeastern University D'Amore-McKim School of Business's Full-Time MS in Quantitative Finance is designed to prepare students to thrive in a rapidly changing finance industry transformed by technology and innovation.

Cultivate Advanced Finance and Fintech Skills

This quantitative finance curriculum emphasizes the intersection of finance and data analytics. Coursework integrates economics, mathematics, and computer science with financial theory and application. Students interested in pursuing the Chartered Financial Analyst designation will find CFA preparations integrated into their coursework.

Integrate Classroom and Professional Experiences

Students will have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills.Through an optional graduate co-op, students translate ideas into action as they complete a project for an organization.

Students can apply to participate in a student-managed mutual fund, The 360 Huntington Fund (https://damore-mckim.northeastern.edu/programs/360-huntington-fund/?utm_medium=website&utm_source=catalog&utm_campaign=msqf), where they can gain experience performing equity research and portfolio management. By participating in the Fund, students may earn 1 semester hour per semester with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Complete the Degree in as Few as 12 Months

In the first two semesters, students complete six required courses, one elective, and an optional career development program developed by the Graduate Career Center advisors. They may complete the remaining three elective courses over the summer term or extend their studies and complete their electives in the fall term.

Students enroll in this 30-semester-hour master's degree program for full-time study.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
FINA 6203	Investment Analysis	3
FINA 6331	Corporate Finance	3
FINA 6332	Fundamentals of Financial Math and Financial Markets	3
FINA 6333	Data Analytics in Finance	3
FINA 6334	Empirical Methods in Finance	3
FINA 6335	Derivatives and Risk Analytics	3

Electives

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours from the following for which prerequisites have been met:		12
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
ECON 5140	Applied Econometrics	
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6292	Advanced Topics in Finance	
FINA 6336	Fixed-Income Securities and Derivatives	
FINA 6337	Computational Methods in Finance	
FINA 6338	Alternative Investments	
FINA 6339	Quantitative Portfolio Management	
FINA 6340	Financial Markets and Banking in the Postcrisis Era	

FINA 6360	Fund Management for Analysts
FINA 6361	Fund Management for Managers

Optional Career Management Course

Code	Title	Hours
BUSN 6200	Career Management	0

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Master of Business Administration

Northeastern University's D'Amore-McKim School of Business prepares students to navigate a global and ever-evolving business world. A D'Amore-McKim MBA prepares students for the future of work in a digitally driven economy.

MBA students integrate broad business knowledge with a deep understanding of the future of technological advancement. They build in-demand skills leveraging actual company data through projects as they learn from a faculty of consultants, respected management leaders, and startup founders. This prepares our students to become innovative leaders.

Integrating classroom instruction with authentic, experience-powered learning is what we do best at D'Amore-McKim. It's an approach that expands students' knowledge base, develops their creative mindset, and prepares them to meet the shifting demands of today's business world. Students in our MBA programs will have ample opportunities to dive headfirst into experiences that will give them fresh perspectives and in-demand skills.

Students enroll in D'Amore-McKim MBA programs full time, part time, or for online study.

Programs

- Business Administration, MBA—Full-Time (p. 191)
- Business Administration, MBA—Online (p. 200)
- Business Administration, MBA—Part-Time (p. 202)

Business Administration, MBA—Full-Time

Northeastern University's D'Amore-McKim School of Business has reinvented the Full-Time MBA (https://damore-mckim.northeastern.edu/programs/full-time-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ftmba) for today's rapidly changing world. Our Full-Time MBA program integrates business knowledge with a deep understanding of technology, preparing students to stay ahead of change and become the leaders that today's business world demands. Students will choose from a wide-ranging list of in-demand electives and concentrations—including our signature MBA x concentrations—allowing them to develop a unique nonbusiness skill set.

Integrate Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Through a corporate residency, students translate ideas to action for three, six, or up to 12 months. Far removed from the typical internship, students work full-time at a leading firm or startup in their field and have significant responsibilities as they work to deliver on organizational goals.

Select Two Concentrations

Students will specialize their degree by selecting two in-demand business concentrations. Or, they could choose to add expertise in another professional area by choosing an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Build an Interdisciplinary Skill Set

Students will select six interdisciplinary (non-business) semester hours of their choice. They can mix and match the content that interests them from a diverse list of eligible graduate courses across Northeastern colleges.

Program Requirements

Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
BUSN 6363	Social Impact of Business	2
INNO 6318	Innovation Driven Strategy	2
Career Management		
BUSN 6200	Career Management	0
BUSN 6950	MBA Skills Workshop	0
Corporate Residency		
BUSN 6954	Co-op Work Experience - Half-Time	0
BUSN 6964	Co-op Work Experience	0
BUSN 6970	Professional Projects	0
Three-month, six-month, or up to two six-month corporate residency options		

Concentration Options

Complete two of the following concentrations:

- Analytics (p. 193)
- Brand Management (p. 194)
- Business Management for Healthcare (p.)
- Corporate Finance (p. 194)
- Corporate Innovation (p. 195)
- Entrepreneurship (p. 195)
- International Business (p. 195)

- Investments (p. 196)
- Leading People and Organizations (p. 196)
- Marketing (p. 196)
- Marketing Analytics (p. 197)
- Operations and Supply Chain Management (p. 197)
- Sustainability and Business (p. 197)
- MBA x Artificial Intelligence (p. 197)
- MBA x Bioinformatics (p. 197)
- MBA x Biotechnology Industry (p. 197)
- MBA x Cybersecurity (p. 198)
- MBA x Data Science (p. 198)
- MBA x Data Visualization (p. 198)
- MBA x Experience Design (p.)
- MBA x Game Design and Analytics (p. 198)
- MBA x Information Ethics (p. 198)
- MBA x Media Innovation and Advocacy (p. 199)
- MBA x Public Health (p. 199)
- MBA x Software Development (p. 199)

ELECTIVE

Code	Title	Hours
Experiential Requirement		
In consultation with advisor, complete 3 semester hours from the following:		3
BUSN 6351	Experiential Education	
BUSN 6945	Washington Campus Seminar	
ENTR 5000	New Venture Development	
INTB 6230	Global Field Study	
INTB 6238	Global Project	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
MKTG 6606	Digital, Analytics, Technology, and Automation Advanced Research Practicum	
Open Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
Interdisciplinary Requirement		
In consultation with advisor, complete 6 graduate-level semester hours, for which requirements have been met, offered in partnership with other Northeastern University colleges:		6
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	

BIOT 5631	Cell Culture Processes for Biopharmaceutical Production
BIOT 6214	Experimental Design and Biostatistics
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
DS 5110	Introduction to Data Management and Processing
ECON 5140	Applied Econometrics
GE 5030	Iterative Product Prototyping for Engineers
GE 5100	Product Development for Engineers
GSND 5110	Game Design and Analysis
GSND 6320	Psychology of Play
GSND 6340	Biometrics for Design
GSND 6350	Data-Driven Player Modeling
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5105	The American Healthcare System
HINF 6202	Business of Healthcare Informatics
HINF 6205	Creation and Application of Medical Knowledge
IE 5617	Lean Concepts and Applications
IE 5640	Data Mining for Engineering Applications
IE 6200	Engineering Probability and Statistics
IE 6600	Computation and Visualization for Analytics
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7374	Special Topics in Industrial Engineering
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
JRNL 5311	Design for Storytelling
JRNL 5400	Media and Advocacy in Theory and Practice
JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

55 total semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
BUSN 6365	Business Analytics	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
ECON 5140	Applied Econometrics	
IE 6600	Computation and Visualization for Analytics	
INSH 5302	Information Design and Visual Analytics	
MISM 6205	Data Wrangling for Business	

MISM 6210	Information Visuals and Dashboards for Business
MISM 6212	Data Mining and Machine Learning for Business
MISM 6213	Business Information Design, Quality, and Strategy
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit
MKTG 6234	Marketing Analytics
SCHM 6215	Supply Chain Analytics
STRT 6210	Workforce Metrics and Analytics

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
MKTG 6320	Advanced Marketing Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
FINA 6220	Healthcare Finance	3
or SCHM 6223	Managing Healthcare Supply Chain Operations	
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Optional Electives		
Note: Electives are not required; the following course(s) are suggested beyond the concentration:		3-9
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6320	Advanced Financial Management	3
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met:		3
FINA 6203	Investment Analysis	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
FINA 6203	Investment Analysis	

FINA 6204	International Financial Management
FINA 6205	Financial Strategy
FINA 6207	Financial Modeling
FINA 6211	Financial Risk Management
FINA 6213	Investment Banking
FINA 6214	Mergers and Acquisitions
FINA 6215	Business Turnarounds
FINA 6216	Valuation and Value Creation
FINA 6217	Real Estate Finance and Investment
FINA 6260	Entrepreneurial Finance and Venture Capital
MECN 6200	Global Competition and Market Dominance

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	
MGSC 6281	Service Innovation and Management	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
ENTR 6340	The Technical Entrepreneur as Leader	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6200	Managing the Global Enterprise	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
FINA 6204	International Financial Management	
INTB 6212	Cultural Aspects of International Business	
INTB 6224	Competing to Win in Emerging Markets	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	

INTB 6238	Global Project
MKTG 6212	International Marketing

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6320	Advanced Financial Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
MECN 6200	Global Competition and Market Dominance	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
HRMG 6230	Leading a Diverse and Inclusive Organization	
HRMG 6280	The Human Side of Innovation	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

Note: Only one course outside HRMG and MGMT may be taken to fulfill the concentration.

CONCENTRATION IN MARKETING

Code	Title	Hours
Required		
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	

MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit
MKTG 6234	Marketing Analytics

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
Required		
SCHM 6213	Global Supply Chain Strategy	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6200	Global Competition and Market Dominance	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

CONCENTRATION IN MBA X ARTIFICIAL INTELLIGENCE

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	4
CS 5170	Artificial Intelligence for Human-Computer Interaction	4
CS 6140	Machine Learning	4

CONCENTRATION IN MBA X BIOINFORMATICS

Code	Title	Hours
BINF 6200	Bioinformatics Programming	4
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4

CONCENTRATION IN MBA X BIOTECHNOLOGY INDUSTRY

Code	Title	Hours
BIOT 5120	Foundations in Biotechnology	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3

BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
In consultation with advisor, complete 1 graduate-level semester hour of BUSN courses for which prerequisites have been met.		1

CONCENTRATION IN MBA X CYBERSECURITY

Code	Title	Hours
CY 5001	Cyberspace Technology and Applications	4
CY 5250	Decision Making for Critical Infrastructure	4
CY 6760	Wireless and Mobile Systems Security	4

CONCENTRATION IN MBA X DATA SCIENCE

Code	Title	Hours
DS 5110	Introduction to Data Management and Processing	4
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4

CONCENTRATION IN MBA X DATA VISUALIZATION

Code	Title	Hours
Required		
ARTG 5150	Information Visualization Principles and Practices	3
ARTG 5151	Information Design Critique Seminar	1
ARTG 5330	Visualization Technologies 1: Fundamentals	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
ARTG 5310	Visual Cognition	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	

CONCENTRATION IN MBA X EXPERIENCE DESIGN

Code	Title	Hours
Required		
ARTG 5610	Design Systems	4
ARTG 6310	Design for Behavior and Experience	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	

CONCENTRATION IN MBA X GAME DESIGN AND ANALYTICS

Code	Title	Hours
Required		
GSND 5110	Game Design and Analysis	4
GSND 6350	Data-Driven Player Modeling	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
GSND 6320	Psychology of Play	
GSND 6330	Player Experience	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

CONCENTRATION IN MBA X INFORMATION ETHICS

Code	Title	Hours
In consultation with advisor, complete 8 graduate-level semester hours for which prerequisites have been met:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
PHIL 5001	Global Justice	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

CONCENTRATION IN MBA X MEDIA INNOVATION AND ADVOCACY

Code	Title	Hours
Required		
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 6340	Fundamentals of Digital Journalism	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
JRNL 5311	Design for Storytelling	
JRNL 6305	Topics	
JRNL 6341	Telling Your Story with Data	

CONCENTRATION IN MBA X PUBLIC HEALTH

Code	Title	Hours
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 6208	Urban Community Health Assessment	3

CONCENTRATION IN MBA X SOFTWARE DEVELOPMENT

Code	Title	Hours
CS 5500	Foundations of Software Engineering	4
CS 5520	Mobile Application Development	4
CS 5610	Web Development	4

Business Administration, MBA—Online

Northeastern University's D'Amore-McKim School of Business prepares business leaders to navigate the challenges of today's tech-forward business world. D'Amore-McKim's Online MBA (https://damore-mckim.northeastern.edu/programs/online-mba/?utm_medium=website&utm_source=catalog&utm_campaign=omba) program helps students build broad business skill sets and specialized knowledge in their field. In this flexible program, students build skills that they can apply in real-time—and complete their degree 100% online in as little as 18 months.

Integrate Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern University MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students gain unique perspectives as they learn from entrepreneurs and executives at top firms who have led through times of rapid change.

Live Faculty Connect Sessions

Optional live faculty sessions offer a collaborative and interactive learning environment where students can connect with their professors and peers weekly to discuss course concepts, receive feedback, and gain valuable insights.

EXPO Courses

In the EEBA 6401 Experiential Business Decision Making course, students take on the role of a C-suite business executive and tackle a real business challenge for an actual company, all while gaining real-time feedback from a seasoned C-suite executive.

Societal Challenge Courses

In the societal challenge courses, students build upon the skills gained in the core course focusing on stakeholder values and societal challenges by selecting either a diversity, equity, and inclusion course or a sustainability course. The skills gained through these courses are designed to prepare students for immediate impact and are exactly what employers are seeking.

In the EEBA 6403 EXPO Challenge: Diversity, Equity, and Inclusion course, students work as a team to solve a DEI-related business problem. The course format includes case studies, Q&A sessions, and guidance and feedback from industry experts and seasoned faculty members.

In the EEBA 6402 EXPO Challenge: Sustainability course, students work in teams to bring their experience and newly learned skills to solve a real sustainability-related business problem. These problems could range from environmental sustainability issues to societal challenges associated with climate change. The course format includes case studies, Q&A sessions, and guidance and feedback from industry experts and seasoned faculty members.

Program Requirements

Business Core Requirements

Code	Title	Hours
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
EEBA 6401	Experiential Business Decision Making	3
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
INNO 6318	Innovation Driven Strategy	2
MKTG 6318	Customer Value and the Enterprise	2
SCHM 6318	Managing Operations and the Supply Chain	2
STRT 6318	Strategic Planning for the Future	2

Societal Challenges Core

Code	Title	Hours
BUSN 6402	Stakeholder Values and Societal Challenges in Business	2
In consultation with advisor, complete one of the following:		2
EEBA 6402	EXPO Challenge: Sustainability	
EEBA 6403	EXPO Challenge: Diversity, Equity, and Inclusion	

Business Electives

Code	Title	Hours
In consultation with advisor, complete 24 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		24
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

In consultation with advisor, complete 5 semester hours of experiential elective coursework.		5
EEBA 6401	Experiential Business Decision Making	

Program Credit/GPA Requirements

50 total semester hours required
Minimum 3.000 GPA required

Business Administration, MBA—Part-Time

Northeastern University's D'Amore-McKim School of Business prepares business leaders to navigate the challenges of today's tech-forward business world. D'Amore-McKim's Part-Time MBA (https://damore-mckim.northeastern.edu/programs/part-time-mba/?utm_medium=website&utm_source=catalog&utm_campaign=part-time-mba) program helps students build broad business skill sets and specialized knowledge in their field. In this flexible program, students build skills they can apply in real time—and complete their degree part-time.

Integrate Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students gain unique perspectives as they learn from entrepreneurs and executives at top firms who have led through times of rapid change.

Select Up to Two Concentrations

Students may specialize their degree by selecting up to two in-demand business concentrations. Students gain exposure to diverse perspectives as they build competencies in multiple disciplines. This combination prepares them to lead in a complex business world.

Program Requirements

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
ACCT 6201	Financial Reporting and Managerial Decision Making 2	1.5
Management		
HRMG 6200	Managing People and Organizations	3
INTB 6200	Managing the Global Enterprise	3
MGSC 6200	Information Analysis	3
MGSC 6204	Managing Information Resources	1.5
SCHM 6201	Operations and Supply Chain Management	3
STRT 6200	Strategic Decision Making in a Changing Environment	3
Marketing		
MECN 6200	Global Competition and Market Dominance	3
MKTG 6200	Creating and Sustaining Customer Markets	3
Finance		
FINA 6200	Value Creation through Financial Decision Making	3
Entrepreneurship		
INNO 6200	Enterprise Growth and Innovation	3

Optional Concentration

Students may complete up to two of the following concentrations. Courses taken to fulfill concentrations may be used toward the elective section below.

- Analytics (p. 203)
- Brand Management (p. 203)
- Business Management for Healthcare (p. 203)
- Corporate Finance (p. 204)
- Corporate Innovation (p. 204)
- Corporate Renewal (p. 204)
- Entrepreneurship (p. 204)
- International Business (p. 205)
- Investments (p. 205)
- Leading People and Organizations (p. 205)
- Marketing (p. 206)
- Marketing Analytics (p. 206)
- Mutual Fund Management (p. 206)
- Operation and Supply Chain Management (p. 206)
- Sustainability and Business (p. 206)

Electives

Code	Title	Hours
In consultation with advisor, complete 27 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		27
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
No more than 6 semester hours can be drawn from 1-semester-hour courses.		

Program Credit/GPA Requirements

60 semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Elective		
In consultation with advisor, complete 3 graduate-level semester hours hours from the following for which prerequisites have been met:		3
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	

MKTG 6218	Managing Customer Engagement in a Service World
MKTG 6226	Consumer Behavior
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy
SCHM 6223	Managing Healthcare Supply Chain Operations

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6205	Financial Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	

CONCENTRATION IN CORPORATE RENEWAL

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
MKTG 6216	Market Focused Strategy	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	

ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
FINA 6260	Entrepreneurial Finance and Venture Capital
GE 5030	Iterative Product Prototyping for Engineers
INNO 6230	Platform Innovation
MKTG 6214	New Product Development

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6212	Cultural Aspects of International Business	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
INNO 6225	Acquisitions, Alliances, and Growth	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	
MKTG 6212	International Marketing	
SCHM 6213	Global Supply Chain Strategy	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours hours from the following for which prerequisites have been met:		6
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6292	Advanced Topics in Finance	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN MARKETING

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN MUTUAL FUND MANAGEMENT

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6219	Portfolio Management	3
Electives		
Complete 3 semester hours through our student-managed mutual fund. Each course is 1 semester hour and may be taken multiple times. At least 1 semester hour must be as a fund manager (FINA 6361).		3
FINA 6360	Fund Management for Analysts	
or FINA 6361	Fund Management for Managers	

CONCENTRATION IN OPERATION AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6213	Global Supply Chain Strategy	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	

INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation
MECN 6205	Sustainability and the Economics of Markets
MGMT 6225	Sustainability and Leadership
MGMT 6226	Sustainability and the Business Environment
SCHM 6221	Sustainability and Supply Chain Management

Combined Degrees

Northeastern University's D'Amore-McKim School of Business prepares leaders with deep business expertise. Our interdisciplinary combined degrees merge courses from two powerful D'Amore-McKim degree programs—the foundation of business expertise from our renowned MBA and deep skills of a specialized master's degree. Students complete their course of study by earning one combined degree.

Integrating classroom instruction with authentic, experience-powered learning is what we do best at D'Amore-McKim. It's an approach that expands students' knowledge base, develops their creative mindset, and prepares them to meet the shifting demands of today's business world. Students in our combined degree programs will have opportunities to dive headfirst into experiences that will give them fresh perspectives and in-demand skills.

Combined degree programs merge many core requirements from a D'Amore-McKim MBA with a specialized master's degree, allowing students to finish their program in less time than it would take to earn the two degrees separately. With this unique blend of knowledge, students become adaptable leaders prepared to navigate the complexity of decision making and tackle global business challenges head-on.

Students enroll in combined degree programs for full-time or part-time study.

Programs

- Accounting and Business Administration, MSAMBA (p. 209)
- Finance and Business Administration, MSFMBA (p. 211)
- Finance and Business Administration, MSFMBA—Online (p. 220)
- Finance and Business Administration, MSFMBA—Part-Time (p. 221)
- Quantitative Finance and Business Administration, MSFMBA (p. 227)

Accounting and Business Administration, MSAMBA

Overview

Northeastern University D'Amore-McKim School of Business' Master of Science in Accounting/Master of Business Administration (https://damore-mckim.northeastern.edu/programs/ms-accounting-mba/) combined-degree program puts nonaccounting majors on an accelerated path toward a successful career in accounting.

CULTIVATE DEEP ACCOUNTING KNOWLEDGE AND FUNDAMENTAL BUSINESS SKILLS

This 15-month curriculum is constructed in partnership with some of the leading accounting firms. Students will build knowledge in both accounting and business, including a four-course concentration in business analytics.

ANALYTICS CONCENTRATION

Students will develop their analytical skills through an MBA concentration in analytics. Through four courses students use data to support business decision making and create a measurable improvement on organizational performance.

INTEGRATE CLASSROOM AND PROFESSIONAL EXPERIENCES

Students will have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills. They apply their knowledge to actual business challenges through class projects. Starting in January, students leverage their newly acquired skills in a three-month paid corporate residency at a Big 4 or another top accounting firm. Far removed from the typical internship, students work full-time as an associate and have significant responsibilities to deliver on organizational goals.

Students may enroll in this 68-semester-hour master's degree program for full-time study.

Program Requirements

Business Administration Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
ENTR 6318	Innovation Driven Strategy	2
MGMT 6211	Business Law and Professional Ethics	2

Accounting Requirements

Code	Title	Hours
Required		
ACCT 6223	Audit and Other Assurance Services	6
ACCT 6224	Taxation of Individuals and Business Entities	6
ACCT 6226	Strategic Cost Management	3
ACCT 6227	Accounting for Business Combinations	3
ACCT 6228	Contemporary Issues in Accounting Theory	3
Financial Reporting		
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	3
ACCT 6220	Corporate Financial Reporting and Decision Making 1	3
ACCT 6221	Corporate Financial Reporting and Decision Making 2	6
ACCT 6222	Corporate and Governmental/Nonprofit Financial Reporting and Decision Making	6

Analytics Concentration Requirements

Code	Title	Hours
Required		
BUSN 6365	Business Analytics	3
MGSC 6201	Information Systems and Technology	3

MISM 6210	Information Visuals and Dashboards for Business	3
MISM 6212	Data Mining and Machine Learning for Business	3

Elective

Code	Title	Hours
Open Elective		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites are met. Choose from the following subject codes:		3
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

Corporate Residency Requirement

Code	Title	Hours
BUSN 6964	Co-op Work Experience	0

Program Credit/GPA Requirements

68 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Code	Title	Hours
Summer 1		
ACCT 6220	Corporate Financial Reporting and Decision Making 1	3
HRMG 6318	Managing the Organization	2
Summer 2		
ACCT 6221	Corporate Financial Reporting and Decision Making 2	6
BUSN 6365	Business Analytics	3
ENTR 6318	Innovation Driven Strategy	2
Fall		
ACCT 6222	Corporate and Governmental/Nonprofit Financial Reporting and Decision Making	6
ACCT 6223	Audit and Other Assurance Services	6
ACCT 6224	Taxation of Individuals and Business Entities	6
MGSC 6201	Information Systems and Technology	3
MISM 6201	Database Management for Business	3
Spring		
ACCT 6226	Strategic Cost Management	3
BUSN 6964	Co-op Work Experience	0
MKTG 6318	Customer Value and the Enterprise	2
SCHM 6318	Managing Operations and the Supply Chain	2
Summer 1		
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	3
ACCT 6227	Accounting for Business Combinations	3
FINA 6318	Financial Management	2
MISM 6212	Data Mining and Machine Learning for Business	3
Summer 2		
ACCT 6228	Contemporary Issues in Accounting Theory	3
MGMT 6211	Business Law and Professional Ethics	2
STRT 6318	Strategic Planning for the Future	2
Elective		3
Total Hours		**68**

Finance and Business Administration, MSFMBA

Overview

Northeastern University's D'Amore-McKim School of Business prepares resilient finance leaders to weather a changing business world. The Full-Time MS in Finance/MBA (https://damore-mckim.northeastern.edu/programs/full-time-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ftmsfmba) combined degree program integrates business knowledge with a deep understanding of finance, preparing students to be the leaders that today's business world demands.

Integrating Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students will gain invaluable experience at the intersection of business and finance through a corporate residency, translating ideas into action for three, six, or up to 12 months. Far removed from the typical internship, students work full-time at a leading firm or startup in their field and have significant responsibilities as they work to deliver on organizational goals.

Develop Deep Finance Expertise

Students pursue a major in finance laser-focused on financial theory and practice. Students gain advanced financial skills and high-level knowledge to drive financial strategy, increase shareholder value, support flexible operating models, minimize risk, and maximize revenue through their finance courses.

Students can gain valuable experience performing equity research and portfolio management in a student-managed mutual fund, the 360 Huntington Fund. By participating in the Fund, students may complete 1 semester hour of coursework, with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Select a Concentration

Students specialize their degree by selecting a concentration. Our faculty recommend the analytics concentration. Or, students may choose another in-demand business concentration or add expertise in another professional area by choosing an interdisciplinary MBA x concentration offered through partnerships with other Northeastern colleges.

Program Requirements

Business Administration Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
BUSN 6363	Social Impact of Business	2
INNO 6318	Innovation Driven Strategy	2
Career Management		
BUSN 6200	Career Management	0
BUSN 6950	MBA Skills Workshop	0
Corporate Residency		
BUSN 6954	Co-op Work Experience - Half-Time	0
BUSN 6964	Co-op Work Experience	0
BUSN 6970	Professional Projects	0
Three-month, six-month, or two six-month corporate residency placement options		

Finance Major Requirements

Code	Title	Hours
Required		
FINA 6202	Analysis of Financial Institutions and Markets	3
FINA 6203	Investment Analysis	3

FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3
FINA 6320	Advanced Financial Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours of FINA courses for which prerequisites have been met.		6

Concentration Options

Complete one of the following concentrations:

- Analytics (p. 212) (*Recommended)*
- Brand Management (p. 213)
- Business Management for Healthcare (p. 213)
- Corporate Innovation (p. 213)
- Entrepreneurship (p. 213)
- International Business (p. 214)
- Leading People and Organizations (p. 214)
- Marketing (p. 214)
- Marketing Analytics (p. 215)
- Operations and Supply Chain Management (p. 215)
- Sustainability and Business (p. 215)
- MBA x Artificial Intelligence (p. 215)
- MBA x Bioinformatics (p. 216)
- MBA x Biotechnology Industry (p. 216)
- MBA x Cybersecurity (p. 216)
- MBA x Data Science (p. 216)
- MBA x Data Visualization (p. 216)
- MBA x Experience Design (p. 216)
- MBA x Game Design and Analytics (p. 216)
- MBA x Information Ethics (p. 217)
- MBA x Media Innovation and Advocacy (p. 217)
- MBA x Public Health
- MBA x Software Development (p. 217)

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
BUSN 6365	Business Analytics	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
ECON 5140	Applied Econometrics	
IE 6600	Computation and Visualization for Analytics	
INSH 5302	Information Design and Visual Analytics	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
MKTG 6320	Advanced Marketing Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
FINA 6220	Healthcare Finance	3
or SCHM 6223	Managing Healthcare Supply Chain Operations	
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Optional Electives		
Note: Electives are not required; the following course(s) are suggested beyond the concentration:		3-9
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	
MGSC 6281	Service Innovation and Management	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12

ENTR 6210	Managing Operations in Early Stage Ventures
ENTR 6212	Business Planning for New Ventures
ENTR 6214	Social Enterprise
ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
FINA 6260	Entrepreneurial Finance and Venture Capital
GE 5030	Iterative Product Prototyping for Engineers
INNO 6230	Platform Innovation
MKTG 6214	New Product Development

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6200	Managing the Global Enterprise	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
FINA 6204	International Financial Management	
INTB 6212	Cultural Aspects of International Business	
INTB 6224	Competing to Win in Emerging Markets	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6238	Global Project	
MKTG 6212	International Marketing	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
HRMG 6230	Leading a Diverse and Inclusive Organization	
HRMG 6280	The Human Side of Innovation	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

Note: Only one course outside HRMG and MGMT may be taken to fulfill the concentration.

CONCENTRATION IN MARKETING

Code	Title	Hours
Required		
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	

MKTG 6216	Market Focused Strategy
MKTG 6218	Managing Customer Engagement in a Service World
MKTG 6222	Digital Marketing
MKTG 6223	Brand and Advertising Management
MKTG 6224	B2B and Strategic Sales
MKTG 6226	Consumer Behavior
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit
MKTG 6234	Marketing Analytics

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6234	Marketing Analytics	3
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
Required		
SCHM 6213	Global Supply Chain Strategy	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6200	Global Competition and Market Dominance	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

CONCENTRATION IN MBA X ARTIFICIAL INTELLIGENCE

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	4
CS 5170	Artificial Intelligence for Human-Computer Interaction	4
CS 6140	Machine Learning	4

CONCENTRATION IN MBA X BIOINFORMATICS

Code	Title	Hours
BINF 6200	Bioinformatics Programming	4
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4

CONCENTRATION IN MBA X BIOTECHNOLOGY INDUSTRY

Code	Title	Hours
BIOT 5120	Foundations in Biotechnology	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
Complete 1 additional semester hour of BUSN coursework.		1

CONCENTRATION IN MBA X CYBERSECURITY

Code	Title	Hours
CY 5001	Cyberspace Technology and Applications	4
CY 5250	Decision Making for Critical Infrastructure	4
CY 6760	Wireless and Mobile Systems Security	4

CONCENTRATION IN MBA X DATA SCIENCE

Code	Title	Hours
DS 5110	Introduction to Data Management and Processing	4
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4

CONCENTRATION IN MBA X DATA VISUALIZATION

Code	Title	Hours
Required		
ARTG 5150	Information Visualization Principles and Practices	3
ARTG 5151	Information Design Critique Seminar	1
ARTG 5330	Visualization Technologies 1: Fundamentals	4
Electives		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
ARTG 5310	Visual Cognition	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	

CONCENTRATION IN MBA X EXPERIENCE DESIGN

Code	Title	Hours
Required		
ARTG 5610	Design Systems	4
ARTG 6310	Design for Behavior and Experience	4
Electives		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	

CONCENTRATION IN MBA X GAME DESIGN AND ANALYTICS

Code	Title	Hours
Required		
GSND 5110	Game Design and Analysis	4
GSND 6350	Data-Driven Player Modeling	4
Electives		

In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
GSND 6320	Psychology of Play	
GSND 6330	Player Experience	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

CONCENTRATION IN MBA X INFORMATION ETHICS

Code	Title	Hours
In consultation with advisor, complete 8 graduate-level semester hours for which prerequisites have been met. Choose from the following:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
PHIL 5001	Global Justice	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

CONCENTRATION IN MBA X MEDIA INNOVATION AND ADVOCACY

Code	Title	Hours
Required		
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 6340	Fundamentals of Digital Journalism	4
Electives		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
JRNL 5311	Design for Storytelling	
JRNL 6305	Topics	
JRNL 6341	Telling Your Story with Data	

CONCENTRATION IN MBA X PUBLIC HEALTH

Code	Title	Hours
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 6208	Urban Community Health Assessment	3

CONCENTRATION IN MBA X SOFTWARE DEVELOPMENT

Code	Title	Hours
CS 5500	Foundations of Software Engineering	4
CS 5520	Mobile Application Development	4
CS 5610	Web Development	4

ELECTIVES

Code	Title	Hours
Experiential Requirement		
In consultation with advisor, complete 3 semester hours from the following:		3
BUSN 6351	Experiential Education	
BUSN 6945	Washington Campus Seminar	
ENTR 5000	New Venture Development	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
INTB 6230	Global Field Study	

INTB 6238	Global Project	
MKTG 6606	Digital, Analytics, Technology, and Automation Advanced Research Practicum	
Open Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		6
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
Interdisciplinary Requirement		
In consultation with advisor, complete 6 graduate-level semester hours, for which the requirements have been met, offered in partnership with other Northeastern University colleges. Choose from the following:		6
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 6214	Experimental Design and Biostatistics	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 5110	Introduction to Data Management and Processing	
ECON 5140	Applied Econometrics	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 6600	Computation and Visualization for Analytics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7374	Special Topics in Industrial Engineering	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
JRNL 5311	Design for Storytelling	
JRNL 5400	Media and Advocacy in Theory and Practice	

JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

67 semester hours required
Minimum 3.000 GPA required

Finance and Business Administration, MSFMBA—Online

Overview

Northeastern University's D'Amore-McKim School of Business prepares leaders highly skilled in finance and business. Our Online Master of Science in Finance/Master of Business Administration (https://damore-mckim.northeastern.edu/programs/online-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=onlinemsfmba) combined degree program integrates business knowledge with a deep understanding of finance, preparing students to be the leaders that today's business world demands. In this flexible program, students build skills that they can apply in real time—and complete their degree virtually.

Program Requirements

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6272	Financial Statement Preparation and Analysis	2.25
ACCT 6273	Identifying Strategic Implications in Accounting Data	2.25
Management		
HRMG 6200	Managing People and Organizations	3
INTB 6200	Managing the Global Enterprise	3
MGMT 6213	Managing Ethics in the Workplace and Marketplace	3
MGSC 6204	Managing Information Resources	1.5
SCHM 6201	Operations and Supply Chain Management	3
Marketing		
MECN 6200	Global Competition and Market Dominance	3
MKTG 6200	Creating and Sustaining Customer Markets	3
Analysis		
FINA 6200	Value Creation through Financial Decision Making	3
MGSC 6200	Information Analysis	3
STRT 6200	Strategic Decision Making in a Changing Environment	3
Entrepreneurship		
INNO 6200	Enterprise Growth and Innovation	3
Finance		
FINA 6203	Investment Analysis	3
FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3

Electives

Code	Title	Hours
Finance Electives		
In consultation with advisor, complete 9 graduate-level semester hours of FINA courses for which prerequisites have been met.		9
Business Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, TECE		

Program Credit/GPA Requirements

63 semester hours required
Minimum 3.000 GPA required

Finance and Business Administration, MSFMBA—Part-Time

Northeastern University's D'Amore-McKim School of Business prepares leaders highly skilled in finance and business. D'Amore-McKim's Part-Time MS in Finance/MBA (https://damore-mckim.northeastern.edu/programs/part-time-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ptmsfmba) combined degree program integrates business knowledge with a deep understanding of finance, preparing students to be the leaders that today's business world demands. In this flexible program, students build skills they can apply in real time—and complete their degree part-time.

Integrating Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students benefit from the experience of their faculty as finance experts and business leaders who understand today's challenges because they've experienced them firsthand.

Develop Deep Finance Expertise

Students pursue a major in finance laser-focused on financial theory and practice. Students have an opportunity to gain advanced financial skills and high-level knowledge to drive financial strategy, increase shareholder value, support flexible operating models, minimize risk, and maximize revenue through the finance courses.

Students can gain experience performing equity research and portfolio management in a student-managed mutual fund, The 360 Huntington Fund. By participating in the Fund, students may earn one semester hour per semester with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Select a Concentration

Students specialize their degree by selecting a concentration. They gain exposure to diverse perspectives as they build competencies in multiple disciplines. This combination of their finance major and a concentration of their choosing prepares them to lead in a complex business world.

Program Requirements

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
ACCT 6201	Financial Reporting and Managerial Decision Making 2	1.5
Management		
HRMG 6200	Managing People and Organizations	3
INTB 6200	Managing the Global Enterprise	3
MGSC 6200	Information Analysis	3
MGSC 6204	Managing Information Resources	1.5
SCHM 6201	Operations and Supply Chain Management	3
STRT 6200	Strategic Decision Making in a Changing Environment	3
Marketing		
MECN 6200	Global Competition and Market Dominance	3
MKTG 6200	Creating and Sustaining Customer Markets	3
Entrepreneurship		
INNO 6200	Enterprise Growth and Innovation	3
Finance		
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6203	Investment Analysis	3
FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3

Optional Concentrations

Students may complete up to two of the following concentrations. Courses taken to fulfill concentrations may be used toward the electives section below.

- Analytics (p. 222)
- Brand Management (p. 222)
- Business Management for Healthcare (p. 223)

- Corporate Finance (p. 223)
- Corporate Innovation (p. 223)
- Corporate Renewal (p. 224)
- Entrepreneurship (p. 224)
- International Business (p. 224)
- Investments (p. 224)
- Leading People and Organizations (p. 225)
- Marketing (p. 225)
- Marketing Analytics (p. 225)
- Mutual Fund Management (p. 225)
- Operations and Supply Chain Management (p. 226)
- Sustainability and Business (p. 226)

Electives

Code	Title	Hours
Finance Electives		
In consultation with advisor, complete 12 graduate-level semester hours of FINA courses for which prerequisites have been met.		12
Business Electives		
In consultation with advisor, complete 15 graduate-level semester hours from the following for which prerequisites have been met:		15
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		

Program Credit/GPA Requirements

72 total semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	

MKTG 6226	Consumer Behavior
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Elective		
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6205	Financial Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	

CONCENTRATION IN CORPORATE RENEWAL

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
MKTG 6216	Market Focused Strategy	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
ENTR 6340	The Technical Entrepreneur as Leader	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6212	Cultural Aspects of International Business	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
INNO 6225	Acquisitions, Alliances, and Growth	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	
MKTG 6212	International Marketing	
SCHM 6213	Global Supply Chain Strategy	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6207	Financial Modeling	

FINA 6211	Financial Risk Management
FINA 6212	Fixed Income Securities and Risk
FINA 6213	Investment Banking
FINA 6217	Real Estate Finance and Investment
FINA 6219	Portfolio Management
FINA 6292	Advanced Topics in Finance

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN MARKETING

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN MUTUAL FUND MANAGEMENT

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6219	Portfolio Management	3
Electives		
Complete 3 semster hours through our student-managed mutual fund. Each course is 1 semester hour and may be taken multiple times. At least 1 semster hour must be as a fund manager (FINA 6361).		3

FINA 6360	Fund Management for Analysts
or FINA 6361	Fund Management for Managers

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6213	Global Supply Chain Strategy	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

Quantitative Finance and Business Administration, MSFMBA

Northeastern University's D'Amore-McKim School of Business positions students to become fintech leaders ready for the rapidly changing financial services industry. The Full-Time MS in Finance/MBA (https://damore-mckim.northeastern.edu/programs/full-time-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ftmsfmba) combined degree program integrates business knowledge with advanced mathematical and technical skills.

Integrating Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students will gain invaluable experience at the intersection of business and finance through a corporate residency, translating ideas into action for three, six, or up to 12 months. Far removed from the typical internship, students work full-time at a leading firm or startup in their field and have significant responsibilities as they work to deliver on organizational goals.

Cultivate Advanced Finance and Fintech Skills

Students pursue a major in quantitative finance that emphasizes the intersection of technology and business analytics with finance. Coursework integrates economics, mathematics, and computer science with financial theory and application. Students have an opportunity to develop mathematically demanding quantitative skills and fintech expertise.

Students can gain valuable experience performing equity research and portfolio management in a student-managed mutual fund, The 360 Huntington Fund. By participating in the Fund, students may earn 1 semester hour per semester with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Select a Finance Concentration

Students specialize their degree by selecting a corporate finance or investments concentration. In the corporate finance concentration, students master a range of financial, analytical, and communication skills for increasing profitability and shareholder value. In the investments concentration, students become knowledgeable managers of assets for individuals or institutions, building their expertise in capital allocation, valuation, or risk management.

Program Requirements

Business Administration Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
BUSN 6363	Social Impact of Business	2
INNO 6318	Innovation Driven Strategy	2
Career Management		
BUSN 6200	Career Management	0
BUSN 6950	MBA Skills Workshop	0
Corporate Residency		
BUSN 6954	Co-op Work Experience - Half-Time	0
BUSN 6964	Co-op Work Experience	0
BUSN 6970	Professional Projects	0
Three-month, six-month, or two six-month corporate residency placement options		

Quantitative Finance Major Requirements

Code	Title	Hours
FINA 6203	Investment Analysis	3
FINA 6332	Fundamentals of Financial Math and Financial Markets	3
FINA 6333	Data Analytics in Finance	3
FINA 6334	Empirical Methods in Finance	3

FINA 6335	Derivatives and Risk Analytics	3
In consultation with advisor, complete 3 graduate-level semester hours in the FINA department for which prerequisites have been met.		3

Concentration Options

Complete one of the following concentrations:

- Corporate Finance (p. 228)
- Investments (p. 228)

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6320	Advanced Financial Management	3
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
FINA 6203	Investment Analysis	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6203	Investment Analysis	
FINA 6204	International Financial Management	
FINA 6205	Financial Strategy	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	
MECN 6200	Global Competition and Market Dominance	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6320	Advanced Financial Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
MECN 6200	Global Competition and Market Dominance	

Electives

Code	Title	Hours
Experiential Requirement		
In consultation with advisor, complete 3 semester hours from the following:		3
BUSN 6351	Experiential Education	
BUSN 6945	Washington Campus Seminar	
ENTR 5000	New Venture Development	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
INTB 6230	Global Field Study	
INTB 6238	Global Project	
MKTG 6606	Digital, Analytics, Technology, and Automation Advanced Research Practicum	
Open Electives		
In consultation with advisor, complete 12 graduate-level semester hours from the following for which prerequisites have been met:		12
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
Interdisciplinary Requirements		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met, offered in partnership with other Northeastern University colleges:		6
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 6214	Experimental Design and Biostatistics	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 5110	Introduction to Data Management and Processing	
ECON 5140	Applied Econometrics	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
IE 5617	Lean Concepts and Applications	

IE 5640	Data Mining for Engineering Applications
IE 6200	Engineering Probability and Statistics
IE 6600	Computation and Visualization for Analytics
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7374	Special Topics in Industrial Engineering
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
JRNL 5311	Design for Storytelling
JRNL 5400	Media and Advocacy in Theory and Practice
JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

67 total semester hours required

Minimum 3.000 GPA required

Dual Degrees

Northeastern University's D'Amore-McKim School of Business prepares leaders with deep business expertise. Our interdisciplinary dual degree programs offer a powerful opportunity for students to build their future-forward business skills through an MBA and a deep foundation in a nonbusiness area. Dual degree students earn two degrees simultaneously—an MBA and a second degree in a nonbusiness field from another Northeastern school or college.

At Northeastern, experience is at the heart of everything we do. Our experience-powered educational model fuses robust classroom education with real-world application. Northeastern students benefit from opportunities to apply what they've learned in the classroom to real challenges in business and the industry of their second degree.

Dual degree programs merge many core requirements from a D'Amore-McKim MBA with a specialized master's degree, allowing students to finish their program in less time than it would take to earn the two degrees separately. This distinctive blend of knowledge and skill positions dual degree students to lead in two sectors.

Students enroll in dual degree programs for full-time study.

Programs

- Law, JD / Accounting and Business Administration, MSAMBA (p. 232)
- Law, JD / Business Administration, MBA—Full-Time (p. 233)
- Law, LLM / Business Administration, MBA—Full-Time (p. 234)

Law, JD / Accounting and Business Administration, MSAMBA

The Northeastern University School of Law and the D'Amore-McKim School of Business offer a combined degree that results in a Juris Doctor and Master of Science in Accounting and Business Administration. Students without a previous accounting background study how to operate effectively in specialized fields such as taxation law, corporate finance, or mergers and acquisitions. Students have an opportunity to gain advanced legal expertise alongside future-forward accounting and business knowledge.

Our combined degree program is a full-time, four-year course of study. Students usually complete two years of the law curriculum, followed by 15 months of the combined accounting and business administration curriculum, before returning to finish their studies at the School of Law.

Students gain valuable work experience in law and public accounting before they graduate. They can make a real impact during two co-ops in legal departments, law firms, government agencies, judges' chambers, or other legal settings. Students also experience working as an accounting associate during the busy tax season through a corporate residency at Big 4 or other globally known accounting firms.

Students concurrently pursue the two degrees and may count 12 semester hours of nonlaw coursework from the accounting and business administration curriculum toward the law curriculum. The corporate residency at an accounting firm may fulfill the requirement for the third co-op required for the law curriculum. Students are encouraged to consult their law advisor to select accounting and business classes that satisfy JD requirements.

Law, JD / Business Administration, MBA—Full-Time

The JD/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to operate in increasingly interdependent legal and business spheres. As new technology disrupts industries and data availability and sophisticated use shifts the business landscape, our JD/MBA (https://damore-mckim.northeastern.edu/programs/jd-mba/) students prepare to guide corporate-level strategy and become the leaders businesses need.

Our JD/MBA program is a full-time, four-year course of study that includes three semester-long co-op work experiences arranged through Northeastern Law. Students complete three years of law school, taking a break after either year one or two to complete a year of business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they may add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may count 9 semester hours of nonlaw coursework from the JD curriculum toward the interdisciplinary and elective requirements of the MBA degree and up to 12 semester hours from the MBA curriculum toward the JD degree. Students should work with their MBA advisor to select JD courses that will fulfill MBA requirements and with their law advisor to choose MBA courses that will satisfy JD requirements.

Law, LLM / Business Administration, MBA—Full-Time

Law, LLM / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to harness legal and business skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, 20-month course of study. Students start taking classes in business school, take law courses next, and finish with business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by choosing an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

Law, LLM—Experiential / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern Law and the D'Amore-McKim School of Business to position students to harness business and legal skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, two-year course of study that includes a semester-long co-op work experience arranged through Northeastern Law. During the course of their studies, students take classes in business school and the School of Law and complete a law co-op.

Students specialize their degree by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students will concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

Graduate Certificates

Northeastern University's D'Amore-McKim School of Business helps professionals quickly develop the knowledge they need through short-term programs focused on a specific business area. Students in D'Amore-McKim's graduate certificates may choose to fill in gaps in their business knowledge or strengthen their skills in market-aligned areas to expand their career potential.

Here, students will have the opportunity to learn from our respected business faculty, many of whom are consultants, respected management leaders, and startup founders. Students will study alongside classmates with diverse backgrounds who share their passions and interests.

Students enroll in our 12–15 credit graduate certificate programs for full-time, part-time, or online study.

Programs

- Accounting and Financial Decision Making, Graduate Certificate (p. 236)
- Brand Management, Graduate Certificate (p. 237)
- Business Administration, Graduate Certificate (p. 238)
- Business Administration, Graduate Certificate—Online (p. 240)
- Business Analytics, Graduate Certificate (p. 242)
- Business Management for Healthcare, Graduate Certificate (p. 243)
- Corporate Finance, Graduate Certificate (p. 244)
- Corporate Innovation, Graduate Certificate (p. 245)
- Corporate Renewal, Graduate Certificate (p. 246)
- Entrepreneurship, Graduate Certificate (p. 247)
- International Business, Graduate Certificate (p. 248)
- Investments, Graduate Certificate (p. 249)
- Leading People and Organizations, Graduate Certificate (p. 250)
- Marketing, Graduate Certificate (p. 251)
- Marketing Analytics, Graduate Certificate (p. 252)
- Mutual Fund Management, Graduate Certificate (p. 253)
- Supply Chain Management, Graduate Certificate (p. 254)
- Sustainability and Business, Graduate Certificate (p. 255)

Accounting and Financial Decision Making, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Accounting and Financial Decision Making (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/accounting/?utm_medium=website&utm_source=catalog&utm_campaign=gcafdm) helps students build critical skills for essential financial practices, positioning them for a managerial role. Students learn to see business problems clearly, identify the strategic implications of potential solutions, and develop innovative ways to achieve organizational goals.

In just five courses—with the option to take a sixth to deepen their learning—students will advance their understanding of critical financial practices and build the skills necessary to analyze financial statements, assess risk, and make informed decisions. Depending on the electives they choose, they'll explore critical topics in greater depth, such as resource acquisition, capital budgeting, and information technology.

Students may enroll in the Graduate Certificate in Accounting and Financial Decision Making for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
ACCT 6200 and ACCT 6201	Financial Reporting and Managerial Decision Making 1 and Financial Reporting and Managerial Decision Making 2	4.5
FINA 6219	Portfolio Management	3
MGSC 6200	Information Analysis	3

Elective

Code	Title	Hours
In consultation with advisor, complete one graduate-level course for which prerequisites have been met. Some courses may fulfill requirements of the MBA program.		1.5-3
HRMG 6200	Managing People and Organizations	
INNO 6200	Enterprise Growth and Innovation	
INTB 6200	Managing the Global Enterprise	
MECN 6200	Global Competition and Market Dominance	
MGSC 6204	Managing Information Resources	
MKTG 6200	Creating and Sustaining Customer Markets	
STRT 6200	Strategic Decision Making in a Changing Environment	

Program Credit/GPA Requirements

12 total semester hours required; may complete a maximum of 15 semester hours
Minimum 3.000 GPA required

Brand Management, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Brand Management (https://damore-mckim.northeastern.edu/programs/brand-management-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=GCBM) helps students create and manage brands that resonate with consumers. Students develop a strategic mindset and specialized skills equipped for today's dynamic digital marketing environment.

In just four courses—with an option to take a fifth to deepen your learning—you'll learn how to develop an integrated brand strategy that helps position an organization for growth. Your coursework will explore the brand-building process across platforms, and you'll choose electives that take a deeper look at topics such as consumer behavior, marketing research, and innovation.

Students may enroll in our Graduate Certificate in Brand Management for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
MKTG 6200	Creating and Sustaining Customer Markets	3
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours

Minimum 3.000 GPA required

Business Administration, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Business Administration (https://damore-mckim.northeastern.edu/programs/business-administration-certificate/?utm_medium=content&utm_source=catalog&utm_campaign=dmsb-melt-evg-glo-comp-bos-bus-gcbaa-con-2022_02_25-gcba_catalog) helps students gain forward-thinking, relevant, in-demand business skills.

There are four ways to earn this graduate certificate:

Part-Time MBA Path Curriculum
Students take six foundational quantitative and business classes from the D'Amore-McKim MBA curriculum in the Part-Time MBA Path (https://damore-mckim.northeastern.edu/programs/business-administration-certificate/academic-details/part-time-mba-path-curriculum/).

Build-Your-Own Curriculum
Students can align their courses to their professional goals by choosing one area of focus or widening their scope and building expertise on all business fundamentals as they build their curriculum (https://damore-mckim.northeastern.edu/programs/business-administration-certificate/academic-details/build-your-own-curriculum/).

Eight-Month International Student Cohort Curriculum
Students take five courses as a part of an international student cohort. Students expand their business knowledge in financial reporting, managerial decision making, information analysis, and managing information resources.

Accelerated Four-Month Curriculum
Students build business expertise in just one semester through our four-month certificate (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/business-administration/academics/accelerated/?utm_medium=website&utm_source=catalog&utm_campaign=gcba). Students can select any graduate-level business courses offered that semester, provided they meet course prerequisites.

Students may enroll in the Graduate Certificate in Business Administration for full-time or part-time study.

Program Requirements

Part-Time MBA Path Curriculum

Code	Title	Hours
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
ACCT 6201	Financial Reporting and Managerial Decision Making 2	1.5
FINA 6200	Value Creation through Financial Decision Making	3
HRMG 6200	Managing People and Organizations	3
MGSC 6200	Information Analysis	3
MGSC 6204	Managing Information Resources	1.5

Eight-Month International Student Cohort Curriculum

Code	Title	Hours
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
HRMG 6200	Managing People and Organizations	3
INNO 6200	Enterprise Growth and Innovation	3
INTB 6200	Managing the Global Enterprise	3
MKTG 6200	Creating and Sustaining Customer Markets	3

Build-Your-Own Curriculum

Code	Title	Hours
In consultation with advisor, complete 12–15 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

Accelerated Four-Month Curriculum

Code	Title	Hours
In consultation with advisor, complete 12–15 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.000 GPA required

Business Administration, Graduate Certificate—Online

Northeastern University D'Amore-McKim School of Business' Online Graduate Certificate in Business Administration (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/business-administration/?utm_medium=website&utm_source=catalog&utm_campaign=gcba) helps students gain forward-thinking, in-demand business skills. Students can align their interests with their goals by choosing one area of focus, or they may choose to widen their scope and build expertise on all business fundamentals.

Students select four classes from finance, marketing, sustainability, entrepreneurship, investments, management, healthcare, or supply chain management.

Program Requirements

Core Requirements

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ACCT 6272	Financial Statement Preparation and Analysis	
ACCT 6273	Identifying Strategic Implications in Accounting Data	
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6211	Entrepreneurship: Services and Retail Business Creation	
ENTR 6212	Business Planning for New Ventures	
ENTR 6216	Global Social Entrepreneurship and Innovation	
FINA 6200	Value Creation through Financial Decision Making	
FINA 6203	Investment Analysis	
FINA 6204	International Financial Management	
FINA 6205	Financial Strategy	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
HRMG 6200	Managing People and Organizations	
HRMG 6217	Virtual, Vicious Teams: Building and Leading High-Performance Teams	
INNO 6200	Enterprise Growth and Innovation	
INTB 6200	Managing the Global Enterprise	
INTB 6212	Cultural Aspects of International Business	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6200	Global Competition and Market Dominance	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6222	Healthcare Industry	
MGMT 6223	Strategic Decision Making for Healthcare Professionals	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
MGSC 6200	Information Analysis	
MGSC 6204	Managing Information Resources	
MGSC 6221	Introduction to Health Informatics and Health Information Systems	
MKTG 6200	Creating and Sustaining Customer Markets	
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6223	Brand and Advertising Management	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6211	Logistics and Transportation Management	

MKTG 6212	International Marketing
SCHM 6213	Global Supply Chain Strategy
SCHM 6214	Sourcing and Procurement
SCHM 6221	Sustainability and Supply Chain Management

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Business Analytics, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Business Analytics (https://damore-mckim.northeastern.edu/programs/business-analytics-certificate/?utm_medium=content&utm_source=catalog&utm_campaign=dmsb-melt-evg-glo-comp-bos-bus-gcba-con-2022_02_25-gcbanalytics_catalog) is designed to equip students to use data to analyze information, generate insights, and translate them into sound strategy. Students build expertise in up-to-the-moment methods for using analytics in business.

In just four courses—with the option to take a fifth to deepen their knowledge base—students view the business world through a datacentric lens. Depending on their chosen electives, students explore critical topics in greater depth, such as advanced data mining techniques, visual dashboards, artificial intelligence, and programming languages.

Students may enroll in the Graduate Certificate in Business Analytics for full-time study.

Program Requirements

Core Requirements

Code	Title	Hours
MISM 6200	Introduction to Business Analytics	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
SCHM 6215	Supply Chain Analytics	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours

Minimum 3.000 GPA required

Business Management for Healthcare, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Business Management for Healthcare (https://damore-mckim.northeastern.edu/programs/business-management-healthcare-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcbmh) helps students gain critical business knowledge, up-to-the-moment technical skills, and a core understanding of key healthcare issues.

In just four courses—with an option to take a fifth to deepen their learning—students study the fundamentals of the American healthcare system and identify its unique challenges and opportunities. Depending on the electives they choose, students can take a deeper look at health policy, health informatics, and supply chain management for healthcare.

Students enroll in the Graduate Certificate in Business Management for Healthcare for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3

Electives

Code	Title	Hours
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
HINF 5101	Introduction to Health Informatics and Health Information Systems	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Corporate Finance, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Corporate Finance (https://damore-mckim.northeastern.edu/programs/corporate-finance-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gccf) helps students advance their finance careers by building cutting-edge business planning, financial analysis, and investment management skill sets.

In just four courses—with the option to take a fifth course to further their learning—students have an opportunity to develop a deeper understanding of domestic and international markets, building a rich context for effective financial decision making. Depending on their chosen electives, students explore critical topics in greater depth, such as investment banking, mergers and acquisitions, and business turnarounds.

Students enroll in the Graduate Certificate in Corporate Finance for part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
FINA 6205	Financial Strategy	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met. Some courses may also apply to requirements of the MBA program.		9
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
FINA 6204	International Financial Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	
HRMG 6200	Managing People and Organizations	
INTB 6200	Managing the Global Enterprise	
MECN 6200	Global Competition and Market Dominance	
MKTG 6200	Creating and Sustaining Customer Markets	
STRT 6200	Strategic Decision Making in a Changing Environment	

Program Credit/GPA Requirements

12 semester hours required; may complete a maximum of 15 semester hours
Minimum 3.000 GPA required

Corporate Innovation, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Corporate Innovation (https://damore-mckim.northeastern.edu/programs/corporate-innovation-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcci) prepares students with an agile, curious mindset and expertise in proven innovation practices.

In just four courses—with the option to take a fifth course to deepen their knowledge—students learn essential innovation tools for improving processes, products, and services, emphasizing driving growth through innovation. Depending on the electives chosen, students explore critical topics in greater depth, such as social enterprise, business model design, or corporate entrepreneurship.

Students may enroll in the Graduate Certificate in Corporate Innovation for full-time and part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
INNO 6200	Enterprise Growth and Innovation	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6212	Business Planning for New Ventures	
ENTR 6300	Managing a Technology-Based Business	
ENTR 6340	The Technical Entrepreneur as Leader	
GE 5100	Product Development for Engineers	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	
MKTG 6214	New Product Development	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Corporate Renewal, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Corporate Renewal (https://damore-mckim.northeastern.edu/programs/corporate-renewal-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gccr) is designed to prepare students with the skills and knowledge to reinvent troubled companies. Students develop an agile and strategic mindset—and a portfolio of skills from multiple disciplines.

In just four courses—with the option to take a fifth course to expand their learning—students have an opportunity to develop a deeper understanding of the management and financial issues companies face when they're in crisis and to build skills to facilitate the process of reinvention and restructuring. They study the essentials of guiding companies through workouts, bankruptcies, liquidations, and restructuring—and help them find success on the other side. Depending on their chosen electives, students explore critical topics in greater depth, such as strategic planning, innovation, and negotiation.

Students may enroll in our Graduate Certificate in Corporate Renewal for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
FINA 6200	Value Creation through Financial Decision Making	3
HRMG 6200	Managing People and Organizations	3
MKTG 6200	Creating and Sustaining Customer Markets	3

Electives

Code	Title	Hours
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
FINA 6216	Valuation and Value Creation	
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	

Program Credit/GPA Requirements

12 total semester hours required; may complete a maximum of 15 semester hours
Minimum 3.000 GPA required

Entrepreneurship, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Entrepreneurship (https://damore-mckim.northeastern.edu/programs/entrepreneurship-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gce) is designed to help students learn how to launch a cutting-edge venture and develop a business plan for a high-potential idea. Students have an opportunity to build a strong foundation of business knowledge that includes product development, planning, and competitive strategies.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students study core business skills and essential best practices for commercializing innovation in a digital economy. Depending on their chosen electives, students explore critical topics in greater depth, such as disruptive technologies, lean design, or financing.

Students may enroll in the Graduate Certificate in Entrepreneurship for full-time or part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
INNO 6200	Enterprise Growth and Innovation	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

International Business, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in International Business (https://damore-mckim.northeastern.edu/programs/international-business-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcib) helps students cultivate a global mindset and develop the cultural agility required to lead in an increasingly globalized business world.

In just four courses—with the option to take a fifth to deepen their knowledge base—students study international trade issues, legal and political considerations for decision making, international currency markets, and significant cultural and ethical issues. Depending on their chosen electives, students explore critical topics in greater depth, such as competing in emerging markets or issues affecting global supply chain design.

Students may enroll in the Graduate Certificate in International Business for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
INTB 6200	Managing the Global Enterprise	3
INTB 6212	Cultural Aspects of International Business	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
INNO 6200	Enterprise Growth and Innovation	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	
MECN 6200	Global Competition and Market Dominance	
MKTG 6212	International Marketing	
SCHM 6213	Global Supply Chain Strategy	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Investments, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Investments (https://damore-mckim.northeastern.edu/programs/investments-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gci) is designed to equip students with a deep understanding of global markets, financial best practices, and quantitative and analytical tools.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students have an opportunity to learn cutting-edge theories and quantitative tools for identifying, valuing, and analyzing investment choices. Depending on their chosen electives, students explore critical topics in greater depth, such as real estate investing, personal financial planning, risk management, and insurance.

Students enroll in our Graduate Certificate in Investments for part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
FINA 6203	Investment Analysis	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met. Some courses may also apply to requirements of the MBA program.		9
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
HRMG 6200	Managing People and Organizations	
INTB 6200	Managing the Global Enterprise	
MECN 6200	Global Competition and Market Dominance	
MKTG 6200	Creating and Sustaining Customer Markets	
STRT 6200	Strategic Decision Making in a Changing Environment	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Leading People and Organizations, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Leading People and Organizations (https://damore-mckim.northeastern.edu/programs/leading-people-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gclpo) helps students develop cutting-edge skills for developing and leading successful teams.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students learn essential principles for building and leading high-performing and collaborative teams. Depending on the electives chosen, students explore critical topics in greater depth, such as health organization management, negotiating, or leading for environmental sustainability.

Students may enroll in our Graduate Certificate in Leading People and Organizations for full-time and part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
HRMG 6200	Managing People and Organizations	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6220	Health Organization Management	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

Program Credit/GPA Requirements

12 semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Marketing, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Marketing (https://damore-mckim.northeastern.edu/programs/marketing-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcm) prepares students to leverage digital marketing tools to capitalize on trends and communicate powerfully with an audience.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students learn how technology transforms the ways companies engage their customers. They dive into topics such as social media, marketing research, consumer behavior, marketing analysis, planning and strategy, and innovation.

Students may enroll in our Graduate Certificate in Marketing for full-time or part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
MKTG 6200	Creating and Sustaining Customer Markets	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Marketing Analytics, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Marketing Analytics (https://damore-mckim.northeastern.edu/programs/marketing-analytics-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcma) empowers students with the skills they need to turn data into smart marketing strategies.

In just four courses—with the option to take a fifth course to further their learning—students focus on the role of data and technology in a modern marketing strategy, from customer relationship management to performance measurement. They develop analytical, computational, and strategic thinking skills that will help them link the insights they generate to the marketing results they want.

Students enroll in our Graduate Certificate in Marketing Analytics for part-time study.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
MKTG 6200	Creating and Sustaining Customer Markets	3
MKTG 6234	Marketing Analytics	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours

Minimum 3.000 GPA required

Mutual Fund Management, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Mutual Fund Management (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/mutual-fund-management/?utm_medium=website&utm_source=catalog&utm_campaign=gcmfm) helps students build the skills to become knowledgeable asset managers that create value by spotting opportunities and capitalizing on growth.

In just four courses—with the option to take a fifth course to deepen your knowledge base—students learn the essentials of managing funds, including allocating assets, managing risk, and complying with regulations. Depending on the electives chosen, students explore critical topics in greater depth, such as market analysis or fixed-income securities.

Students may enroll in our Graduate Certificate in Mutual Fund Management for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
FINA 6202	Analysis of Financial Institutions and Markets	
FINA 6203	Investment Analysis	
FINA 6212	Fixed Income Securities and Risk	
FINA 6219	Portfolio Management	
FINA 6360	Fund Management for Analysts (Complete 3 semester hours through our student managed mutual fund. Each course is 1 semester hour and may be taken multiple times.)	

Electives

Code	Title	Hours
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met:		3
FINA 6202	Analysis of Financial Institutions and Markets	
FINA 6203	Investment Analysis	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6360	Fund Management for Analysts (Complete 3 semester hours through our student managed mutual fund. Each course is 1 semester hour and may be taken multiple times.)	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Supply Chain Management, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Supply Chain Management (https://damore-mckim.northeastern.edu/programs/supply-chain-management-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcscm) helps students become skilled supply chain leaders who can respond to disruption with agility and confidence.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students build a strong portfolio of skills for optimizing supply chains from end to end, advancing their knowledge of sourcing, logistics, inventory management, and process control. They also have the opportunity to explore elective topics important to their professional goals, such as creating and managing sustainable supply chains.

Students may enroll in our Graduate Certificate in Supply Chain Management for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
SCHM 6201	Operations and Supply Chain Management	3
SCHM 6213	Global Supply Chain Strategy	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sustainability and Business, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Sustainability and Business (https://damore-mckim.northeastern.edu/programs/sustainability-business-certificate/?utm_medium=content&utm_source=catalog&utm_campaign=dmsb-melt-evg-glo-comp-bos-bus-gcsb-con-2022_02_25-gcsb_catalog) helps students build the skills to increase efficiency, drive value, and build trust through sustainable practices.

In just four courses—with the option to take a fifth course to expand their learning—students learn to implement sustainable business strategies to create a competitive edge for organizations. Depending on the electives chosen, students may dive into social entrepreneurship, public policy, and sustainable supply chain management.

Students may enroll in our Graduate Certificate in Sustainability and Business for part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
MECN 6200	Global Competition and Market Dominance	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

Program Credit/GPA Requirements

A total of 12 semester hours is required

Minimum 3.000 GPA required

Khoury College of Computer Sciences

Website (https://khoury.northeastern.edu)

Elizabeth Mynatt, PhD, Dean

Ben Hescott, PhD, Teaching Professor, Senior Associate Dean of Academic Programs and Student Experience

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At the Khoury College of Computer Sciences, we are inspired by our information-driven world and strive to make it a better place. Our students engage in rigorous learning and real-world co-op experiences. Our renowned faculty shapes minds, sparks innovation, and inspires ideas. Our interdisciplinary research breaks new ground to solve everyday problems.

Khoury maintains a strong research program with significant funding from the major federal research agencies and private industry. With a substantial increase in faculty strength and research funding in recent years, we are actively seeking highly motivated, bright, hardworking students who are interested in pursuing a PhD degree in computer science or in the interdisciplinary field of cybersecurity, network science, or personal health informatics. Graduate students and faculty members are involved in exciting projects in a wide range of research areas, including programming languages, software engineering, distributed and parallel computing, cryptography, network security, health informatics, network science, databases, information retrieval, robotics, visualization, and artificial intelligence. Colloquia and weekly research seminars contribute to the vibrant research atmosphere in the college.

Our curriculum encompasses both the breadth and depth needed for graduate school. Specialized, advanced courses for PhD students in computer science, cybersecurity, and personal health informatics are designed to prepare all students for research early in their doctoral education.

The Master of Science in Computer Science curriculum combines the study of basic algorithms and theoretical computer science principles with advanced programming and software design methods. It offers students the opportunity to develop the analytical and problem-solving skills needed to pursue challenging professional careers.

Khoury also offers the Master of Science in Artificial Intelligence, which provides a comprehensive framework of theory and practice in this emerging field and incorporates elements of data science, robotics, and machine learning; and the Master of Science in Cybersecurity focuses on information technology and incorporates the understanding of the social sciences, law, criminology, and management needed to prevent and combat cyberattacks.

In addition, we offer four interdisciplinary master's degree programs: the Master of Science in Health Informatics with Bouvé College of Health Sciences, which seeks to prepare graduates to use information technology to improve healthcare delivery and outcomes; the Master of Science in Data Science with the College of Engineering, which is designed to give students a comprehensive framework for processing, modeling, analyzing, and reasoning about data; the Master of Science in Robotics with the College of Engineering, which offers students an opportunity to obtain a comprehensive understanding of the algorithms, sensors, control systems, and mechanisms used in robotics; and the Master of Science in Game Science and Design with the College of Arts, Media and Design, which seeks to provide students with a comprehensive understanding of how successful game products are created in a player-centric environment.

The Align program enables intellectually curious students to earn a Master of Science in Computer Science or Data Science without a background in the field. Regardless of undergraduate major or prior programming experience, Align's custom curricula is designed to prepare students for high-demand industries.

Khoury College is a tightly knit community, and the faculty, staff, and students interact regularly through town hall meetings, social gatherings, lectures, and seminars. A diverse, multicultural graduate student body and faculty encourage rich extracurricular interaction. The Master's Council organizes a number of social events to promote friendship and camaraderie within the Khoury community.

Academic Policies and Procedures

- Absenteeism (p. 258)
- Academic Integrity (p. 259)
- Academic Probation and Dismissal (p. 260)
- Certificates (p. 261)
- Pass / Fail Policy (p. 262)
- Transfer of Credit (p. 263)

Absenteeism

Students are expected to attend all classes and lab sections for their registered courses. Any student who anticipates missing a class due to illness or emergency situations is expected to contact their professor as soon as possible.

While students are welcome to travel over winter and summer breaks, the Khoury College of Computer Sciences expects students to return to campus in a timely manner and to be present for the first week of classes each term. Students who do not arrive back to campus on time may be dropped from their classes until they return to campus. The Office of the University Registrar posts current and future academic calendars (https://registrar.northeastern.edu/group/calendar/) on their website so travel plans can be made accordingly.

Students who are hired as teaching assistants are to be present and fulfill all expected employment responsibilities for the entirety of the semester. The scope of employment will include but not be limited to first class welcome/orientation through the grading of final examinations or final projects. Any violation or neglect of these requirements will be considered a violation of the Student Code of Conduct.

Academic Integrity

Violation Submission and Review Process

In the event a faculty member finds a student in violation of the Academic Integrity Policy, faculty will be asked to submit a report to the Khoury College Academic Integrity Committee. The Academic Integrity Committee will convene on a regular basis to review all proposals and appeals. Students will be notified of the determination made by the Academic Integrity Committee after the nearest meeting takes place. Students will have the opportunity to appeal all decisions made by the college.

Violations by Khoury College Master's Students

Students found in violation of the Academic Integrity Policy will be placed on deferred suspension by the college. A deferred suspension is the most serious formal warning for a violation of the Academic Integrity Policy and remains with the student for the remainder of their time in the program. Based on the severity of the violation, the Academic Integrity Committee may recommend one or more of the following sanctions:

- Removal of co-op privilege for the remainder of time in the MS program
- Suspension or deferral of co-op for one to two semesters
- Disqualification from paid graduate student positions within the college (i.e., graders, course assistants, TA/RA appointments)
- No further consequence beyond assignment of a deferred suspension

Students deemed to be in violation of the Academic Integrity Policy for a second instance may be terminated from their respective graduate program.

In accordance with university policy, the college maintains the right to override decisions issued by the Office of Student Conduct and Conflict Resolution in the area of academic performance.

Students will have the right to appeal any and all decisions issued by the Master's Academic Integrity Committee. The appeals process is outlined below.

Appeals Process

Students are entitled to appeal all decisions made by the college's Academic Integrity Appeals Committee. The appeals committee will be comprised of a graduate co-op faculty member, the associate director of graduate student services, and one Khoury faculty member. Cases submitted concerning students from interdisciplinary programs will be reviewed by an appeals committee that includes a member of the partner college administration at the associate dean or faculty level. Student appeals will first be heard by the committee itself and then by the college dean. In the event the appeal is denied at both college levels, the student will have the right to have their appeal heard by a provost review committee. Appeals will be heard on a monthly basis, in accordance with the Academic Integrity Committee meeting schedule.

Details regarding the university appeal process can be found in the graduate catalog here (p. 70).

Academic Probation and Dismissal

A student whose overall GPA falls below 3.000 will be automatically placed on academic probation and will be notified by the college. Once on probation, a student has one academic semester (summer excluded) to achieve a 3.000 GPA. If the GPA is still unsatisfactory at the end of that semester, the student will be eligible for dismissal from the graduate program. In programs that require prerequisite or Align bridge courses, these courses count toward the GPA for academic standing.

Students should refer to their program's requirements page regarding any applicable core GPA requirement.

Appeals Process

Students are entitled to appeal dismissal and dismissal override decisions made by the college's Academic Standing Committee. Appeals should be submitted within five business days of dismissal notification. All appeals to the college should be submitted in writing. The appeals committee will be comprised of the associate dean of graduate programs, the associate dean of graduate program administration, the director of graduate operations, and an academic advisor. Cases submitted concerning students from interdisciplinary programs will be reviewed by an appeals committee that includes a member of the partner college administration at the associate dean or faculty level. Student appeals will first be heard by the committee itself and then by the college dean. Appeals will be reviewed within five business days of submission by the Academic Standing Committee. In the event the appeal is denied at both college levels, the student will have the right to have their appeal heard by a provost review committee.

Details regarding the university appeal process can be found in the graduate catalog here (p. 70).

Certificates

Admission Requirements

INTERNAL APPLICANTS/CURRENT GRADUATE STUDENTS AT NORTHEASTERN UNIVERSITY

Current Northeastern students will be required to submit an online application in order to have the certificate program added to their transcript. Please contact Khoury graduate admissions with any questions.

In order to be admitted to Khoury graduate certificate programs, current Northeastern students must be in good academic standing. Students on academic probation will not be admitted into a graduate certificate program. Students must apply for admission to a certificate program prior to their final term of study. Requests for admission in the final term will not be considered.

EXTERNAL APPLICANTS

To apply for admission to the Graduate Certificate in Data Analytics program, you must submit an online application that includes:

- PDF or scanned copies of unofficial undergraduate transcripts (you can submit official transcripts from colleges/universities attended at the time of admission)
- Statement of purpose including description of relevant work experience
- Three confidential letters of reference from individuals that know your academic record and/or potential for graduate study
- Official TOEFL examination scores (international students only)

Acceptance to Khoury is granted upon recommendation of the college graduate committee after a review of the completed application.

Visa Compliance

Please note that the data analytics certificate is not an F-1-eligible program. International students enrolled in MS programs at the university are required to comply with all enrollment visa regulations regarding online course enrollment. Please contact the Office of Global Services if you have questions regarding your enrollment status.

Certificate Coursework Applied to Khoury Graduate Degrees

Certificate coursework completed by graduate students may be used in some cases toward a Khoury graduate degree.

- Graduate Certificate in Data Analytics: With approval from the health informatics program director, selected students can substitute one course from the Graduate Certificate in Data Analytics for a technical core requirement in the Master of Science in Health Informatics degree, and up to two more courses from the Graduate Certificate in Data Analytics can be counted as electives for the Master of Science in Health Informatics degree.
- Graduate Certificate in Computer Science: Object-Oriented Design (CS 5004) is only eligible to be counted toward the MSCS degree provided that the student is enrolled in the MSCS-Align program; it is not eligible for inclusion in the MSCS program as a stand-alone elective.
- Graduate Certificate in Cloud Software Development: All four courses (16 credits) of the Graduate Certificate in Cloud Software Development are eligible to count toward the eight-course (32-credit) MSCS degree requirement.

Academic Standing

In order to maintain good standing in the certificate programs, students must have a B average or better at the conclusion of each semester. A student whose overall grade-point average falls below 3.000 will be automatically placed on academic probation and will be notified by the college. Once on probation, a student has one academic semester (summer excluded) to achieve a 3.000 GPA. If the GPA is still unsatisfactory at the end of that semester, the student will be eligible for dismissal from the graduate certificate program. In programs that require a prerequisite, these courses count toward the GPA for academic standing.

If a student receives an F grade in any of the certificate courses, the student will be required to retake and pass that course in order to qualify for completion of the program.

Graduation Requirements

Students must have an average GPA of 3.000 overall in the certificate course in order to complete the certificate program.

Co-op

Students in the certificate program are not eligible to participate in the Khoury graduate co-op program.

Pass / Fail Policy

Pass/Fail Policy

Khoury College of Computer Sciences does not allow Khoury graduate students to elect a pass/fail grading basis for courses normally letter graded.

Transfer of Credit

A maximum of 9 semester hours of credit obtained at another institution may be accepted toward the degree, provided the credits meet the following criteria:

- Work is completed at the graduate level for graduate credit
- Student received a grade of 3.000 or better
- Credits were earned at an accredited institution
- Credits have not been used toward any other degree

Transfer credit will be offered only for courses that match a course offered at Northeastern University and that have been approved by the graduate committee. However, no transfer credit will be given for courses listed as interdisciplinary courses.

Students can submit a request for transfer of credit after they have begun taking courses in the Khoury College of Computer Sciences. Please see your academic advisor for the procedure to submit a request.

Computer Science

At the Khoury College of Computer Sciences, we are inspired by an increasingly interconnected society, informed by a rapidly changing job market, and focused on addressing the challenges of a complex world. Our goal is to equip students with knowledge as diverse as it is deep. Our programs provide a strong technical foundation and an essential understanding of computing concepts while integrating computer and data sciences across disciplines and industries.

Our master's degrees are advanced programs that are designed to prepare students to be job ready through a rigorous curriculum, innovative research, experiential learning, and a collaborative environment rich in faculty expertise.

Our research-driven doctoral programs offer students an opportunity to engage in exciting projects, a vibrant community, and a challenging curriculum that offers breadth and depth in areas both within computer science and across disciplines throughout Northeastern University.

Graduate education in computer science also features the top-ranked Northeastern co-op program, enabling students to supplement their classroom education with real-world experience in the field.

Doctor of Philosophy in Computer Science

The PhD program in computer science is designed to prepare students for careers in academia and industry—from conducting research to developing systems to publishing and presenting papers. The rigorous curriculum provides a broad background in the fundamentals of computer science and advanced courses in a wide range of focus areas.

The past decade has witnessed a dramatic increase in Northeastern's international reputation for research and innovative educational programs. Since 2012, the Khoury College of Computer Sciences has hired 30 outstanding faculty members and plans to continue this strategic growth in the coming years, advancing its position (http://csrankings.org/) among the nation's top research universities. Today, the college has a diverse faculty (https://www.ccis.northeastern.edu/role/tenured-and-tenure-track-faculty/) of 75, working in a wide range of research areas (https://www.ccis.northeastern.edu/research/research-areas/). Twenty-two faculty members have joint appointments with other colleges and schools, including engineering, science, business, social sciences and humanities, health sciences, law and arts, and media and design.

Master of Science in Artificial Intelligence

The Master of Science program in artificial intelligence is designed to give students a comprehensive framework for AI with specialization in one of five areas: vision, intelligent interaction, robotics and agent-based systems, machine learning, and knowledge management and reasoning. Students will engage in an extensive core intended to develop depth in all core concepts that build a foundation for AI theory and practice. Students will also be given the opportunity to build on the core knowledge of AI by taking a variety of elective courses selected from colleges throughout campus to explore key contextual areas or more complex technical applications. Program graduates will be well positioned to attain research and development positions in a rapidly growing field or to progress into doctoral-degree-related fields.

Master of Science in Data Science

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science program in data science. This program is designed to give students a comprehensive framework for reasoning about data. Students will engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students will also be able to choose elective courses from a variety of offerings in Khoury, the College of Engineering , and throughout the campus to explore areas that generate data or specialized data science applications. Students in the MS program in data science will complete a capstone course, working with real-world data and applying what they have learned during the program. Successful program graduates will be well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

Align Master of Science in Data Science

Students in the Align MS-DS program come from a variety of backgrounds, where they merge their existing knowledge with data science skills. Students will learn theoretical foundations and gain extensive experience with practical problems in the discipline, including data acquisition, storage, analysis, probabilistic modeling, model deployment, and presentation.

Master of Science in Robotics

The Master of Science in Robotics program, offered jointly by the College of Engineering and the Khoury College of Computer Sciences at Northeastern, looks at this fundamentally interdisciplinary field from three connected angles: mechanical engineering, electrical engineering, and computer science.

Through a technically challenging curriculum, hands-on learning, and industry co-op placements, students have an opportunity to gain a comprehensive understanding of the algorithms, control systems, and mechanisms used in robotics to help them stand out in the field and make a transformative impact on society.

For more information on the program, please visit the College of Engineering program page here (p. 290).

Master of Science in Computer Science

Northeastern's Master of Science in Computer Science is designed to prepare students for a variety of careers in computer science. The program combines both computing and important application domains—enabling students to increase their broad-based knowledge in the field while focusing

on one curricular concentration selected from a range of options including artificial intelligence, computer-human interaction, graphics, programming languages, software engineering, data science, networks, theory, game design, systems, and information security.

Align Master of Science in Computer Science

MSCS-Align students come from a wide variety of backgrounds—with undergraduate majors ranging from math, biology, history, engineering, and classics. In this program, students have an opportunity to acquire both the knowledge needed to transition into a new career and the practical skills to build the next great app.

MSCS-Align Online—Take online courses from anywhere, with the flexibility to complete the courses fully online or transfer to one of our strategically located campuses after you've completed the bridge portion of the program. Align Online students will also have three in-person campus visits during the first two semesters to form peer and professional connections. The MSCS-Align Online option is not an F-1 compliant program.

Graduate Certificate in Cloud Software Development

The Graduate Certificate in Cloud Software Development provides students of all backgrounds with the foundational skills needed to pursue a career in cloud computing. Through a four-course program that emphasizes hands-on, industry-facing experiential learning—via Khoury College's partnerships with leading cloud platform companies like AWS, Google, and Microsoft—you'll gain the technical ability, exposure, and experience to work on any cloud computing platform, as well as the career-building resources to put you on the fast track in this growing field.

Graduate Certificate in Computer Science

The postbaccalaureate certificate is designed to give students a solid foundation in the mathematical and theoretical underpinnings of computer science, including the areas of discrete mathematics, basic programming, data structures, object-oriented programming, algorithms, and computer systems. The goal of the certificate is to provide foundational knowledge in computer science that is valuable in both the workplace for career advancement as well as to those looking to move into graduate programs within the discipline.

The Graduate Certificate in Computer Science will serve as the foundational premaster's courses in the Align program.

Graduate Certificate in Data Analytics

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

Graduate Certificate in Inclusive Computer Science Education

The Graduate Certificate in Inclusive Computer Science Education is designed to prepare students to teach computer science principles and concepts in the context of a K–12 environment. Building on the successful Computer Science—Align program, this certificate assumes no prior computer science experience. Through coursework and project-based learning, students have an opportunity to obtain the foundational knowledge necessary to teach basic computing concepts and programming at a variety of educational levels both as stand-alone courses and integrated into other disciplines. The certificate emphasizes how teachers can create an inclusive classroom environment, actively work to dispel stereotypes, and build student confidence. Students who finish this certificate will be well positioned to obtain K–12 certification in computer science.

Programs

Doctor of Philosophy (PhD)

- Computer Science (p. 267)
- Network Science (p. 273)

Master of Science (MS)

- Artificial Intelligence (p. 277)
- Data Science (p. 279)
- Data Science—Align (p. 281)
- Game Science and Design (p. 133)
- Internet of Things (p. 286)
- Robotics (p. 290)

Master of Science in Computer Science (MSCS)

- Computer Science (p. 293)
- Computer Science—Align (p. 295)

Graduate Certificate

- Cloud Software Development (p. 297)
- Computer Science (p. 298)

- Data Analytics (p. 299)
- Inclusive Computer Science Education (p. 300)

Computer Science, PhD

The PhD in Computer Science is designed to prepare students for careers in academia, industrial and national research labs, and technical leadership in industry and government. The rigorous curriculum provides a broad background in the fundamentals of computer science, advanced courses in a wide range of focus areas, and opportunity to make an impact at the forefront of computing. The program provides training in conducting research, publishing and presenting papers, developing systems, and establishing science and technology policy.

Coursework

A minimum of 48 semester hours of coursework beyond the BS/BA degree is required of all students.

All students must demonstrate sufficient knowledge in the fundamentals of computer science, as well as the ability to carry out research in an area of computer science.

The student must maintain a minimum grade-point average of 3.500 among the six core courses and receive a grade of B or better in each of these courses. Students who have taken equivalent courses in other institutions may petition to be exempted from the course(s) (subject to the approval of the PhD computer science curriculum committee). Each student may repeat a course once for no more than three out of the six courses if they do not receive a B or better in the course. Students with a Master of Science in Computer Science may petition to the PhD computer science curriculum committee for an exemption from these courses. Petition forms are available on the college website.

The fields listed do not necessarily represent areas of specialization or separate tracks within the PhD program. Rather, they attempt to delineate areas on which the student must be examined in order to measure their ability to complete the degree. Therefore, they may be adjusted in the future to reflect changes in the discipline of computer science and in faculty interests within the Khoury College of Computer Sciences. Similarly, these fields do not represent the only areas in which a student may write their dissertation. They are, however, intended to serve as a basis for performing fundamental research in computer science.

Paper Requirement

To demonstrate research ability, the student is required to submit to the PhD committee a research or a survey paper in an area of specialty under the supervision of a faculty advisor. A submitted paper from a student is considered to have fulfilled the paper requirement if:

1. The paper has been accepted by a selective conference.
2. The student has made a substantial contribution to the paper.
3. The advisor has endorsed the paper with a written statement indicating the student's contribution.
4. The PhD computer science curriculum committee has voted on a positive recommendation. The committee may require a presentation from the student before making a recommendation.

Admission to Candidacy

Upon completion of the course and the research paper requirements, the student is admitted to candidacy for the PhD degree. It is highly recommended that the student complete the candidacy requirement by the end of their second year but no later than the third year.

Residency

One year of continuous full-time study is required after admission to the PhD candidacy. It is expected that during this period the student will make substantial progress in preparing for the comprehensive examination.

Teaching Requirement

All computer science PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment, or quiz, or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

Comprehensive Examination/Dissertation Proposal

After the student has achieved sufficient depth in a field of study, they prepare a proposal for the PhD dissertation. This process should take place no later than the end of the fifth year in residence. The student prepares a dissertation proposal, which describes the proposed research, including the relevant background materials from the literature. The proposal should clearly specify the research problems to be attacked, the techniques to be used, and a schedule of milestones toward completion.

The dissertation proposal must be approved by the dissertation committee. With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD computer science curriculum committee. The four members must include the advisor, two internal members, and an external member.

Upon approval of the written proposal, the student has to present the proposed work orally in a public forum, followed by a closed-door oral examination from the dissertation committee. The student may take the dissertation proposal examination twice, at most.

Doctoral Dissertation

Upon successful completion of solving the research proposed in the dissertation proposal, the candidate has an opportunity to prepare the dissertation for approval by the dissertation committee. The dissertation must contain results of extensive research and make an original contribution to the field of computer science. The work should give evidence of the candidate's ability to carry out independent research. It is expected that the dissertation should be of sufficient quality to merit publication in a reputable journal in computer science.

Doctoral Committee

With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD computer science curriculum committee. The four members must include the advisor, two internal members, and an external member.

Dissertation Defense

The dissertation defense is held in accordance with the regulations of the University Graduate Curriculum Committee. It consists of a lecture given by the candidate on the subject matter of the dissertation. This is followed by questions from the dissertation committee and others in attendance concerning the results of the dissertation as well as any related matters. The defense is chaired by the PhD advisor.

Time and Time Limitation

After the establishment of degree candidacy, a maximum of five years will be allowed for the completion of the degree requirements, unless an extension is granted by the college graduate committee.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Coursework
Paper requirement
Admission to candidacy
Residency
Teaching requirement
Comprehensive examination/dissertation proposal
Doctoral dissertation
Doctoral committee
Dissertation defense

Course Area Requirements

A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Code	Title	Hours
Complete a total of six courses. Courses must cover at least four of the five areas, and a maximum of two courses may be at the 5000 level.		24
At least two courses must be 7000-level seminar courses.		
At least two courses must be 7000-level nonseminar courses.		
Artificial Intelligence and Data Science		
Seminar Courses		
CS 7170	Seminar in Artificial Intelligence	
CS 7270	Seminar in Database Systems	
Nonseminar Courses		
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7240	Principles of Scalable Data Management: Theory, Algorithms, and Database Systems	
CS 7280	Special Topics in Database Management	
CS 7290	Special Topics in Data Science	
CS 7380	Special Topics in Graphics/Image Processing	
Other Courses		

CS 5100	Foundations of Artificial Intelligence
CS 5150	Game Artificial Intelligence
CS 5170	Artificial Intelligence for Human-Computer Interaction
CS 5180	Reinforcement Learning and Sequential Decision Making
CS 5200	Database Management Systems
CS 5330	Pattern Recognition and Computer Vision
CS 5335	Robotic Science and Systems
CS 5850	Building Game Engines
CS 6120	Natural Language Processing
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
CS 6240	Large-Scale Parallel Data Processing
CY 6720	Machine Learning in Cybersecurity and Privacy
DS 5110	Introduction to Data Management and Processing
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
Human-Computer Interaction	
Nonseminar Courses	
CS 7250	Information Visualization: Theory and Applications
CS 7260	Visualization for Network Science
CS 7295	Special Topics in Data Visualization
CS 7300	Empirical Research Methods for Human Computer Interaction
CS 7340	Theory and Methods in Human Computer Interaction
CS 7390	Special Topics in Human-Centered Computing
Other Courses	
CS 5097	Mixed Reality
CS 5170	Artificial Intelligence for Human-Computer Interaction
CS 5340	Computer/Human Interaction
CS 6350	Empirical Research Methods
Software	
Seminar Courses	
CS 7470	Seminar in Programming Languages
CS 7575	Seminar in Software Engineering
Nonseminar Courses	
CS 7400	Intensive Principles of Programming Languages
CS 7430	Formal Specification, Verification, and Synthesis
CS 7480	Special Topics in Programming Language
CS 7485	Special Topics in Formal Methods
CS 7580	Special Topics in Software Engineering
Other Courses	
CS 5310	Computer Graphics
CS 5400	Principles of Programming Language
CS 5500	Foundations of Software Engineering
CS 5520	Mobile Application Development
CS 5610	Web Development
CS 6410	Compilers
CS 6510	Advanced Software Development
Systems and Security	
Seminar Courses	
CS 7670	Seminar in Computer Systems
CS 7770	Seminar in Computer Networks
CS 7775	Seminar in Computer Security
Nonseminar Courses	

CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CS 7680	Special Topics in Computer Systems
CY 7790	Special Topics in Security and Privacy
Other Courses	
CS 5600	Computer Systems
CS 5700	Fundamentals of Computer Networking
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 6710	Wireless Network
CS 6760	Privacy, Security, and Usability
CY 5130	Computer System Security
CY 5150	Network Security Practices
CY 5770	Software Vulnerabilities and Security
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
Theory	
Seminar Courses	
CS 7870	Seminar in Theoretical Computer Science
NonSeminar Courses	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
CS 7810	Foundations of Cryptography
CS 7880	Special Topics in Theoretical Computer Science
Other Courses	
CS 5800	Algorithms
CY 5120	Applied Cryptography

Electives

Code	Title	Hours
Complete 24 semester hours in the following:		24
Note: Consult faculty advisor for the other acceptable courses.		
CS 5100 to CS 5850, except CS 5340		
CS 6110 to CS 6810		
CS 7340	Theory and Methods in Human Computer Interaction	
CS 7930	Effective Scientific Writing in Computer Science	
CS 8982	Readings	

Dissertation

Code	Title	Hours
Upon achieving PhD candidacy, complete the following courses for two consecutive semesters:		
CS 9990	Dissertation Term 1	
CS 9991	Dissertation Term 2	
For remaining semester(s), complete the following (repeatable) course until graduation:		
CS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum overall 3.000 GPA required

Plan of Study

Sample Curriculum

Year 1

Fall	Hours	Spring	Hours
Area course	4	Area course	4
Readings	4	Readings	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
Area course	4	Area course	4
Readings	4	Readings	4
	8		**8**

Year 3

Fall	Hours	Spring	Hours
Area course	4	Area course	4
Readings	4	Readings	4
	8		**8**

Year 4

Fall	Hours	Spring	Hours
CS 9990	0	CS 9991	0
	0		**0**

Year 5

Fall	Hours	Spring	Hours
CS 9996		CS 9996	
	0		**0**

Year 6

Fall	Hours	Spring	Hours
CS 9996		CS 9996	
	0		**0**

Total Hours: 48

Advanced Entry Program Requirements

Coursework

Incoming PhD in Computer Science students who have already completed a Master of Science in Computer Science or an adjacent field may petition to the PhD in Computer Science program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that advanced standing does not waive by itself any part of the PhD coursework requirements.

As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each course.

Paper Requirement

Refer to the Computer Science, PhD, overview (p. 267), for research/survey paper requirements.

Admission to Candidacy

Refer to the Computer Science, PhD, overview, (p. 267) for admission to candidacy requirements.

Residency

Refer to the Computer Science, PhD, overview, (p. 267) for residency requirements.

Teaching Requirement

Refer to the Computer Science, PhD, overview, (p. 267) for the teaching requirement.

Comprehensive Examination/Dissertation Proposal

Refer to the Computer Science, PhD, overview, (p. 267) for comprehensive examination requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Course requirements
Paper requirement
Comprehensive exam
Teaching requirement
Doctoral candidacy
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each course.

Code	Title	Hours
Consult your faculty advisor for acceptable courses.		16

Dissertation

Code	Title	Hours
Upon achieving PhD candidacy, complete the following courses for two consecutive semesters:		
CS 9990	Dissertation Term 1	
CS 9991	Dissertation Term 2	
For remaining semester(s), complete the following (repeatable) course until graduation:		
CS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

16 total semester hours required
Minimum overall 3.500 GPA required

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Artificial Intelligence, MS

The Master of Science in Artificial Intelligence program is designed to give students a comprehensive framework for AI with specialization in one of five areas: vision, intelligent interaction, robotics and agent-based systems, machine learning, and knowledge management and reasoning. Students may choose from three options: specialization, thesis, or coursework only. Students will engage in an extensive core intended to develop depth in all core concepts that build a foundation for AI theory and practice. Students will also be given the opportunity to build on the core knowledge of AI by taking a variety of elective courses, selected from colleges throughout campus, to explore key contextual areas or more complex technical applications. Program graduates will be well positioned to attain research and development positions in a rapidly growing field or to progress into doctoral-degree-related fields.

The Master of Science in Artificial Intelligence is comprised of eight courses: five core courses, two electives to be chosen from one of five specialization areas or coursework option, and one elective. The core courses are designed and developed by Khoury College faculty. Elective courses consist of graduate courses offered in Khoury and other partner colleges, including College of Arts, Media and Design; College of Engineering; College of Science; and College of Social Sciences and Humanities.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses:

Code	Title	Hours
Intelligence		
CS 5100	Foundations of Artificial Intelligence	4
Programming and Algorithms		
CS 5010	Programming Design Paradigm	4
CS 5800	Algorithms	4
Machine Learning		
CS 6140	Machine Learning	4
Interaction		
CS 5170	Artificial Intelligence for Human-Computer Interaction	4

Options

Complete one of the following options:

SPECIALIZATION OPTION

Code	Title	Hours
Complete two courses from one of the following specializations:		8
Vision		
CS 5330	Pattern Recognition and Computer Vision	
CS 7180	Special Topics in Artificial Intelligence	
EECE 5639	Computer Vision	
EECE 7370	Advanced Computer Vision	
Intelligent Interaction		
CS 5150	Game Artificial Intelligence	
CS 5340	Computer/Human Interaction	
CS 7340	Theory and Methods in Human Computer Interaction	
PSYC 5010	Human Cognitive Processes	
Robotics and Agent-Based Systems		
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
EECE 5550	Mobile Robotics	
EECE 5554	Robotics Sensing and Navigation	
Machine Learning		
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 6220	Data Mining Techniques	
CS 7140	Advanced Machine Learning	
or EECE 7397	Advanced Machine Learning	

CS 7150	Deep Learning	
DS 5230	Unsupervised Machine Learning and Data Mining	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
MATH 7340	Statistics for Bioinformatics	
Knowledge Management and Reasoning		
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 7290	Special Topics in Data Science	
Complete one course from the electives list below or an additional course chosen from the specialization area above, outside of the student's selected specialization area.		4

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the electives or specialization course lists. Students can take up to one course from any Khoury College 5000–6000-level course.		12

THESIS OPTION

Code	Title	Hours
CS 7990	Thesis	4
CS 8674	Master's Project	4
Complete 4 semester hours from the electives or specialization course lists.		4

Electives List

Code	Title	Hours
CS 7180	Special Topics in Artificial Intelligence	
CS 8674	Master's Project	
EECE 7337	Information Theory	
GSND 5110	Game Design and Analysis	
PHIL 5010	AI Ethics	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Science, MS

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science (p. 281)— (p.)Align (p. 281) fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses.

Code	Title	Hours
Complete 20 semester hours from the following:		
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
Khoury College of Computer Sciences		
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5610	Web Development	
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6240	Large-Scale Parallel Data Processing	
CS 6350	Empirical Research Methods	
CS 6620	Fundamentals of Cloud Computing	
CS 6650	Building Scalable Distributed Systems	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7250	Information Visualization: Theory and Applications	
CS 7280	Special Topics in Database Management	

CS 7290	Special Topics in Data Science
DS 7990	Thesis
DS 7995	Project
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 semester hours (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative semester hours to 4. In order to earn this additional credit, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Data Science, MS—Align

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science—Align fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

The Master of Science in Data Science—Align curriculum is specifically designed to prepare incoming students without any prior programming experience. During the first semester of year one, students are expected to take foundational courses in computer science fundamentals, as well as a course in data structures/discrete mathematics. During their second semester, students will take coursework in programming for data science, as well as linear algebra and probability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Align Bridge Coursework

Students are required to complete all bridge courses unless otherwise determined by the program.

A grade of B or higher is required in each course.

Code	Title	Hours
Fundamentals		
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
Discrete Structures		
CS 5002	Discrete Structures	4
Programming for Data Science		
DS 5010	Introduction to Programming for Data Science	4
Additional Align Coursework		
DS 5020	Introduction to Linear Algebra and Probability for Data Science	4

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses:

Code	Title	Hours
Complete 20 semester hours from the following:		
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives [1]

Code	Title	Hours
Complete 12 semester hours from the following:		12
Khoury College of Computer Sciences		

CS 5100	Foundations of Artificial Intelligence
CS 5180	Reinforcement Learning and Sequential Decision Making
CS 5200	Database Management Systems
CS 5330	Pattern Recognition and Computer Vision
CS 5340	Computer/Human Interaction
CS 5610	Web Development
CS 6120	Natural Language Processing
CS 6200	Information Retrieval
CS 6240	Large-Scale Parallel Data Processing
CS 6350	Empirical Research Methods
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 7140	Advanced Machine Learning
CS 7150	Deep Learning
CS 7180	Special Topics in Artificial Intelligence
CS 7200	Statistical Methods for Computer Science
CS 7250	Information Visualization: Theory and Applications
DS 7990	Thesis
DS 7995	Project
CS 7280	Special Topics in Database Management
CS 7290	Special Topics in Data Science
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

40–48 total semester hours required

Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 SH (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative SH to 4. In order to earn this additional 1 SH, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Game Science and Design, MS

The **Master of Science (MS) in Game Science and Design** is a program that seeks to give students a comprehensive understanding of how successful game products are created in a player-centric environment. Successful graduates who wish to become professional game developers or game user research experts should be able to collaborate effectively in this dynamic and burgeoning field of practice and research. Focusing on the science of game development, students have an opportunity to learn the design and technological skills needed to build a game and develop a deep understanding of playability and analytics that makes products successful in an increasingly competitive marketplace.

The game industry has expanded to include social and mobile gaming; augmented and virtual reality; as well as games in health, education, and training. Rapid innovations are happening in player psychology, middleware, graphics and authoring tools, game mechanics, and artificial intelligence and narrative techniques. It has become an increasingly competitive space.

The selectiveness of the industry and the diversity of the skills required mean that students seeking entry need both broad and deep skills. As an emergent industry using diverse technology and collaborative practices, the game industry needs professionals with interdisciplinary skill sets who can blend knowledge about development with knowledge about evaluation methods and players' behavior and psychology.

Jointly offered by Northeastern's College of Arts, Media and Design and Khoury College of Computer Sciences (https://www.khoury.northeastern.edu/), the **Master of Science in Game Science and Design** is a one-of-a-kind interdisciplinary program that seeks to prepare students to meet this need by weaving together science and design. This is a two-year, 34-credit-hour program.

All admitted students will be assigned to an advisor who will help them select a pathway with a coherent set of electives depending on their career goals. The advisor will also monitor their progress through the master's degree.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5122	Business Models in the Game Industry	1
GSND 5130 and GSND 5131	Mixed Research Methods for Games and Recitation for GSND 5130	4
Thesis		
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	4
GSND 7990	Thesis	4

Electives

Code	Title	Hours
Game Design or Development		
Complete one of the following:		4
CS 5150	Game Artificial Intelligence	
CS 5850	Building Game Engines	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	
Game User Research or Analytics		
Complete one of the following:		4
CS 5340	Computer/Human Interaction	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Code	Title	Hours
Other Electives List		
Complete any two of the previously listed courses or from the following (courses not listed below may be completed in consultation with your program coordinator).		8
If ARTG 5000 or GSND 6000 or GSND 6001 is completed more than once, the additional completions may be allowed toward the electives.		
Elective courses outside of CAMD are subject to availability and registration policy of the home college.		
ARTG 5000	Topics in Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5310	Visual Cognition	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
GSND 6000	Advanced Topics in Game Design	
GSND 6001	Advanced Topics in Game Science	
INSH 5302	Information Design and Visual Analytics	
JRNL 6341	Telling Your Story with Data	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
GSND 5110 and GSND 5111 and GSND 5112	5	Elective	4	Co-op (optional)	0
GSND 5130 and GSND 5131	4	Elective	4		
	9		**8**		**0**

Year 2

Fall	Hours	Spring	Hours
GSND 5122	1	GSND 7990	4
GSND 6330 and GSND 6331	4	Elective	4
Elective	4		
	9		**8**

Total Hours: 34

Note: Co-op or Thesis Co-op is optional in consultation with faculty advisor.

Internet of Things, MS

The Master of Science in Internet of Things is an interdisciplinary program administered by the Institute for the Wireless Internet of Things, the Department of Electrical and Computer Engineering, and the Khoury College of Computer Sciences. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the development of a globally interconnected continuum of untethered devices and objects interacting with the physical environment, people, and each other. The program will provide students with the necessary knowledge and skills to understand, design, and implement autonomous wireless networked systems of tomorrow operating in uncertain, challenging, extreme environments, through a combination of coursework, master project research, and/or industry experience.

Program Requirements

Core Requirements

Code	Title	Hours
EECE 5155	Wireless Sensor Networks and the Internet of Things	4
Complete one of the following:		4
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
Complete one of the following:		4
CS 5800	Algorithms	
CS 7800	Advanced Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Complete one of the following:		4
CS 6140	Machine Learning	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5698	Special Topics in Electrical and Computer Engineering	
Complete one of the following:		4
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7368	High-Level Design of Hardware-Software Systems	
Complete two courses from the following for a total of 4 semester hours:		
EECE 7400	Special Problems in Electrical and Computer Engineering	1
INNO 6230	Platform Innovation	3
or MGMT 6280	Innovation for Next-Generation Products and Systems	
Complete one of the following:		4
CY 5120	Applied Cryptography	
CY 5150	Network Security Practices	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
EECE 5641	Introduction to Software Security	
EECE 5699	Computer Hardware and System Security	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 4 semester hours from the course list below. (p. 286)		4

MASTER'S PROJECT OPTION

Code	Title	Hours
EECE 7674	Master's Project	4

Course List

Code	Title	Hours
Courses in College of Engineering		
Electrical and Computer Engineering		
EECE 5360	Combinatorial Optimization	
EECE 5550	Mobile Robotics	

EECE 5554	Robotics Sensing and Navigation
EECE 5606	Micro- and Nanofabrication
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5645	Parallel Processing for Data Analytics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5699	Computer Hardware and System Security
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7240	Analog Integrated Circuit Design
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7275	Antennas and Radiation
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7390	Computer Hardware Security
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances on Deep Learning)
Bioengineering	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design
Civil and Environmental Engineering	
CIVE 5280	Remote Sensing of the Environment
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering
CIVE 7151	Urban Informatics and Processing
CIVE 7380	Performance Models and Simulation of Transportation Networks

Courses Outside College of Engineering	
Khoury College of Computer Science	
Computer Science	
CS 5700	Fundamentals of Computer Networking
CS 6140	Machine Learning
CS 7150	Deep Learning
Cybersecurity	
CY 5120	Applied Cryptography
CY 5150	Network Security Practices
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
CY 6760	Wireless and Mobile Systems Security
D'Amore-McKim School of Business	
Entrepreneurship and Innovation	
INNO 6200	Enterprise Growth and Innovation
INNO 6222	Competing in Dynamic, Innovation-Driven Markets
Management	
MGMT 6280	Innovation for Next-Generation Products and Systems
Entrepreneurship Technological	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
Bouvé College of Health Sciences	
Health Informatics	
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5301	Evaluating Health Technologies
HINF 6400	Introduction to Health Data Analytics
Nursing	
NRSG 6306	Health Informatics
College of Arts, Media and Design	
Communication Studies	
COMM 6605	Youth and Communication Technology
School of Law	
LW 6101	Introduction to Legal Studies 1: Law and Legal Reasoning
LW 6102	Introduction to Legal Studies 2
LW 6140	Data Regulation and Compliance
LW 6231	Identifying and Securing Intellectual Property Rights
LW 6232	Intellectual Property and Media
LW 6400	Law, Policy and Legal Argument
LW 7369	Intellectual Property
LW 7669	Law and Technology
College of Social Sciences and Humanities	
Law and Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change
Public Policy and Urban Affairs	
PPUA 5262	Big Data for Cities
Political Science	
POLS 7341	Security and Resilience Policy
POLS 7346	Resilient Cities
POLS 7441	Cyberconflict
Philosophy	

PHIL 5005	Information Ethics
College of Science	
Physics	
PHYS 5116	Network Science 1

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Robotics, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academic-programs/ms-robo/).

The multidisciplinary Master of Science program in robotics is offered by the College of Engineering and the Khoury College of Computer Sciences. The program is designed to provide students comprehensive training in algorithms, sensors, control systems, and mechanisms used in robotics.

Gordon Institute of Engineering Leadership

Master's Degree in Robotics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Robotics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved robotics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mechanical Engineering		
Complete one of the following:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Electrical and Computer Engineering		
Complete one of the following:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Computer Science		
Complete one of the following:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	

Concentrations

Complete one of the following concentrations:

- Mechanical Engineering (p. 290)
- Electrical and Computer Engineering (p. 291)
- Computer Science (p. 291)

MECHANICAL ENGINEERING

Code	Title	Hours
Students in the mechanical engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional ME course not used to fulfill the core requirements:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
ME 7945	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		

ME 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

ELECTRICAL AND COMPUTER ENGINEERING

Code	Title	Hours
Students in the electrical and computer engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional EECE course not used to fulfill the core requirements:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
EECE 7674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
EECE 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

COMPUTER SCIENCE

Code	Title	Hours
Students in the computer science concentration follow the Khoury College of Computer Sciences co-op policies.		
Required Course		
Complete one additional CS course not used to fulfill the core requirements:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
CS 8674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
CS 8674	Master's Project	4
CS 7990	Thesis	4
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

Elective Course List

Code	Title	Hours
CS 5097	Mixed Reality	
CS 5100	Foundations of Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6350	Empirical Research Methods	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
DS 5220	Supervised Machine Learning and Learning Theory	
EECE 5550	Mobile Robotics	

EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5580	Classical Control Systems
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7150	Autonomous Field Robotics
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
IE 6500	Human Performance
IE 7280	Statistical Methods in Engineering
IE 7315	Human Factors Engineering
IE 7615	Neural Networks and Deep Learning
ME 5240	Computer Aided Design and Manufacturing
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7247	Advanced Control Engineering

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Computer Science, MSCS

Northeastern University's Master of Science in Computer Science is designed to prepare students for a variety of careers in computer science. The program combines both computing and important application domains—enabling you to increase your broad-based knowledge in the field while allowing you to delve deeper in specific areas through elective courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

Code	Title	Hours
Programming		
CS 5010	Programming Design Paradigm	4
Algorithms		
CS 5800	Algorithms	4

Breadth Areas

Code	Title	Hours
Complete three courses from two of the following breadth areas:		12
Systems and Software		
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6650	Building Scalable Distributed Systems	
CS 6710	Wireless Network	
Theory and Security		
CS 6760	Privacy, Security, and Usability	
CS 7805	Complexity Theory	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
Artificial Intelligence and Data Science		
CS 5100	Foundations of Artificial Intelligence	
CS 5150	Game Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6240	Large-Scale Parallel Data Processing	
CS 7140	Advanced Machine Learning	

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
CS 5097	Mixed Reality	
CS 5100 to CS 7980		
CS 7990	Thesis	

CS 8674	Master's Project
CS 8982	Readings
CY 5010	Foundations of Information Assurance
CY 5130	Computer System Security
CY 5210	Information System Forensics
DS 5110	Introduction to Data Management and Processing
DS 5230	Unsupervised Machine Learning and Data Mining

[1] Specific electives such as CS 7980 Research Capstone, CS 7990 Thesis, or CS 8674 Master's Project may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Computer Science, MSCS—Align

Master of Science in Computer Science—Align students come from a wide variety of backgrounds, with undergraduate majors including math, biology, history, engineering, and classics. The program begins with a two-semester introductory sequence, which provides the foundational knowledge for students from nontechnical backgrounds to succeed. Students have an opportunity to acquire both the knowledge needed to transition into a new career and the practical skills to build the next great app.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Align Bridge Coursework

Students are required to take all bridge courses unless otherwise determined by the program.

A grade of B or higher is required in each course.

Code	Title	Hours
Fundamentals		
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
Discrete Structures		
CS 5002	Discrete Structures	4
Object-Oriented Design		
CS 5004 and CS 5005	Object-Oriented Design and Recitation for CS 5004	4
Additional ALIGN courses		
CS 5008 and CS 5009	Data Structures, Algorithms, and Their Applications within Computer Systems and Recitation for CS 5008	4

Core Requirements

Code	Title	Hours
Algorithms		
CS 5800	Algorithms	4

Breadth Areas

Code	Title	Hours
Select three courses from two of the three following breadth areas:		12
Systems and Software		
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6650	Building Scalable Distributed Systems	
CS 6710	Wireless Network	
Theory and Security		
CS 6760	Privacy, Security, and Usability	
CS 7805	Complexity Theory	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
Artificial Intelligence and Data Science		
CS 5100	Foundations of Artificial Intelligence	
CS 5150	Game Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	

CS 6120	Natural Language Processing
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
CS 6240	Large-Scale Parallel Data Processing
CS 7140	Advanced Machine Learning

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
CS 5097	Mixed Reality	
CS 5100 to CS 7980		
CS 7990	Thesis	
CS 8674	Master's Project	
CS 8982	Readings	
CY 5010	Foundations of Information Assurance	
CY 5130	Computer System Security	
CY 5210	Information System Forensics	
DS 5110	Introduction to Data Management and Processing	
DS 5230	Unsupervised Machine Learning and Data Mining	

[1] Specific electives such as CS 7980 Research Capstone, CS 7990 Thesis, or CS 8674 Master's Project may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

36-44 total semester hours required
Minimum 3.000 GPA required

Cloud Software Development, Graduate Certificate

The Graduate Certificate in Cloud Software Development is designed to give students a strong foundation for working with cloud computing platforms like Amazon Web Services, Google Cloud, and Microsoft Azure. Through coursework and project-based learning, students gain the exposure needed to work across these platforms and also in hybrid platform environments. Cloud skills are in higher demand than ever before. However, there is a significant lack of qualified, skilled professionals to support this growth, especially for deployment in non-tech-related industries—such as manufacturing, transportation, travel, entertainment, and education—that rely increasingly on cloud platforms as part of their day-to-day operations. This certificate is aimed at addressing this skills gap utilizing the Khoury Align program's innovative curriculum and student support model, as well as course-based experiential learning opportunities to train students for in-demand and high-paying jobs.

Prerequisite

To ensure that all students have the foundation necessary to be successful in this program, each incoming student must demonstrate that they have taken undergraduate or graduate coursework in computer science or that they have comparable professional experience. This admission requirement can also be fulfilled by successful completion of Intensive Foundations of Computer Science (CS 5001).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CS 5004	Object-Oriented Design	4
CS 5610	Web Development	4
CS 6510	Advanced Software Development	4
CS 6620	Fundamentals of Cloud Computing	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Computer Science, Graduate Certificate

The postbaccalaureate certificate is designed to give students a solid foundation in the mathematical and theoretical underpinnings of computer science, including the areas of discrete mathematics, basic programming, data structures, object-oriented programming, algorithms, and computer systems. The goal of the certificate is to provide foundational knowledge in computer science that is valuable in both the workplace for career advancement, as well as to those looking to move into graduate programs within the discipline.

The courses in the Postbaccalaureate Certificate in Computer Science will serve as the foundational premaster's courses in the Align program. Students that successfully complete the five certificate courses with a B in each course or better will be eligible to matriculate into the Master of Science in Computer Science program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
CS 5002	Discrete Structures	4
CS 5004 and CS 5005	Object-Oriented Design and Recitation for CS 5004	4
CS 5008 and CS 5009	Data Structures, Algorithms, and Their Applications within Computer Systems and Recitation for CS 5008	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Data Analytics, Graduate Certificate

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

For more information on the certificate, refer to the program's website (https://www.northeastern.edu/graduate/program/graduate-certificate-in-data-analytics-boston-14423/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning	4
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Inclusive Computer Science Education, Graduate Certificate

Overview

This program is offered at the Portland, Maine campus.

The Graduate Certificate in Inclusive Computer Science Education is designed to prepare students to teach computer science principles and concepts in the context of a K–12 environment. Building on the successful Computer Science—Align program, this certificate assumes no prior computer science experience. Through coursework and project-based learning, students have an opportunity to obtain the foundational knowledge necessary to teach basic computing concepts and programming at a variety of educational levels both as stand-alone courses and integrated into other disciplines. The certificate emphasizes how teachers can create an inclusive classroom environment, actively work to dispel stereotypes, and build student confidence. Students who finish this certificate will be well positioned to obtain K–12 certification in computer science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CS 5001	Intensive Foundations of Computer Science	4
CS 5002	Discrete Structures	4
CS 5933	Advanced Computer Science Topics for Teachers	4
CS 5934	Introduction to Inclusive Computer Science Teaching	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Cybersecurity

Students can apply for admission to two distinct degree programs.

Doctor of Philosophy (PhD) in Cybersecurity

A research-based, interdisciplinary PhD in cybersecurity spans theory and systems, from hardware to software security, from cryptography to policy, and from malware to wireless security. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Master of Science (MS) in Cybersecurity

An industry-focused, interdisciplinary Master of Science in Cybersecurity combines knowledge of information security technology and cybersecurity hands-on tools with relevant knowledge from law, the social sciences, criminology, and management. The Master of Science in Cybersecurity is designed for students focused on cybersecurity careers in companies or government agencies, thus applying their knowledge to their workplaces to assess security threats and manage information security risks and technical and policy controls.

Northeastern University designations by the National Security Agency and the Department of Homeland Security:

- NSA/DHS Center of Academic Excellence in Cybersecurity—Cyber Defense Education
- NSA/DHS Center of Academic Excellence in Cybersecurity—Research
- NSA/DHS Center of Academic Excellence in Cybersecurity—Cyber Operations

Align Master of Science (MS) in Cybersecurity

Without exception, every organization needs to protect their information system. Every day cyber risks are becoming more complex, and the sophistication and number of threats is growing continuously. For these reasons, cybersecurity professionals need to become more prepared, with a very solid background and with the capacity to evolve and adapt to the current and future information systems challenges.

Organizations are looking for well-rounded cybersecurity professionals, who, beside their understanding of information technologies, can also comprehend the many other dimensions that contribute to effective and efficient information systems security. Professionals with diversified backgrounds are particularly interesting because they are able to provide different approaches to complex cybersecurity problems.

Align-MSCY students are perfect cybersecurity professionals, because they have proven their adaptability to the cybersecurity field and also because they bring an invaluable experience and knowledge from other areas to contribute to a global perspective of an organization's cybersecurity posture.

Programs

Doctor of Philosophy (PhD)

- Cybersecurity (p. 302)

Master of Science

- Cybersecurity (p. 308)
- Cybersecurity—Align (p. 310)

Graduate Certificate

- Cybersecurity (p. 313)

Cybersecurity, PhD

A research-based, interdisciplinary Doctor of Philosophy (PhD) in Cybersecurity combines a strong security technical foundation with a security policy and social sciences perspective. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Students who choose the PhD in Cybersecurity program have a strong desire to pursue academic research solving critical cybersecurity challenges facing today's society. The PhD program is a natural path for students in the college's Master of Science in Cybersecurity (http://www.ccs.neu.edu/graduate/degree-programs/m-s-in-information-assurance/)program who want to pursue research and students with bachelor's degrees and an interest in research-focused careers. Students who pursue careers in advancing the state of the art of cybersecurity have an opportunity to gain:

- A strong technical foundation in cybersecurity and an interdisciplinary perspective based on policy and social science
- A path to a research-focused career coupled with depth in information assurance research at a leading institution, one of the earliest designees by NSA/DHS as a National Center of Academic Excellence in Information Assurance Research, Information Assurance/Cyber Defense, and Cyber Operations
- The opportunity to work with and learn from faculty who are recognized internationally for their expertise and contributions in information assurance from Northeastern University's Khoury College of Computer Sciences, the Department of Electrical and Computer Engineering, and the College of Social Sciences and Humanities
- Access to research projects at Northeastern's research centers focused on security:
  - The Cybersecurity and Privacy Institute (https://cyber.ccis.northeastern.edu/about/): The mission of Northeastern's Cybersecurity and Privacy Institute is to safeguard critical technology. Forging partnerships with experts in industry, government, and academia worldwide, the Institute's faculty and students develop, protect, and enhance technologies on which the world relies—from mobile devices and "smart" IoT applications to tomorrow's self-driving cars and delivery drones. Their expertise spans algorithm auditing; cloud security; cryptography; differential privacy; embedded device security; internet-scale security measurements; machine learning; big data; security, malware, and advanced threats; network protocols and security; web and mobile security; and wireless network security.
  - The International Secure Systems Lab (http://www.iseclab.org/), affiliated with Northeastern, a collaborative effort of European and U.S. researchers focused on web security, malware, and vulnerability analysis; intrusion detection; and other computer security issues.
  - The ALERT Center (http://www.northeastern.edu/alert/), where Northeastern is the lead institution, a multiuniversity Department of Homeland Security Center of Excellence involved in research, education, and technology related to threats from explosives.

The benefits of the Boston area:

- World-renowned for academic and research excellence, the Boston area is also home to some of the nation's largest Department of Defense contractors and government and independent labs such as MIT Lincoln Lab, MITRE, and Draper Lab.

Degree Requirements

The PhD in Cybersecurity degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need four to five years to complete the program, and they will be awarded a master's degree en route to the PhD.

Doctoral Degree Candidacy

A student is considered a PhD degree candidate after completing the core courses with at least a 3.500 GPA, with no grades lower than a B in the core courses, and either publishing a paper in a strong conference or journal or passing an oral exam that is conducted by a committee of three cybersecurity faculty members and based on paper(s) written by the student.

RESIDENCY

One year of continuous full-time study is required after admission to the PhD candidacy. During this period, the student will be expected to make substantial progress in preparing for the comprehensive examination.

TEACHING REQUIREMENT

All cybersecurity PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment or quiz or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
The doctoral dissertation advising team for each student consists of two cybersecurity faculty members, one in a technical area. When appropriate, the second faculty advisor will be from the policy/social science area.

DISSERTATION COMMITTEE
With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD cybersecurity curriculum committee. The four members must include the advisor, two internal members, and an external member.

COMPREHENSIVE EXAMINATION
A PhD student must submit a written dissertation proposal and present it to the dissertation committee. The proposal should identify the research problem, the research plan, and the potential impact of the research on the field. The presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee after the public presentation.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in cybersecurity.

AWARDING OF MASTER'S DEGREES
Students who enter the PhD in Cybersecurity program with a bachelor's degree have the option of obtaining a master's degree from one of the departments participating in the program. To do so, they must meet all of the department's degree requirements.

Program Requirements
Bachelor's Degree Entrance
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each core course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	
EECE 7390	Computer Hardware Security	
Machine Learning		
CS 6140	Machine Learning	
CS 7150	Deep Learning	
CY 6720	Machine Learning in Cybersecurity and Privacy	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	

EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Degree Requirements

Incoming PhD in cybersecurity students who have already completed a Master of Science in an adjacent field may petition to the graduate program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that

advanced entry does not waive by itself any part of the PhD coursework requirements. As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Doctoral Degree Candidacy

Refer to the PhD Cybersecurity overview (p. 302) for admission to candidacy requirements.

Residency

Refer to the PhD Cybersecurity overview (p. 302) for residency requirements.

Teaching Requirement

Refer to the PhD Cybersecurity overview (p. 302) for teaching requirements.

Dissertation Advising

Refer to the PhD Cybersecurity overview (p. 302) for dissertation advising requirements.

Dissertation Committee

Refer to the PhD Cybersecurity overview (p. 302) for dissertation committee requirements.

Comprehensive Examination

Refer to the PhD Cybersecurity overview (p. 302) for comprehensive examination requirements.

Dissertation Defense

Refer to the PhD Cybersecurity overview (p. 302) for dissertation defense and completion requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirement

Students are required to take all core courses unless otherwise determined by the program. Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each core course.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Students are required to take all courses unless otherwise determined by the program.

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	

EECE 7390	Computer Hardware Security
Machine Learning	
CS 6140	Machine Learning
CS 7150	Deep Learning
CY 6720	Machine Learning in Cybersecurity and Privacy
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

Minimum 16 semester hours required
Minimum 3.000 GPA required

Cybersecurity, MS

Our Master of Science in Cybersecurity combines a solid understanding of information security technology with relevant knowledge from law, the social sciences, criminology, and management. The MS program is designed for working professionals and also recent graduates who want knowledge they can apply in workplaces to assess and manage information security risks effectively.

The cybersecurity program provides graduates with both the theoretical and experimental skills to perform professional cybersecurity duties. Due to the broad variety of positions that cybersecurity professionals may hold in the industry, our curriculum is designed to provide enough flexibility to our students to tailor their own careers appropriately.

The cybersecurity curriculum is intended to provide a comprehensive approach to cybersecurity, which includes both the technical skills and the contextual understanding that are fundamental to cybersecurity professions.

Concentration in Criminology

Cybercrime has evolved into more advanced techniques and sophisticated structures. Cybersecurity professionals are of vital importance in crime investigations, and for that reason, they need to have a well-rounded background and knowledge. The Master of Science in Cybersecurity provides an interdisciplinary foundation that includes computer science technical courses, complemented with the contextual knowledge courses required for a proper holistic approach to cybercrime. The optional concentration in criminology and criminal justice will offer MSCY students an opportunity to obtain the fundamental principles and the most important practices that criminal justice professionals use.

Gordon Institute of Engineering Leadership

MASTER'S DEGREE IN CYBERSECURITY WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a Master of Science in Cybersecurity in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The certificate program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour master's degree and certificate require 24 hours from the Master of Science in Cybersecurity (MS required courses, technical track, and contextual track).

Program Requirements

Core Requirements

Code	Title	Hours
Foundations		
CY 5001	Cyberspace Technology and Applications [1]	4
CY 5010	Foundations of Information Assurance	4
Technical Track		
Complete 8 semester hours from the following:		8
CY 5120	Applied Cryptography	
CY 5130	Computer System Security	
CY 5150	Network Security Practices	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
Contextual Track		
Complete 8 semester hours from the following:		8
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance	
CY 6240	Special Topics in Privacy Law	
Capstone		
CY 7900	Capstone Project	4

Electives

Code	Title	Hours
Complete 4 semester hours from the following:		4
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	

CRIM 6262	Evidence-Based Crime Policy
CS 5200	Database Management Systems
CS 5500	Foundations of Software Engineering
CS 5600	Computer Systems
CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7580	Special Topics in Software Engineering
CS 7805	Complexity Theory
CY 5061	Cloud Security
CY 5062	Introduction to IoT Security
CY 5120	Applied Cryptography
CY 5130	Computer System Security
CY 5150	Network Security Practices
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
CY 5770	Software Vulnerabilities and Security
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance
CY 6240	Special Topics in Privacy Law
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
CY 6760	Wireless and Mobile Systems Security
CY 7790	Special Topics in Security and Privacy
POLS 7341	Security and Resilience Policy
PPUA 6503	Managing People in Public and Nonprofit Sectors

Concentration in Criminology

This optional concentration's required courses may count toward the contextual track, and its elective may count toward the major's elective area.

Code	Title	Hours
Required		
CRIM 6200	Criminology	4
CRIM 6202	The Criminal Justice Process	4
Complete one of the following:		4
CRIM 6262	Evidence-Based Crime Policy	
CY 5250	Decision Making for Critical Infrastructure	
CRIM elective [2]		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

1 A student who demonstrates prior mastery of the learning outcomes for Cyberspace Technology and Applications (CY 5001) may replace the course with elective coursework to meet the semester hours required for the degree. See the electives list for options.

2 CRIM elective to be approved by director/associate director of MSCY.

Cybersecurity, MS—Align

The Master of Science in Cybersecurity—Align program is designed for students with a BS/BA degree from all backgrounds. During the first semester of year one, students are expected to take foundational courses in computer science fundamentals, as well as a course in data structures/discrete mathematics. During their second semester, students take coursework in object-oriented design, as well as introductions to algorithms and computer systems.

Our Master of Science in Cybersecurity combines a solid understanding of information security technology with relevant knowledge from law, the social sciences, criminology, and management. The MS program is designed for working professionals and also recent graduates who want knowledge they can apply in workplaces to assess and manage information security risks effectively.

The cybersecurity program provides graduates with both the theoretical and experimental skills to perform professional cybersecurity duties. Due to the broad variety of positions that cybersecurity professionals may hold in the industry, our curriculum is designed to provide enough flexibility to our students to tailor their own careers appropriately.

The cybersecurity curriculum is intended to provide a comprehensive approach to cybersecurity, which includes both the technical skills and the contextual understanding that are fundamental to cybersecurity professions.

Concentration in Criminology

Cybercrime has evolved into more advanced techniques and sophisticated structures. Cybersecurity professionals are of vital importance in crime investigations, and for that reason, they need to have a well-rounded background and knowledge. The Master of Science in Cybersecurity provides an interdisciplinary foundation that includes computer science technical courses, complemented with the contextual knowledge courses required for a proper holistic approach to cybercrime. The optional concentration in criminology and criminal justice will offer MSCY students an opportunity to obtain the fundamental principles and the most important practices that criminal justice professionals use.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Align Bridge Coursework

A grade of B or higher is required in each course.

Code	Title	Hours
Fundamentals		
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
Discrete Structures		
CS 5002	Discrete Structures	4
Cybersecurity		
CY 5001	Cyberspace Technology and Applications	4
Additional Align Courses		
CS 5008 and CS 5009	Data Structures, Algorithms, and Their Applications within Computer Systems and Recitation for CS 5008	4

Core Requirements

Code	Title	Hours
Foundations		
CY 5010	Foundations of Information Assurance	4
Technical Track		
Complete 8 semester hours from the following:		8
CY 5120	Applied Cryptography	
CY 5130	Computer System Security	
CY 5150	Network Security Practices	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
Contextual Track		
Complete 8 semester hours from the following:		8
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	

CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance	
CY 6240	Special Topics in Privacy Law	
Capstone		
CY 7900	Capstone Project	4

Electives

Code	Title	Hours
Complete 4 semester hours from the following:		4
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	
CRIM 6262	Evidence-Based Crime Policy	
CS 5200	Database Management Systems	
CS 5500	Foundations of Software Engineering	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 6710	Wireless Network	
CS 7580	Special Topics in Software Engineering	
CS 7805	Complexity Theory	
CY 5061	Cloud Security	
CY 5062	Introduction to IoT Security	
CY 5120	Applied Cryptography	
CY 5130	Computer System Security	
CY 5150	Network Security Practices	
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5770	Software Vulnerabilities and Security	
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance	
CY 6240	Special Topics in Privacy Law	
CY 6720	Machine Learning in Cybersecurity and Privacy	
CY 6740	Network Security	
CY 6750	Cryptography and Communications Security	
CY 6760	Wireless and Mobile Systems Security	
POLS 7341	Security and Resilience Policy	
PPUA 6503	Managing People in Public and Nonprofit Sectors	

Concentration in Criminology

This optional concentration's required courses may count toward the contextual track, and its elective may count toward the major's elective area.

Code	Title	Hours
Required		
CRIM 6200	Criminology	4
CRIM 6202	The Criminal Justice Process	4
Complete one of the following:		4
CRIM 6262	Evidence-Based Crime Policy	
CY 5250	Decision Making for Critical Infrastructure	
CRIM elective [1]		

Program Credit/GPA Requirements

36–44 total semester hours required
Minimum 3.000 GPA required

[1] CRIM elective to be approved by director/associate director of MSCY.

Cybersecurity, Graduate Certificate

The certificate is designed to give students a solid foundation in cybersecurity. In the course work, students have the opportunity to be exposed to fundamental cybersecurity principles and information security concepts related to information systems, to explore issues involved in the security of computer systems, and to explore the techniques used in computer forensic examination. The goal of the certificate is to provide prospective cybersecurity professionals with an entry point to industry positions within eight months from admission and with reduced financial investment.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CY 5010	Foundations of Information Assurance	4
CY 5130	Computer System Security	4
CY 5210	Information System Forensics	4

Elective

Code	Title	Hours
Complete one of the following:		4
CY 5150	Network Security Practices	
CY 5200	Security Risk Management and Assessment	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Health Informatics, MS

Northeastern University's interdisciplinary Master of Science in Health Informatics was the first MS in the field and is now one of the few that is fully interdisciplinary between health science and computer science.

The program seeks to prepare students to address the combined clinical, technical, and business needs of health-related professionals. Students may opt to select a concentration to deepen their knowledge in a particular area. Successful students graduate with the knowledge of how technology, people, health, and the healthcare system interrelate; the ability to use technology and information management to improve healthcare delivery and outcomes; and the skills to communicate effectively among healthcare practitioners, administrators, information technology professionals, and patients.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B– or higher is required in each course.

Core Requirements

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5105	The American Healthcare System	3

Program Options

Choose one of the following options:

- Health Informatics (Without Concentration) (p. 314)
- Health Informatics with Health Informatics Analytics Concentration (p. 315)
- Health Informatics with Personal Health Informatics Concentration (p. 316)

Program Credit/GPA Requirements

Minimum 33 total semester hours required
Minimum 3.000 GPA required

HEALTH INFORMATICS (WITHOUT CONCENTRATION)

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	

HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
Complete two of the following:		6
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
HINF 6400	Introduction to Health Data Analytics	
PHTH 5202	Introduction to Epidemiology	
PHTH 5210	Biostatistics in Public Health	
PHTH 6210	Applied Regression Analysis	
PHTH 6400	Principles of Population Health 1	
PHTH 6440	Advanced Methods in Biostatistics	
One course from the following may count toward the technical core requirement:		
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
Capstone		
HINF 7701	Health Informatics Capstone Project	3
Electives		
Complete two of the following:		6
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
HINF 6345	Design for Usability in Healthcare	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

HEALTH INFORMATICS ANALYTICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	
HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Capstone		
HINF 7701	Health Informatics Capstone Project	3
Elective		
Complete one of the following:		4
IE 5137	Computational Modeling in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	

PERSONAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Health Informatics		
HINF 6205	Creation and Application of Medical Knowledge	3
Technical		
CS 5340	Computer/Human Interaction	4
Complete one of the following. Students must petition to take electives outside the approved list.		4
CS 5010	Programming Design Paradigm	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 6200	Information Retrieval	
Complete one of the following:		3
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
Theory and Evaluation		
PHTH 5210	Biostatistics in Public Health [1]	3
Complete one of the following:		4
CS 6350	Empirical Research Methods (On campus only)	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Culminating Experience		
Complete one of the two options below.		6
Thesis Option		
Students must enroll in HINF 7990 for two semesters for a total of 6 semester hours with director approval only and under supervision of Personal Health Informatics faculty.		
HINF 7990	Thesis	
Capstone Option		
HINF 7701	Health Informatics Capstone Project	
Complete any course for a minumum of 3 semester from the Health Informatics (without concentration) curriculum, that has not been used in previous requirements.		

[1] Student may petition director to take a more advanced stats course, such as Applied Regression Analysis (PHTH 6210).

Interdisciplinary Programs

Doctor of Philosophy (PhD)

- Network Science (p. 273)
- Personal Health Informatics (p. 322)

Master of Science (MS)

- Data Science (p. 279)
- Game Science and Design (p. 133)
- Health Informatics (p. 314)
- Internet of Things (p. 286)
- Robotics (p. 290)

Graduate Certificate

- Data Analytics (p. 299)

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Personal Health Informatics, PhD

Northeastern University's Doctor of Philosophy in Personal Health Informatics is a transdisciplinary doctoral program focused on educating top researchers in the theoretical underpinnings, design, evaluation, and dissemination of consumer- and patient-focused health systems. Personal health technologies are those that non–health professionals interact with *directly*, both in and out of a clinical setting and in various life stages of illness and wellness.

Examples include:

- Assistive technologies that aid persons with disabilities
- Consumer wellness promotion technologies
- Patient education and counseling systems
- Interfaces for reviewing personal health records
- Advanced ambulatory monitoring for supporting health
- Automated elder care systems that monitor health and support independent living
- Social networking systems connecting families and their social and medical support networks

Developing personal health interface technologies requires that professionals have skills and experience designing systems for individual patients and consumers with a wide range of backgrounds in different contexts using a variety of media, while ensuring that fielded technologies are effective, reliable, and responsive to the needs of at-risk and patient populations. Critical skills and knowledge include needs assessment, theories of interface design and health behavior, rapid prototyping and implementation, experimental design with human subjects in challenging settings, and statistical data analysis and validation. Moreover, these skills must be deployed while working with, or leading, transdisciplinary teams.

The interdisciplinary nature of the program targets students who are interested in improving health and wellness using novel technologies that directly impact the lives of consumers and patients. This is a program for students who are not only technically strong but also socially conscious, design oriented, and interested in rigorously evaluating the technologies they imagine and build. The program provides a path for technical students to acquire more experience in the deployment and evaluation of health technologies in the field but also a path for students with health backgrounds to develop the technical skills needed to prototype and assess creative ideas they envision for improving care. The expected length of study is five years after the bachelor's degree.

Admission Requirements

Students will be accepted with either of the following:

- A bachelor's or higher degree in a technical discipline (e.g., computer science or information science, computer systems engineering) with either academic or work experience demonstrating a commitment to working in health.
- A bachelor's or higher degree in a health science discipline (e.g., nursing, medicine, physical therapy, pharmacy, public health) with either some academic coursework in technology, such as a course in programming or design, or work experience where the applicant participated in the development, adaptation, or evaluation of consumer- or patient-facing health technology. (Otherwise outstanding applicants without programming skills may be advised to take an introductory programming course prior to entry; otherwise outstanding applicants without any formal experience working in health settings may be advised to spend some time volunteering in a medical or community health setting prior to entry.)

Applicants will be expected to have:

- A minimum 3.000 undergraduate GPA
- A minimum total GRE score of 300 or equivalent
- A minimum GRE academic writing score of 3.5
- For international applicants, a minimum TOEFL score of 105

Minimum Academic Standards and Requirements

RESIDENCY REQUIREMENT

The residency requirement will follow the university's residency requirement for PhD programs (https://catalog.northeastern.edu/graduate/general-admission-transfer-credit/regulations-phd-programs/).

TEACHING REQUIREMENT

All personal health informatics PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment, or quiz, or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
Each student will have one primary advisor from the personal health informatics doctoral program faculty.

DISSERTATION COMMITTEE
The committee will consist of at least three members: the dissertation advisor, one additional personal health informatics doctoral program faculty member, and one member external to Northeastern who is an expert in the specific personal health informatics topic of research. The dissertation committee shall include experts with both health and technology backgrounds. The dissertation advisor must be a full-time member of the Northeastern faculty.

QUALIFYING EXAMINATION
The qualifying examination consists of a three-part exam conducted by a committee of three personal health informatics doctoral program faculty members, each overseeing one part of the exam. The research core of the exam is fulfilled with submission of a high-quality paper to a strong peer-reviewed conference or journal. The health component of the exam is fulfilled when the student passes a written exam developed by a faculty member with a health sciences background, and the technical component of the exam is fulfilled when the student passes an exam developed by a faculty member with a technical background. The content of the written exams and the paper topic are developed in consultation with each faculty member.

DEGREE CANDIDACY
A student is considered a PhD degree candidate upon meeting these conditions:

- Completion of core courses with a minimum GPA of 3.000 overall on the core courses
- Completion of the qualifying examination

COMPREHENSIVE EXAM
A PhD student must submit a written dissertation proposal to the dissertation committee. The proposal should identify the research problem, the research plan, and its potential impact on the field. A presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in personal health informatics.

Curriculum Requirements
REQUIRED AND ELECTIVE COURSES
The curriculum is designed to provide all PhD students with a strong foundation in principles critical to the design and evaluation of personal health interfaces. All students take six core courses (24 semester hours) and the user-interface practicum (1 semester hour).The student must maintain a minimum GPA of 3.500 among the six core courses and receive a grade of B or better in each of these courses. All students must also fulfill the programming fundamentals requirement (4 semester hours) and the statistics fundamentals requirement (4 semester hours), where some flexibility in course selection allows tailoring based on background and experience. Two additional research electives (8 semester hours) are selected based on research interests from the personal health informatics electives list. Students are also expected to participate in the personal health informatics seminar series during semesters when it is run.

Program Requirements
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Qualifying examination
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
HINF 5200	Theoretical Foundations in Personal Health Informatics	4
Program Design and Development		
CS 5010	Programming Design Paradigm (or another programming course)	4
CS 7340	Theory and Methods in Human Computer Interaction	4
HINF 5300	Personal Health Interface Design and Development	4
Methods and Statistics		
CS 7300	Empirical Research Methods for Human Computer Interaction	4
Complete one of the following:		3-4
CAEP 7712	Intermediate Statistical Data Analysis Techniques	

CS 7200	Statistical Methods for Computer Science	
PHTH 5210	Biostatistics in Public Health	
PHTH 6440	Advanced Methods in Biostatistics	
Evaluation		
HINF 5301	Evaluating Health Technologies	4
HINF 8982	Readings	1-8

Electives

Code	Title	Hours
Complete 12–17 semester hours in the following subject areas to fulfill the minimum program hours (see faculty advisor for other acceptable elective courses):		12-17
CAEP		
CS		
HINF		
PHTH		

Dissertation

Code	Title	Hours
HINF 9990	Dissertation Term 1	
HINF 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study

Code	Title	Hours
Year 1		
Fall Semester		
CS 7340	Theory and Methods in Human Computer Interaction	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Spring Semester		
CS 5010	Programming Design Paradigm	
or CS 5520	Mobile Application Development	
CS 7300	Empirical Research Methods for Human Computer Interaction	
Year 2		
Fall Semester		
HINF 5300	Personal Health Interface Design and Development	
PHTH 5210	Biostatistics in Public Health	
or PHTH 6440	Advanced Methods in Biostatistics	
or CAEP 7712	Intermediate Statistical Data Analysis Techniques	
or CS 7200	Statistical Methods for Computer Science	
Spring Semester		
HINF 5301	Evaluating Health Technologies	
Personal health informatics electives		
Year 3		
Fall Semester		
HINF 9990	Dissertation Term 1	
HINF 8982	Readings	
Spring Semester		
HINF 9991	Dissertation Term 2	
Personal health informatics electives		
Year 4		
Fall Semester		

HINF 9996	Dissertation Continuation
Spring Semester	
HINF 9996	Dissertation Continuation
Year 5	
Fall Semester	
HINF 9996	Dissertation Continuation
Spring Semester	
HINF 9996	Dissertation Continuation

Data Science, MS

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science (p. 281)— (p.)Align (p. 281) fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses.

Code	Title	Hours
Complete 20 semester hours from the following:		
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
Khoury College of Computer Sciences		
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5610	Web Development	
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6240	Large-Scale Parallel Data Processing	
CS 6350	Empirical Research Methods	
CS 6620	Fundamentals of Cloud Computing	
CS 6650	Building Scalable Distributed Systems	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7250	Information Visualization: Theory and Applications	
CS 7280	Special Topics in Database Management	

CS 7290	Special Topics in Data Science
DS 7990	Thesis
DS 7995	Project
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 semester hours (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative semester hours to 4. In order to earn this additional credit, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Game Science and Design, MS

The **Master of Science (MS) in Game Science and Design** is a program that seeks to give students a comprehensive understanding of how successful game products are created in a player-centric environment. Successful graduates who wish to become professional game developers or game user research experts should be able to collaborate effectively in this dynamic and burgeoning field of practice and research. Focusing on the science of game development, students have an opportunity to learn the design and technological skills needed to build a game and develop a deep understanding of playability and analytics that makes products successful in an increasingly competitive marketplace.

The game industry has expanded to include social and mobile gaming; augmented and virtual reality; as well as games in health, education, and training. Rapid innovations are happening in player psychology, middleware, graphics and authoring tools, game mechanics, and artificial intelligence and narrative techniques. It has become an increasingly competitive space.

The selectiveness of the industry and the diversity of the skills required mean that students seeking entry need both broad and deep skills. As an emergent industry using diverse technology and collaborative practices, the game industry needs professionals with interdisciplinary skill sets who can blend knowledge about development with knowledge about evaluation methods and players' behavior and psychology.

Jointly offered by Northeastern's College of Arts, Media and Design and Khoury College of Computer Sciences (https://www.khoury.northeastern.edu/), the **Master of Science in Game Science and Design** is a one-of-a-kind interdisciplinary program that seeks to prepare students to meet this need by weaving together science and design. This is a two-year, 34-credit-hour program.

All admitted students will be assigned to an advisor who will help them select a pathway with a coherent set of electives depending on their career goals. The advisor will also monitor their progress through the master's degree.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5122	Business Models in the Game Industry	1
GSND 5130 and GSND 5131	Mixed Research Methods for Games and Recitation for GSND 5130	4
Thesis		
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	4
GSND 7990	Thesis	4

Electives

Code	Title	Hours
Game Design or Development		
Complete one of the following:		4
CS 5150	Game Artificial Intelligence	
CS 5850	Building Game Engines	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	
Game User Research or Analytics		
Complete one of the following:		4
CS 5340	Computer/Human Interaction	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Code	Title	Hours
Other Electives List		
Complete any two of the previously listed courses or from the following (courses not listed below may be completed in consultation with your program coordinator).		8
If ARTG 5000 or GSND 6000 or GSND 6001 is completed more than once, the additional completions may be allowed toward the electives.		
Elective courses outside of CAMD are subject to availability and registration policy of the home college.		
ARTG 5000	Topics in Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5310	Visual Cognition	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
GSND 6000	Advanced Topics in Game Design	
GSND 6001	Advanced Topics in Game Science	
INSH 5302	Information Design and Visual Analytics	
JRNL 6341	Telling Your Story with Data	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
GSND 5110 and GSND 5111 and GSND 5112	5	Elective	4	Co-op (optional)	0
GSND 5130 and GSND 5131	4	Elective	4		
	9		**8**		**0**

Year 2

Fall	Hours	Spring	Hours
GSND 5122	1	GSND 7990	4
GSND 6330 and GSND 6331	4	Elective	4
Elective	4		
	9		**8**

Total Hours: 34

Note: Co-op or Thesis Co-op is optional in consultation with faculty advisor.

Robotics, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academic-programs/ms-robo/).

The multidisciplinary Master of Science program in robotics is offered by the College of Engineering and the Khoury College of Computer Sciences. The program is designed to provide students comprehensive training in algorithms, sensors, control systems, and mechanisms used in robotics.

Gordon Institute of Engineering Leadership

Master's Degree in Robotics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Robotics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved robotics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mechanical Engineering		
Complete one of the following:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Electrical and Computer Engineering		
Complete one of the following:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Computer Science		
Complete one of the following:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	

Concentrations

Complete one of the following concentrations:

- Mechanical Engineering (p. 290)
- Electrical and Computer Engineering (p. 291)
- Computer Science (p. 291)

MECHANICAL ENGINEERING

Code	Title	Hours
Students in the mechanical engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional ME course not used to fulfill the core requirements:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
ME 7945	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		

ME 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

ELECTRICAL AND COMPUTER ENGINEERING

Code	Title	Hours
Students in the electrical and computer engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional EECE course not used to fulfill the core requirements:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
EECE 7674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
EECE 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

COMPUTER SCIENCE

Code	Title	Hours
Students in the computer science concentration follow the Khoury College of Computer Sciences co-op policies.		
Required Course		
Complete one additional CS course not used to fulfill the core requirements:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
CS 8674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
CS 8674	Master's Project	4
CS 7990	Thesis	4
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

Elective Course List

Code	Title	Hours
CS 5097	Mixed Reality	
CS 5100	Foundations of Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6350	Empirical Research Methods	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
DS 5220	Supervised Machine Learning and Learning Theory	
EECE 5550	Mobile Robotics	

EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5580	Classical Control Systems
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7150	Autonomous Field Robotics
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
IE 6500	Human Performance
IE 7280	Statistical Methods in Engineering
IE 7315	Human Factors Engineering
IE 7615	Neural Networks and Deep Learning
ME 5240	Computer Aided Design and Manufacturing
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7247	Advanced Control Engineering

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Analytics, Graduate Certificate

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

For more information on the certificate, refer to the program's website (https://www.northeastern.edu/graduate/program/graduate-certificate-in-data-analytics-boston-14423/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning	4
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

College of Engineering

Website (http://www.coe.neu.edu/academics/graduate-school-engineering/)

Gregory D. Abowd, **PhD,** Dean

Akram Alshawabkeh, **PhD,** Senior Associate Dean for Research and Global University Campus

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The Graduate School of Engineering offers research and professional degree programs organized around a core curriculum that equips students with a solid foundation for technical and leadership positions in industry organizations, government laboratories, research laboratories, and educational institutions. By involving students in many levels of research, encouraging collaboration across departments, and partnering with outside institutions and organizations globally, Northeastern University engineering graduate students have the opportunity to gain a rich and experiential education in their chosen discipline.

Master of Science and doctoral degree programs are offered, as well as numerous graduate certificate programs that can be applied toward master's degree programs for lifelong learning. The GSE offers traditional full-time day and part-time evening master's and doctoral degree programs and part-time evening certificate programs. Programs are offered in Boston, Arlington, Seattle, Silicon Valley, Oakland, Portland (ME), Toronto, and Vancouver. A number of courses and degree programs are also available in a flexible online or hybrid format, which are well suited for distance learners. Innovative programs, such as interdisciplinary degrees, business/entrepreneurship pathways, and the Academic Link program for students without an undergraduate engineering degree (or who need additional preparatory coursework), enable students to personalize their learning experience.

Academic Policies

- Academic Dismissal Policy (p. 336)
- Academic Integrity Policy (p. 337)
- Academic Standing Policy (p. 338)
- Appeals Policy (p. 339)
- Attendance Policy (p. 340)
- Course Registration (p. 341)
- Course Selection (p. 342)
- Dissertation Committee (p. 343)
- Grievance Policy (p. 344)
- PhD Student Progress and Review (p. 345)
- Program Completion (p. 346)
- Reenrollment Policy for Full-time Students (p. 347)

Academic Dismissal Policy

A student placed on academic probation for a cumulative grade-point average of less than 3.000 will have one academic term to raise the cumulative GPA greater than or equal to 3.000. Students whose cumulative GPA is below 3.000 for two consecutive terms in which they took courses for credit (including Career Management for Engineers (ENCP 6000) or Introduction to Cooperative Education (ENCP 6100), if taken) will automatically be dismissed from their degree program at the end of the second term. Students in this situation may submit an Academic Dismissal Appeal form to the graduate school, *to be reviewed by the student's academic department,* to request a final one-term extension. Students whose cumulative GPA is below 3.000 for three consecutive terms will automatically be dismissed from their degree program.

A student will also be dismissed from their degree program if they do not meet the requirements of their program.

A student who is dismissed from their program may submit an appeal through the college's graduate appeals process.

Students dismissed from their program will receive a written notification from the Graduate School of Engineering.

Academic Integrity Policy

Graduate students are expected to abide by the university's Academic Integrity Policy, as described in the Code of Student Conduct (https://osccr.sites.northeastern.edu/code-of-student-conduct/).

A faculty member who suspects that a graduate student has violated the university's Academic Integrity Policy must offer to meet with the student to discuss the suspected violation. The faculty member may ask the student to provide supporting documentation and may gather information from other students involved in the incident.

If the faculty member finds that the student has violated the Academic Integrity Policy, the faculty member may take action as the faculty member considers appropriate and can include adjusting the student's grade, requiring additional academic work, forfeiture of co-op opportunity, and/or failing the qualifying examination. In this case, the faculty member is encouraged to submit an information-only report about the incident to the university Office of Student Conduct and Conflict Resolution, which handles suspected violations of the Academic Integrity Policy. Any penalties must be imposed by the faculty member within three weeks of the suspected violation.

If the student is not satisfied with the faculty member's decision, the student may appeal to the department by contacting the department head (or designee) who should apply the department's procedures to review the case. If the suspected violation took place in a department or if it involved cooperative education, the appeal should be submitted to that unit. Otherwise, the appeal should be submitted directly to the college. The student should appeal within one week of the imposition of penalties.

The department will either affirm the faculty member's decision or substitute an alternative decision. The department's decision should be made within two weeks of receiving the appeal.

The student may appeal the department decision using the college's academic appeal process. The college will either affirm the department's decision or substitute an alternative decision.

The student may appeal the college decision using the university's academic appeal process.

The faculty member may appeal the department or college decision by submitting a complaint to OSCCR, which will determine whether the student is responsible for the suspected violation. OSCCR will make a recommendation to the senior vice provost for student affairs who will make a final decision.

If the student is found to be responsible for a violation by OSCCR, the faculty member may take action as appropriate. If the student is found to be not responsible for a violation, the faculty member cannot take action and if action was previously taken, the action must be reversed.

The dean (or designee) of the involved college shall take whatever action is necessary to implement the resolution of the case, including reporting a change of grade to the Office of the University Registrar.

Academic Standing Policy

Academic standing at Northeastern University is determined by a student's cumulative grade-point average.

Academic probation is a period of time when a student must address and remediate academic deficiencies.

Full-time Students

Full-time graduate students are expected to maintain a cumulative GPA of 3.000 or higher each term to remain in good academic standing and to progress toward graduation.

Students falling below a cumulative GPA of 3.000 are placed on academic probation for each academic term in which the cumulative GPA is below 3.000 after the completion of at least 8 semester hours. Full-time students must raise the cumulative GPA to 3.000 or higher after completion of at least 8 additional semester hours to regain good academic standing status.

Part-time Students

Graduate students in official part-time status with the university are expected to maintain a cumulative GPA of 3.000 or higher each term to remain in good academic standing and to progress toward graduation.

Students falling below a cumulative GPA of 3.000 after at least 8 semester hours are completed are placed on academic probation. Part-time students must raise the cumulative GPA to 3.000 or higher after completion of at least 8 additional semester hours to regain good academic standing status.

Summer Term

There are three semesters during the summer session: Summer 1, Summer 2, and Full Summer.

Academic standing for the summer terms will be reviewed and evaluated for all students at the end of the Summer 2 term. If students complete fewer than 8 semester hours during any of the summer semesters combined, their academic standing is evaluated after the completion of at least 8 semester hours.

Appeals Policy

It is the policy of the university that all students shall be treated fairly with respect to evaluations made of their academic performance, standing, and progress. This policy provides an appeals mechanism to students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated in an academic determination.

The university presumes that academic judgments by its faculty are fair, consistent, and objective. Substitution of a different academic judgment for that of the original evaluator is a serious intrusion upon academic prerogatives entrusted to the faculty and others involved in academic evaluations.

This policy applies to appeals related to academic determinations in COE graduate courses, regardless of the student's home college, and graduate programs. Appeals related to graduate courses or programs offered by another college should be handled by that college. Appeals related to third-semester dismissals should be submitted directly to the college.

Step 1. The student should first speak with the involved faculty or staff member about any determination about which they have questions and attempt to reach a resolution.

Step 2. If the student is not satisfied with the decision, the student may appeal. If the appeal relates to a course or program offered by a department, the appeal should be submitted to that department. Otherwise, the appeal should be submitted directly to the college. Department appeals should be submitted to the department chair (or designee) who should apply the department's procedures to review the case. The student must appeal within four weeks of the academic determination.

A student shall initiate this appeal of an academic determination by submitting a written statement that specifies the details of the action or judgment that they seek to appeal. This statement must start with a clear description of the basis for the appeal and should include basic facts about the situation leading to the appeal, when the situation occurred, who was involved, and the resolution sought by the student. All relevant supporting materials should be attached as addenda to the statement. Appeals should avoid unsubstantiated, defamatory, or ad hominem accusations regarding the motivations of the faculty member or other persons involved in making the academic determination.

The department will either affirm the original decision or substitute an alternative decision. The department's decision shall be made in writing and include the reasoning behind the decision. The department's decision must be made within two weeks of receiving the appeal.

Step 3. The student may appeal the department's decision to the college. To initiate the college appeal, the student shall submit to the associate dean of graduate education their statement, the department's response, and any additional information the student would like to be considered. Appeals to the college are reviewed by the Graduate Appeals Committee, which makes recommendations to the associate dean for graduate education. The student shall be offered the opportunity to meet with the committee to make a statement, present relevant facts of the case, and respond to clarifying questions the committee may have regarding the case. The chair of the committee reserves the right to end this meeting after 10 minutes if no further relevant facts are forthcoming. The committee may invite faculty and staff members to discuss the case and share relevant information.

The committee will either affirm the original decision, substitute an alternative decision, or refer the case back to the department for additional consideration. The committee's decision shall be made in writing and include the reasoning behind the decision. The committee's decision must be made within two weeks of receiving the appeal.

Step 4. Upon receiving the recommendation of the committee, the associate dean for graduate education shall review the case and make a final decision for the college.

Attendance Policy

In each term, students enrolled in on-ground sections are expected to be on campus and attending class beginning with the first day of classes. Students in online sections are expected to log in and participate in class beginning with the first day of classes.

Students who join a class after the first day of class during the university add period, or who are approved for late registration by the instructor and the Graduate School of Engineering, are responsible for all coursework missed prior to enrolling. Enrolled students who do not attend class during the first week of a semester risk being dropped from the course.

In the interest of students' success, the college does not support the arrival of students to class after the university add deadline. Students should not expect to be added to a class after the university add deadline and will be held responsible for the academic, financial, or immigration consequences due to their late or nonattendance without prior approval.

In cases where an enrolled student cannot arrive to campus by the first day of class due to circumstances beyond their control, it is the student's responsibility to contact the instructor for approval and notify the Graduate School of Engineering.

Course Registration

Full-time students (domestic and international) in the Graduate School of Engineering must register for classes on an ongoing basis and carry a minimum of 8 semester hours of coursework per semester. Any student who is appointed to a stipended graduate assistantship is considered full time for the term(s) of appointment if enrolled for a minimum of 6 semester hours.

All graduate students who are registered for Dissertation Term 1, Dissertation Term 2, Dissertation Continuation, PhD Candidacy Preparation, PhD Exam Preparation, or a 0-semester-hour Research course are considered full time. Registration in these courses is restricted to students who qualify for registration in these courses.

The graduate school does not require part-time students to be enrolled for a certain minimum number of semester hours in any term. However, part-time students who are not enrolled for more than one term (excluding summer terms) should take a leave of absence from the university to maintain active student status to keep their student account active.

The maximum number of semester hours approved for a student in each term varies by the degree program. However, a student can petition their faculty advisor to request permission to register for more than the allowed maximum number of semester hours for a given term. Normally, no more than 12 semester hours (inclusive of transfer credits and advanced standing for MS programs) may be taken outside the College of Engineering, unless otherwise specified in the program requirements.

Registration in classes is mandatory to maintain an active status with the university. Students must be registered in all courses for a given term prior to the university course add deadline. Students should not register for an excessive number of courses or for multiple sections of the same course with the intention of dropping half or more of the courses during the first week of classes.

Students must be registered in their last semester of study. International students should consult with the Office of Global Services (https://international.northeastern.edu/ogs/) if they are intending to complete their program during the summer semester. Domestic students finishing their requirements in the summer semester must be registered either in the full summer, summer 1, or summer 2 term.

Any student who is financially withdrawn by Student Accounts prior to the start of any given semester will not be permitted to register for that semester until they rectify the outstanding financial obligation.

The Graduate School of Engineering will correct registration errors. Corrections may generate a new tuition bill.

Due to last-minute scheduling changes, the Graduate School of Engineering must occasionally substitute faculty or change class schedules after the registration period has begun. Any student registered for the original course will automatically be registered for the updated section should no major schedule conflicts be apparent. Otherwise, the graduate school or the department will contact all affected students for alternatives.

Northeastern University reserves the right to cancel, postpone, combine, or modify any class.

The Graduate School of Engineering does not allow College of Engineering graduate students to elect a pass/fail grading scheme for courses normally letter graded.

Course Selection

Students should formulate a program of study in consultation with their assigned faculty advisor at the beginning of their program, during fall or spring orientation. Students should preselect courses whenever possible and plan to take them when offered, maintaining flexibility with alternate courses in mind. Courses other than the required courses are offered based on demand and are subject to faculty availability. Not all courses are offered every year; however, the graduate school will do everything possible to assure continuity of programs and permit students to make continuous progress toward earning their degrees.

Prerequisite Courses/Undergraduate Courses

Students are not awarded credit toward graduate degree requirements for prerequisite courses unless expressly stated by the student's academic department. Students may occasionally be permitted by their advisor to take undergraduate courses. However, undergraduate courses do not count toward a graduate degree and may affect a student's eligibility to receive federal financial aid. Undergraduate courses do not count toward the graduate-level course load requirement for full-time students.

Dissertation and Dissertation Continuation

Once program requirements are met for the PhD candidacy, PhD candidates must register for Dissertation Term 1 (XXXX 9990) and Dissertation Term 2 (XXXX 9991). Candidates must then register for Dissertation Continuation (XXXX 9996) in each subsequent semester (excluding the summer term) until the dissertation is complete and approved by the Graduate School of Engineering. Students completing their dissertation in the summer term must register for Dissertation Continuation. There is a 1-semester-hour tuition charge for Dissertation Continuation.

MS Thesis and Thesis Continuation

Master's degree students who are completing a thesis must register for a total of 8 semester hours of Thesis. Students who have not completed their thesis but have already registered for the required number of thesis hours, and have no remaining coursework to complete the degree, may register for Thesis Continuation in their last semester (including summer term) . There is a 1-semester-hour tuition charge for Thesis Continuation. Thesis Continuation may be taken only once.

Petitions

Petitions are required in all cases where a student is requesting a change or exception to their current program or student status for the Graduate School of Engineering to maintain a complete and accurate record for all students.

Dissertation Committee

A dissertation committee shall include a minimum of three members, or four members if there are two co-advisors. At least three committee members should hold a doctorate or an appropriate terminal degree for the discipline, and at least two shall be full-time Northeastern University faculty.

At least two committee members shall hold some appointment in the department that offers the degree that the student is seeking. At least one member of the committee must not have a primary appointment in the department that offers the degree that the student is seeking.

The chair of the dissertation committee, who is assumed to be the advisor, shall be a full-time tenured or tenure-track member of the faculty of Northeastern, shall hold some appointment in the department that offers the degree that the student is seeking, and will hold a doctorate or an appropriate terminal degree for the discipline.

Research and teaching faculty may serve as the chair of the dissertation committee with departmental approval. In this case, at least two members of the committee must be tenured or tenure-track full-time Northeastern faculty. Exceptions to this requirement may be granted by the dean (or designee) based on the qualifications and experience of the faculty member who would serve as chair.

Graduate Student Grievance Policy

Introduction

This policy describes steps a graduate student should follow to submit a grievance.

Students should first attempt to resolve an issue through informal means, for example, by communicating with appropriate faculty members or the program director. If the issue is not resolved, students should follow the steps described below.

Students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated in an academic or cooperative education determination should follow the appeals procedure described in the COE Graduate Appeals Policy or the COE Cooperative Education Appeals Policy, respectively. Subsequent academic appeals can be submitted by following the University Academic Appeals Policy and Procedure.

Northeastern University is committed to providing a living, learning and work environment that is safe and free from discrimination and harassment. This includes all allegations of discrimination including those based on race, color, religion, religious creed, genetic information, sex (including pregnancy or pregnancy-related condition, sexual assault, sexual harassment, stalking, domestic violence), gender, gender identity, sexual orientation, age, national origin, ancestry, veteran or disability status. If a student makes a claim of discriminatory acts prohibited by law or by university policy, the grievance shall first be pursued through the Office of University Equity and Compliance and its procedures. When this has been completed, any aspects of the grievance that remain unresolved may then be brought to the grievance procedure.

Graduate students can contact the Ombuds for Graduate Students that offers confidential, impartial, and informal assistance to graduate students who have concerns related to their university experience.

Note that the college prohibits retaliation against a student for filing a grievance.

Grievance procedure

A graduate student who would like to complain about their treatment by a College of Engineering employee (faculty or staff) may submit a grievance. A written description of the complaint should be submitted within 60 days of the alleged activity. The description should state the exact nature of the grievance, against whom it is filed, and the remedy sought.

The student should submit the complaint to the chair of the department that houses the student's primary program of study and to the Associate Dean for Graduate Education. The Chair shall review the complaint, shall give any employees named in the grievance an opportunity to share relevant information, may gather additional information, and shall send a written response to the student and the Associate Dean for Graduate Education within two weeks.

If the student is not satisfied by the Department Chair's response, the student may submit the complaint to the Associate Dean for Graduate Education within two weeks. The Associate Dean shall review all available information and submit a written response to the student within two weeks.

If the student is not satisfied by the associate dean's decision, the student may submit the complaint to the dean within two weeks. The dean will review all available information and submit a written response to the student within two weeks.

PhD Student Progress and Review

Formal Requirements

The formal requirements for the PhD degree include the following milestones:

1. Completing required coursework.
2. Achieving candidacy, as determined by degree program. May be achieved through qualifying examinations, comprehensive examination(s), and/or an oral defense of the dissertation proposal.
3. Identifying a faculty research advisor.
4. Forming a dissertation committee.
5. Writing and completing a successful oral defense of the dissertation proposal before the PhD committee.
6. Completing a successful oral defense of dissertation before the PhD committee.
7. Approval of written dissertation by dissertation committee and Graduate School of Engineering.

Time Limits

Departments shall define standards for satisfactory performance progress for PhD students that include the following time limits:

DIRECT-ENTRY PHD STUDENTS

1. Candidacy must be achieved within three years of entering the PhD program.
2. The degree must be completed within seven years of entering the PhD program.

ADVANCED-ENTRY PHD STUDENTS

1. Candidacy must be achieved within three years of entering the PhD program.
2. The degree must be completed within five years of entering the PhD program.

Performance Progress

Departments shall establish a review process by which the performance progress of every PhD student is evaluated not more than once per semester and at least annually. As part of this review, students should submit information **that must include achievement of milestones** and could include descriptions of their plans, achievements, progress toward goals, transcripts, CV, publications, conferences attended, recognition they have received, and awards. The review process must include feedback from the student's faculty advisor.

If a department finds that a PhD student is not making satisfactory progress, the student shall be placed on performance probation. Members of the department shall work with the student to develop a performance improvement plan that includes specific actions the student should take to return to satisfactory progress. The performance progress of each PhD student on performance probation shall be reviewed by their department no earlier than one semester and no later than one year after being placed on probation. If a student on performance probation is again found to be not making satisfactory progress, the student shall be dismissed from their degree program. If a student on performance probation is found to be making satisfactory progress, the student shall leave performance probation status.

A copy of the performance progress review and performance improvement plan, if applicable, shall be submitted to the student. For all students, the result of the performance progress review shall be submitted to the Graduate School of Engineering. For all students who receive an unsatisfactory review, a summary of the performance progress review and performance improvement plan shall be submitted to the Graduate School of Engineering. Students dismissed from their program will be notified by the Graduate School of Engineering. A student who is dismissed from their program may submit an appeal through the college's graduate appeals process.

For the purposes of determining the timing of performance reviews specified by this policy, the summer 1 and summer 2 semesters shall collectively be considered one semester.

Program Completion

In order to earn a degree in the graduate program in which a student is enrolled, a student must complete all program and departmental requirements in a satisfactory manner.

A student must attain a cumulative grade-point average of 3.000 or higher in all courses applied toward that degree. A student must also earn a grade of C or higher in all required core courses. Please note that individual programs may have additional requirements.

Reenrollment Policy for Full-time Students

Students who enroll and complete at least one graduate engineering course can apply to their academic department to take an official leave of absence from the time they complete said course(s) and be automatically readmitted without department review. Automatic readmission applies only to the original program and concentration (if applicable) and only for students who took an official approved leave of absence. Catalog year of entry does not change and students must complete the curriculum requirements outlined in the Northeastern University Graduate Catalog for their original academic year of admission.

If a student without official leave of absence approval does not enroll in classes for two consecutive fall/spring semesters, they will be declared inactive. To return from inactive status, a student must submit an updated application to refresh their student record, and this application will be approved provided the student was in good standing at the time their absence started.

If a student without official leave of absence approval does not enroll in classes for three consecutive fall/spring semesters, or does not indicate their intent in writing to the Graduate School of Engineering by the end of the third consecutive semester, they will be withdrawn from the program. In the case of withdrawal, a student will be required to submit a new admission application for graduate studies without guarantee of readmission. If the student is admitted after being withdrawn, they will be admitted into the current catalog year and must meet the curriculum requirements in the current Graduate Catalog.

In cases where the student has seven or more years of nonenrollment, the graduate advisor in the Graduate School of Engineering shall initiate the process by contacting the graduate studies chair/program director on behalf of the student to confirm the content in the course(s) is still relevant to the current degree program. If the courses are confirmed to still be relevant, the graduate advisor shall submit a Waiver Request form with a copy of the course confirmation, the student's academic transcript, and any additional supporting documents to the graduate studies chair/program director and associate dean for graduate education for review and final approval. If the waiver is approved, the graduate advisor will send the waiver to the Office of the University Registrar for the course(s) to be applied to the student's degree audit.

Bioengineering

Website (http://www.bioe.neu.edu)

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The Department of Bioengineering is driven by the conviction that the interface of engineering and medicine will be one of the great intellectual adventures of the 21st century. To prepare students for this adventure, the department strives to create an atmosphere of innovation and creativity that fosters excellence in instruction and research and provides a foundation for programs that drive forward the cutting edge of knowledge while establishing translational collaborations with clinical and industrial researchers.

Bioengineering is a relatively new field built on the recognition that engineering of biological systems or systems that interface with living systems requires a multidisciplinary approach that takes into account the mechanical, electrical, chemical, and materials properties of the biological system. Students with backgrounds from biochemistry to computer science and many fields in between are attracted to bioengineering as a field with the potential to make a great impact on human health. The MS and PhD programs are designed to integrate students with very different backgrounds and provide them with the coursework and research experience that will take advantage of their unique backgrounds and, where appropriate, fill in gaps in their backgrounds to help them grow into a more broadly informed student.

Recognizing the breadth of disciplines that contribute to bioengineering projects, the MS program allows students to choose one of four concentrations (biomechanics; biomedical devices and bioimaging; cell and tissue engineering; or systems, synthetic, and computational bioengineering) to develop deep expertise in an area of particular interest and encourages individual research through a one-semester master's project or two-semester master's thesis.

The PhD program spans four core research areas for which the department has particular strengths: biomedical devices and bioimaging; biomechanics, biotransport, and mechanobiology; molecular, cell, and tissue engineering; and systems, synthetic, and computational bioengineering. Coursework is designed to strengthen student backgrounds in those areas most relevant to the interests of each student.

Mission of the Department

The mission of the Department of Bioengineering is the education of students in the fundamental principles and practice of bioengineering and, through basic and applied research, the creation of new knowledge at the interface of engineering and medicine to support development of new technologies for improvement of human health and healthcare.

Overview of Programs Offered

The Department of Bioengineering offers a Master of Science and a Doctor of Philosophy in Bioengineering. The MS and PhD degree programs are only offered as full-time programs.

Candidates pursuing an MS or PhD are able to select thesis topics from a diverse range of faculty research. New graduate students may learn about ongoing research topics from individual faculty members, faculty websites, and bioengineering seminars.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the MS degree.

Programs

Doctor of Philosophy (PhD)

- Bioengineering (p. 349)
- Interdisciplinary Engineering (p. 357)

Master of Science in Bioengineering (MSBioE)

- Bioengineering (p. 360)

Bioengineering, PhD

Biology can inspire engineering. Increasingly, discoveries in the life sciences reveal processes, complexity, and control without analogy in the world of traditional engineering. Current methods of producing nanoscale control over molecules cannot reproduce the organization found in even the simplest organisms. Energy capture, robust control, remediation, and self-assembly are all employed by biosystems with efficiency unparalleled by anything in today's laboratories. At the same time, traditional engineering disciplines struggle to find new approaches to the complex challenges of 21st-century technology. The last 50 years of basic life science research have gradually revealed the layers of complexity intrinsic to biological processes, unmasking the fundamental underpinnings on which biological systems are constructed. Bioinspired engineering has the potential to transform the technological landscape of the 21st century. Astonishingly, it represents merely one of the myriad opportunities presented at the interface of biology and engineering.

The field of bioengineering is broad and includes all research at the interface of engineering and biology—this includes bioprocesses, environmental microbiology, biomaterials and tissue engineering, bioelectricity, biomechanics, biomedical and biological imaging, nanotechnology in medicine and the environment, and engineering design for human interfacing. At Northeastern University, bioengineering PhD students have an opportunity to be trained to appreciate advances in bioengineering across a wide range of disciplines while they perform highly focused and cutting-edge bioengineering research with one of our faculty members.

The interdisciplinary PhD in Bioengineering program reflects departmental research strengths in multiple areas. Students accepted to the bioengineering program will undertake a rigorous core curriculum in basic bioengineering science, followed by a flexible selection of electives tailored to their dissertation research.

Research Areas

There are four key areas of research strength in our department.

AREA 1— BIOMEDICAL DEVICES AND BIOIMAGING

The Biomedical Devices and Bioimaging track reflects Northeastern's outstanding research profile in developing transformative and translational instrumentation and algorithms to help understand biological processes and disease. Our department has active federally funded research spanning across a broad spectrum of relevant areas in instrument design, contrast agent development, and advanced computational modeling and reconstruction methods. Example research centers and laboratories include theInstitute for Chemical Imaging of Living Systems (https://coe.northeastern.edu/coe-research/research-centers-institutes/institute-for-chemical-imaging-of-living-systems/), theTranslational Biophotonics Cluster (https://sites.google.com/view/tbpclusternu/home/), and theB-SPIRAL signal processing group (https://web.northeastern.edu/spiral/).

AREA 2—BIOMECHANICS, BIOTRANSPORT, AND MECHANOBIOLOGY

Motion, deformation, and flow of biological systems in response to applied loads elicit biological responses at the molecular and cellular levels that support the physiological function of tissues and organs and drive their adaptation and remodeling. To study these complex interactions, principles of solid, fluid, and transport mechanics must be combined with measures of biological function. The Biomechanics, Biotransport, and Mechanobiology track embraces this approach and leverages the strong expertise of Northeastern faculty attempting to tie applied loads to biological responses at multiple length and time scales.

AREA 3—MOLECULAR, CELL, AND TISSUE ENGINEERING

Principles for engineering living cells and tissues are essential to address many of the most significant biomedical challenges facing our society today. These application areas include engineering biomaterials to coax and enable stem cells to form functional tissue or to heal damaged tissue; designing vehicles for delivering genes and therapeutics to reach specific target cells to treat a disease; and uncovering therapeutic strategies to curb pathological cell behaviors and tissue phenotypes. At a more fundamental level, the field is at the nascent stages of understanding how cells make decisions in complex microenvironments and how cells interact with each other and their surrounding environment to organize into complex three-dimensional tissues. Advances will require multiscale experimental, computational, and theoretical approaches spanning molecular-cellular-tissue levels and integration of molecular and physical mechanisms, including the role of mechanical forces.

AREA 4—SYSTEMS, SYNTHETIC, AND COMPUTATIONAL BIOENGINEERING

Research groups in systems, synthetic, and computational bioengineering apply engineering principles to model and understand complex biological systems, including differentiation and development, pathogenesis and cancer, and learning and behavior. This involves designing and implementing methods for procuring quantitative and sometimes very large data sets, as well as developing theoretical models and computational tools for interpreting these data. Deciphering the workings of a biological system allows us to identify potential biomarkers and drug targets, to develop protocols for personalized medicine, and more. In addition, we use the design principles of biological systems we discover to engineer and refine new synthetic biological systems for clinical, agricultural, environmental, and energy applications.

Degree Requirements

Completion of the PhD degree requires students to successfully complete the following requirements:

CURRICULUM

The curriculum comprises a strong core of fundamental courses that is coupled with flexible choices of restricted and unrestricted technical electives to provide depth in a particular field of study. The detailed course requirements are outlined below.

For students possessing a baccalaureate in a suitable quantitative or technical field before entering the PhD program, the required course distribution is shown in the table below:

Requirements	Credits
Required core courses	12
Restricted technical electives	8
Unrestricted technical electives	12
Advanced seminar (four semesters)	
Dissertation	
Minimum semester hours required	32

The curriculum for PhD students with "advanced standings," i.e., students with an MS degree in relevant engineering areas awarded at a qualified institution, will be selected from the available core and elective courses under the guidance of the program director and the student's primary advisor. Completion of the PhD degree with an advanced standing requires a minimum of 16 semester hours of coursework to be approved by the graduate director and a completed PhD dissertation.

Requirements	Credits
Required core courses	8
Advisor-approved coursework	8
Advanced seminar (four semesters)	
Dissertation	
Minimum semester hours required	16

QUALIFYING EXAM (WRITTEN AND ORAL)

To qualify to continue in the PhD program, students must pass the bioengineering qualifying examination in the most relevant of the four department research areas. Students will prepare a six-page written document that will be distributed to the committee before the oral examination. Details of the formal qualification exam procedure and timing are available in the Graduate Handbook (https://bioe.northeastern.edu/community/resources-for-current-students/). In addition, satisfactory research progress and academic standing are required to pass the exam. The qualifying exam is normally taken in the first semester of the student's second year.

QUALIFYING EXAM COMMITTEE

The qualifying examination committee is composed of three members of the Department of Bioengineering faculty. At least two of three committee members will be from the student's research area. The student's primary research advisor may not sit on the qualifying exam committee.

PHD DISSERTATION COMMITTEE

Students normally form their dissertation committee within two years of joining the PhD program. The dissertation committee is composed of a minimum of three members, two of whom must be core faculty from the Department of Bioengineering. The student's primary advisor will be a member of and chair the dissertation committee. This advisor must be a member of the core bioengineering faculty or a faculty member from another department who has an affiliation with the bioengineering department. Students are required to meet annually with their PhD dissertation committee to ensure satisfactory research progress.

ANNUAL COMMITTEE MEETINGS AND DISSERTATION PROPOSALS

PhD students must hold their first committee meetings no later than their third year. The first committee meeting requires the student to write a dissertation proposal in the form of an NIH-style R21 proposal research plan that will be distributed to their dissertation committee at least one week prior to the meeting. Thereafter, students are expected to hold annual progress updates with their committee. At the penultimate committee meeting (which must be held at least four months prior to the dissertation defense), the student will prepare and present a final proposal document to the committee. Successful defense of this proposal will allow the student to progress to the PhD dissertation defense.

PHD DISSERTATION DEFENSE

PhD candidates must satisfactorily complete and defend a dissertation describing original research in bioengineering in an open presentation to the Northeastern bioengineering community, followed by a closed meeting with their dissertation committee in which they are expected to defend their work and answer all relevant questions regarding that work, its significance, and its relationship to ongoing work across the broader research community.

DISSERTATION COURSE REQUIREMENTS

After achieving PhD candidacy by passing the qualifying exam, the doctoral candidate, in consultation with their research advisor, must register in two consecutive semesters (may include full summer term) for Dissertation Term 1 (BIOE 9990) and Dissertation Term 2 (BIOE 9991). Upon completion of this sequence, the student must then register for Dissertation Continuation (BIOE 9996) every semester (in each fall and spring term and also in the summer term if summer is the student's last semester) until the dissertation is completed. Students may not register for Dissertation Continuation (BIOE 9996) until they fulfill the two-semester sequence of Dissertation Term 1 (BIOE 9990) and Dissertation Term 2 (BIOE 9991).

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Exam Preparation—Doctoral (BIOE 8960) in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination (within two years of entry)
Dissertation committee
Annual committee meetings
Area examination (dissertation prospectus/proposal)
Dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
BIOE 7390	Seminar (Register and complete two semesters)	0
BIOE 7391	Student Seminar (Register and complete once in second year and once in fourth year)	0
Required Core		
BIOE 6100	Medical Physiology	4
BIOE 6200	Mathematical Methods in Bioengineering	4
BIOE 7000	Principles of Bioengineering	4
Restricted Bioengineering Technical Electives		
Complete 8 semester hours from the following:		8
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5410	Molecular Bioengineering	
BIOE 5411	Applied Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5648	Biomedical Optics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5710	Experimental Systems and Synthetic Bioengineering	
BIOE 5720	Physical Bioengineering	
BIOE 5750	Modeling and Inference in Bioengineering	
BIOE 5810	Design of Biomedical Instrumentation	
BIOE 5820	Biomaterials	
ME 5665	Musculoskeletal Biomechanics	
Technical Electives		
Complete 12 semester hours from the electives listed below.		12

Electives Course List

Code	Title	Hours
BINF 6400	Genomics in Bioinformatics	
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5630	Physiological Fluid Mechanics	

BIOE 5640	Computational Biomechanics
BIOE 5648	Biomedical Optics
BIOE 5650	Multiscale Biomechanics
BIOE 5710	Experimental Systems and Synthetic Bioengineering
BIOE 5720	Physical Bioengineering
BIOE 5750	Modeling and Inference in Bioengineering
BIOE 5760	Method and Logic in Systems Biology and Bioengineering
BIOE 5800	Systems, Signals, and Controls for Bioengineers
BIOE 5810	Design of Biomedical Instrumentation
BIOE 5820	Biomaterials
BIOE 5850	Design of Implants
BIOE 5860	Engineering Approaches to Precision Medicine I
BIOE 5870	Engineering Approaches to Precision Medicine II
BIOE 5880	Computational Methods in Systems Bioengineering
BIOL 5543	Stem Cells and Regeneration
BIOL 5601	Multidisciplinary Approaches in Motor Control
BIOL 6299	Molecular Cell Biology for Biotechnology
BIOL 6300	Biochemistry
BIOL 6301	Molecular Cell Biology
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology
CAEP 6202	Research, Evaluation, and Data Analysis
CHEM 5612	Principles of Mass Spectrometry
CHEM 5620	Protein Chemistry
CHEM 5621	Principles of Chemical Biology for Chemists
CHEM 5638	Molecular Modeling
CHEM 7317	Analytical Biotechnology
CHME 5630	Biochemical Engineering
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CS 5310	Computer Graphics
CS 5330	Pattern Recognition and Computer Vision
CS 5335	Robotic Science and Systems
CS 5400	Principles of Programming Language
CS 5600	Computer Systems
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6410	Compilers
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
EECE 5606	Micro- and Nanofabrication
EECE 5642	Data Visualization
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7271	Computational Methods in Electromagnetics
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory

EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
IE 7315	Human Factors Engineering
ME 5650	Advanced Mechanics of Materials
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5657	Finite Element Method 1
ME 5658	Continuum Mechanics
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7238	Finite Element Method 2
ME 7275	Essentials of Fluid Dynamics
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market
OR 6205	Deterministic Operations Research
PHSC 5100	Concepts in Pharmaceutical Science
PHSC 6290	Biophysical Methods in Drug Discovery
PHYS 5116	Network Science 1
PHYS 7301	Classical Mechanics/Math Methods
PHYS 7321	Computational Physics
PHYS 7741	Biological Physics 2
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems
PT 5138	Neuroscience
PT 5139	Lab for PT 5138
PT 5150	Motor Control, Development, and Learning
PT 5151	Lab for PT 5150

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination (within two years of entry)
Dissertation committee
Area examination (dissertation prospectus/proposal)
Dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
BIOE 7390	Seminar (Register and complete two semesters)	0

BIOE 7391	Student Seminar (Register and complete once in second year and once in fourth year)	0
Required Core		
BIOE 6200	Mathematical Methods in Bioengineering	4
BIOE 7000	Principles of Bioengineering	4
Approved Coursework		
Complete 8 semester hours from the Elective Course List.		8

Elective Course List

Code	Title	Hours
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5648	Biomedical Optics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5710	Experimental Systems and Synthetic Bioengineering	
BIOE 5720	Physical Bioengineering	
BIOE 5750	Modeling and Inference in Bioengineering	
BIOE 5760	Method and Logic in Systems Biology and Bioengineering	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOE 5820	Biomaterials	
BIOE 5850	Design of Implants	
BIOE 5860	Engineering Approaches to Precision Medicine I	
BIOE 5870	Engineering Approaches to Precision Medicine II	
BIOE 5880	Computational Methods in Systems Bioengineering	
BIOE 6100	Medical Physiology	
BINF 6400	Genomics in Bioinformatics	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
BIOL 6300	Biochemistry	
BIOL 6301	Molecular Cell Biology	
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology	
CAEP 6202	Research, Evaluation, and Data Analysis	
CHEM 5620	Protein Chemistry	
CHEM 5621	Principles of Chemical Biology for Chemists	
CHEM 5638	Molecular Modeling	
CHEM 7317	Analytical Biotechnology	
CHME 5630	Biochemical Engineering	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5330	Pattern Recognition and Computer Vision	
CS 5335	Robotic Science and Systems	
CS 5400	Principles of Programming Language	

CS 5600	Computer Systems
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6410	Compilers
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
EECE 5606	Micro- and Nanofabrication
EECE 5642	Data Visualization
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7271	Computational Methods in Electromagnetics
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
IE 7315	Human Factors Engineering
ME 5650	Advanced Mechanics of Materials
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5657	Finite Element Method 1
ME 5658	Continuum Mechanics
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7238	Finite Element Method 2
ME 7275	Essentials of Fluid Dynamics
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market
OR 6205	Deterministic Operations Research
PHSC 5100	Concepts in Pharmaceutical Science
PHSC 6290	Biophysical Methods in Drug Discovery
PHYS 5116	Network Science 1
PHYS 7301	Classical Mechanics/Math Methods
PHYS 7321	Computational Physics
PHYS 7741	Biological Physics 2
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems
PT 5138	Neuroscience
PT 5139	Lab for PT 5138
PT 5150	Motor Control, Development, and Learning
PT 5151	Lab for PT 5150

Dissertation

Code	Title	Hours
Complete the following two courses:		
BIOE 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Interdisciplinary Engineering, PhD

130 Snell Engineering Center
617.373.2711

The College of Engineering offers an interdisciplinary engineering Doctor of Philosophy degree involving substantial work in two or more academic departments or disciplines. This is an individually designed program for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. In such cases, that student may design, in consultation with their faculty advisor(s), an interdisciplinary program. The program will correspond in scope and depth to Northeastern University's established degree standards but need not agree exactly with the regulations of individual units. Individually designed interdisciplinary degree programs must be approved by the appropriate graduate office(s).

The interdisciplinary engineering program admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements as well as all the required coursework.

Program Requirements

In order to pursue an individually designed interdisciplinary engineering graduate program, a student must have been accepted into an approved graduate program that will serve as the administrative home unit for the interdisciplinary engineering program:

- Department of Bioengineering (p. 348)
- Department of Chemical Engineering (p. 364)
- Department of Civil and Environmental Engineering (p. 380)
- Department of Electrical and Computer Engineering (p. 409)
- Department of Mechanical and Industrial Engineering (p. 473)

Students who have been dismissed from any of the COE departments will not be able to enroll into the interdisciplinary engineering PhD program with the department from which they were dismissed as either home or participating department. Successful application for admission to an individually designed interdisciplinary program consists of a written proposal describing the areas of proposed study and research. Part of this proposal will be a list of courses to be taken, a description of the qualifying and comprehensive examination process to be used, a timeline, and any other requirements of the program.

The interdisciplinary engineering PhD requires the commitment by a faculty member at Northeastern to be the advisor of the student and chair of the interdisciplinary committee for the student. This faculty member may or may not be a member of the administrative home unit. The committee must be assembled within the first semester of the program and must include faculty members from all of the participating units. At least two units must be represented on the committee. This committee will be responsible for overseeing the completion of the degree requirements. It will also be responsible for the administrative elements of the program, such as the monitoring of satisfactory progress; the design and grading of the preliminary and comprehensive exams, if applicable; graduation clearance; etc. This interdisciplinary committee is also responsible for an annual review of the progress of the student and for reporting this progress to the administrative home unit on an annual basis.

Qualifying Examination and Degree Candidacy

Interdisciplinary engineering PhD students must register for and pass the doctoral qualifying examination of their home department. In some cases, if deemed necessary by the interdisciplinary committee, students may be required to take some part of the doctoral qualifying examinations of the other department(s) involved with the student's program of study. To qualify as an interdisciplinary engineering doctoral candidate, students must successfully complete the doctoral qualifying examinations in addition to all their required coursework.

Dissertation

Students must present their dissertation proposal no more than 12 months after successfully completing their doctoral qualifying examinations. In addition, the presentation of the dissertation proposal and the actual dissertation defense shall be no less than six months apart. Interdisciplinary engineering PhD students must follow the dissertation guidelines of their home department.

Residency Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residency. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Direct Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 48 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		48

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	
or CHME 9991	Dissertation Term 2	
or CIVE 9991	Dissertation Term 2	
or EECE 9991	Dissertation Term 2	
or IE 9991	Dissertation Term 2	
or ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 20 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		20

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

or CHME 9991	Dissertation Term 2
or CIVE 9991	Dissertation Term 2
or EECE 9991	Dissertation Term 2
or IE 9991	Dissertation Term 2
or ME 9991	Dissertation Term 2

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Bioengineering, MSBioE

Bioengineering is engineering in a biological context such as the human body, an ecosystem, or a bioreactor. In every case, the interface between engineered and biological systems places unique constraints on the design and implementation of devices, instruments, or implants. These depend on the properties of the biological system involved and the functionality that is being created.

The interface of engineering and medicine as embodied in bioengineering will be one of the most exciting endeavors and greatest adventures of the 21st century. Job opportunities are expected to expand dramatically with a focus on development of entirely new classes of products, instrumentation, and implants. The impact to human health will be extraordinary.

Bioengineering is intrinsically multidisciplinary and it is essential that students learn the languages used by multidisciplinary teams. To that end, our curriculum is structured around a core of six courses that analyze biological systems from every possible quantitative point of view. On the completion of the core, students choose one of four concentrations, which provides the opportunity to develop a deep level of expertise in a specific area of bioengineering.

Bioengineering students will have unique opportunities in the classroom, research labs, and experiential learning. The projects that they may be able to contribute to include bio-bandages that monitor bacterial growth or that help damaged ligaments heal faster; sheets of cells folded like origami to form a working kidney; and new materials that—like a leaf in the sun—automatically sense and adapt to changes in the environment.

Our graduate program includes four concentrations, including:

- Biomechanics
- Biomedical Devices and Bioimaging
- Cell and Tissue Engineering
- Systems, Synthetic, and Computational Bioengineering

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Bioengineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Bioengineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 33-semester-hour degree and certificate will require 17 hours of advisor-approved bioengineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. *Note:* This major requires a concentration: Biomechanics; Biomedical Devices and Bioimaging; Cell and Tissue Engineering; or Systems, Synthetic, and Computational Bioengineering. Consult your college administrator.

Core Requirements

Code	Title	Hours
Seminar		
BIOE 7390	Seminar [1]	0
Required Core		
A grade of C or higher is required in each course:		
BIOE 6000	Principles of Bioengineering [1]	1
BIOE 6100	Medical Physiology	4

Concentrations

Complete one of the following four concentrations:

- Biomechanics (p. 361)
- Biomedical Devices and Bioimaging (p. 361)
- Cell and Tissue Engineering (p. 362)
- Systems, Synthetic, and Computational Bioengineering (p. 363)

BIOMECHANICS CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
Complete two of the following courses:		8
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5650	Multiscale Biomechanics	
ME 5665	Musculoskeletal Biomechanics	
Coursework Option		
Complete 20 semester hours from the course list.		20
Project Option		
BIOE 7890	Master's Project	4
Complete 16 semester hours from the course list.		16
Thesis Option		
Complete the following (repeatable) course twice:		8
BIOE 7990	Thesis	
Complete 12 semester hours from the course list.		12
Course List		
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CHME 5632	Advanced Topics in Biomaterials	
EECE 7200	Linear Systems Analysis	
EECE 7203	Complex Variable Theory and Differential Equations	
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5658	Continuum Mechanics	
ME 5659	Control Systems Engineering	
ME 5665	Musculoskeletal Biomechanics	
ME 7238	Finite Element Method 2	

BIOMEDICAL DEVICES AND BIOIMAGING CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
BIOE 5235	Biomedical Imaging	4
or BIOE 5648	Biomedical Optics	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	4
BIOE 5810	Design of Biomedical Instrumentation	4
Coursework Option		
Complete 16 semester hours from the course list.		16
Project Option		
BIOE 7890	Master's Project	4
Complete 12 semester hours from the course list.		12
Thesis Option		
Complete the following (repeatable) course twice:		8

BIOE 7990	Thesis	
Complete 8 semester hours from the course list.		8
Course List		
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5648	Biomedical Optics	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
BIOE 5850	Design of Implants	
CHME 5632	Advanced Topics in Biomaterials	
EECE 5606	Micro- and Nanofabrication	
EECE 7105	Optics for Engineers	
EECE 7200	Linear Systems Analysis	
EECE 7203	Complex Variable Theory and Differential Equations	
EECE 7204	Applied Probability and Stochastic Processes	
ME 5657	Finite Element Method 1	
NNMD 5274	Nanomedicine Seminar 2	
NNMD 5370	Nanomedicine Research Techniques	

CELL AND TISSUE ENGINEERING CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
BIOE 5410	Molecular Bioengineering	4
or BIOE 5411	Applied Molecular Bioengineering	
BIOE 5420	Cellular Engineering	4
Coursework Option		
Complete 19–20 semester hours from the course list.		19-20
Project Option		
BIOE 7890	Master's Project	4
Complete 15–16 semester hours from the course list.		15-16
Thesis Option		
Complete the following (repeatable) course twice:		8
BIOE 7990	Thesis	
Complete 11–12 semester hours from the course list.		11-12
Course List		
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5411	Applied Molecular Bioengineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
BIOL 5543	Stem Cells and Regeneration	
BIOL 6301	Molecular Cell Biology	
CHME 5632	Advanced Topics in Biomaterials	
NNMD 5370	Nanomedicine Research Techniques	
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	

SYSTEMS, SYNTHETIC, AND COMPUTATIONAL BIOENGINEERING CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
BIOE 5710	Experimental Systems and Synthetic Bioengineering	4
BIOE 5720	Physical Bioengineering	4
Complete one of the following courses:		4
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5750	Modeling and Inference in Bioengineering	
Coursework Option		
Complete 16 semester hours from the course list.		16
Project Option		
BIOE 7890	Master's Project	4
Complete 12 semester hours from the course list.		12
Thesis Option		
Complete the following (repeatable) course twice:		8
BIOE 7990	Thesis	
Complete 8 semester hours from the course list.		8
Course List		
BINF 6400	Genomics in Bioinformatics	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5640	Computational Biomechanics	
BIOE 5750	Modeling and Inference in Bioengineering	
BIOE 5760	Method and Logic in Systems Biology and Bioengineering	
BIOE 5860	Engineering Approaches to Precision Medicine I	
BIOE 5870	Engineering Approaches to Precision Medicine II	
BIOE 5880	Computational Methods in Systems Bioengineering	
BIOL 6299	Molecular Cell Biology for Biotechnology	
CHEM 5638	Molecular Modeling	
CHME 5630	Biochemical Engineering	
DS 5110	Introduction to Data Management and Processing	
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHTH 5202	Introduction to Epidemiology	
PHYS 5116	Network Science 1	

PROGRAM CREDIT/GPA REQUIREMENTS

32 total semester hours required
Minimum 3.000 GPA required

[1] Principles of Bioengineering (BIOE 6000) and Seminar (BIOE 7390) are not required for students in a PlusOne bioengineering pathway.

Chemical Engineering

Website (http://www.che.neu.edu)

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Mission of the Department

The mission of the Department of Chemical Engineering at Northeastern University is to educate and train students in chemical engineering practice through integrating an inclusive classroom environment with hands-on and cooperative education experiences while solving research problems that impact our world.

Co-op enables students to integrate practical workplace knowledge with classroom learning so the educational experiences are synergistic and deepen the learning process. The chemical engineering community encourages professional development through active participation and leadership in student organizations, professional societies, and departmental activities.

The graduate programs in the Department of Chemical Engineering offer students the opportunity to work on cutting-edge research that tackles pressing challenges facing our society and our planet in areas such as biomedicine, energy, security, and sustainability. Students develop an in-depth understanding of the principles of chemical engineering through core coursework and applied electives, while gaining career experience through laboratory research or co-op. The overarching goal of the rich research and educational experience is to mentor and to equip our students to become future leaders in engineering and science, while simultaneously promoting scholarly achievement for both the faculty and students.

Academic Programs

The department offers graduate programs in both chemical engineering and pharmaceutical engineering:

- MS in Chemical Engineering
  - MS in Chemical Engineering students can select either a research-based (thesis) or a coursework-based (nonthesis) degree option
- MS in Pharmaceutical Engineering
- PhD in Chemical Engineering
- PhD in Interdisciplinary Engineering

Many graduate-level courses are in the late afternoon or early evening to make them accessible to part-time students with full-time industrial careers. A full-time student may apply for participation in the co-op plan. MS or PhD students pursuing research should first gain the consent of their advisor(s) prior to participating in the co-op plan. Any deviations from the curriculum must be addressed by petition to the graduate committee and will be considered on a case-by-case basis.

Graduate students pursuing a thesis MS or a PhD degree are able to select research topics from a diverse range of faculty interests. The department's research areas include biomolecular and biomedical systems, complex and computational systems, energy and sustainability, engineering education and pedagogy, and materials and nanotechnology. New graduate students can learn about ongoing research from individual faculty members, faculty websites, and graduate student seminars. Graduate student seminars are held on a regular basis and provide an interactive forum for learning and exchanging research ideas.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the your degree. Students should consult their faculty advisor regarding these options (p. 567).

GRADUATE CERTIFICATE IN PROCESS SAFETY ENGINEERING

The Process Safety Engineering Graduate Certificate program focuses on the integration of chemical engineering skills with the knowledge of process safety and regulation with specific attention on designing and developing solutions for industrial firms with the goal of creating environments that are safer and in compliance with regulatory rules and regulations.

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the MS degree.

Programs

Doctor of Philosophy (PhD)

- Chemical Engineering (p. 366)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Pharmaceutical Engineering (p. 374)

Master of Science in Chemical Engineering (MSChE)

- Chemical Engineering (p. 376)

Graduate Certificate

- Process Safety Engineering (p. 379)

Chemical Engineering, PhD

Each student admitted to the PhD program in chemical engineering will initially be designated a doctoral student. Upon successful completion of the requirements for doctoral candidacy as described below, a student is reclassified as a doctoral candidate. After establishing candidacy, a student must complete a program of academic coursework and a dissertation under the direction of a dissertation advisor. All doctoral candidates must also pass a final oral examination.

Doctoral Candidacy for Direct Entry

To qualify for doctoral candidacy, the student must demonstrate mastery of four core courses of chemical engineering (thermodynamics or statistical thermodynamics, kinetics, transport, and mathematics). To become a doctoral candidate, students must maintain a grade-point average of 3.250 or above in the four core courses and have no individual grade below a B– in the four core courses.

In addition, each student must complete 4 semester hours of Research (CHME 9984) and demonstrate critical thinking, analysis, and experimental planning skills related to their dissertation research topic through a written candidacy proposal and an oral defense of this proposal. The student must pass, as determined by the student's dissertation committee, this candidacy proposal defense in order to advance to doctoral candidacy. If the student fails, they may resubmit their proposal and retake the defense one time within four months, unless an extension is granted by the primary research advisor and the department graduate committee. The student earns the classification of doctoral candidate upon successful completion of these requirements.

Doctoral Candidacy for Advanced Entry

To become a doctoral candidate, advanced-entry students who have already completed a graduate degree in chemical engineering or a closely related discipline must petition the graduate committee of the Department of Chemical Engineering and demonstrate that the mastery has been attained through coursework either at Northeastern University or during a previous graduate degree from another institution (typically granted when the student has achieved a grade of at least A– in an equivalent course). The student must demonstrate mastery of the four core areas of chemical engineering (thermodynamics or statistical thermodynamics, kinetics, transport, and mathematics) through course performance.

The graduate committee may require a student to take or retake any or all of the core courses before achieving doctoral candidacy. Incoming advanced-entry students should form a plan of coursework in consultation with the associate chair for graduate studies and have this approved by the graduate committee. For the core courses taken at Northeastern, students should maintain a GPA of 3.250 or above and have no individual grade below a B–.

In addition, each student must complete 4 semester hours of Research (CHME 9984) and demonstrate critical thinking, analysis, and experimental planning skills related to their dissertation research topic through a written candidacy proposal and a defense of this proposal. The student must pass, as determined by the student's dissertation committee, this oral candidacy proposal defense in order to advance to doctoral candidacy. If the student fails, they may resubmit their proposal and retake the defense one time within four months, unless an extension is granted by the primary research advisor and the department graduate committee. The student earns the classification of doctoral candidate upon successful completion of these requirements.

Course Requirements

DIRECT ENTRY

A minimum of 32 semester hours of academic coursework, **not including any independent study credits,** beyond the bachelor's degree is required. The 32 semester hours must include at least 24 semester hours of academic coursework (exclusive of thesis or dissertation) taken at Northeastern. All four of the core courses (see table under Program Requirements), the 4 semester hours of research, and the 4 semester hours of professional development courses must be included in the student's academic graduate coursework.

ADVANCED ENTRY

A **minimum** of 20 semester hours of academic coursework, **not including any independent study credits,** beyond the master's degree is required. At least 16 semester hours of academic coursework (exclusive of thesis or dissertation) must be taken at Northeastern. At least one of the core courses (see table under Program Requirements), 4 semester hours of Research (CHME 9984), and 4 semester hours of professional development courses must be included in the student's academic graduate coursework. At least 8 semester hours of noncore electives must also be included. If the graduate committee requires additional core courses to achieve doctoral candidacy, these are in addition to the 20-semester-hour minimum.

GENERAL REQUIREMENTS

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Candidacy Preparation—Doctoral (CHME 8960), in a section for which their research or academic advisor is listed as the instructor in the online registration system.

After obtaining PhD candidacy, students are required to register for Dissertation Term 1 (CHME 9990) and Dissertation Term 2 (CHME 9991) for two consecutive semesters. This is then followed by registration for Dissertation Continuation (CHME 9996) in each semester thereafter until the dissertation has been completed and defended. Note: No course credits are awarded for Dissertation Term 1 (CHME 9990),Dissertation Term 2 (CHME 9991), or Dissertation Continuation (CHME 9996); however, a student is considered full time if registered for these courses.

All students pursuing a doctoral degree must enroll in the department's Seminar (CHME 7390) course for each semester they are working toward their degree.

Students will be advised on their courses for the first semester by the associate chair for graduate studies. After the first semester, students will work with their dissertation adviser to determine appropriate courses and course schedule to meet their educational needs and aspirations. Upon consultation with the dissertation advisor, a student may take up to 44 semester hours of course credit without additional financial penalty. Students and dissertation advisors should keep in mind that the university residency requirement requires two semesters of academic studies after becoming a doctoral candidate.

Language Requirement

There is no foreign language requirement for the PhD degree. However, each candidate must be proficient in technical writing and oral presentation in the English language. The graduate committee may require additional coursework to improve language proficiency, if necessary.

Residence Requirement

A student satisfies the residence requirement by completing one academic year of full-time graduate studies during two consecutive academic semesters after qualifying for doctoral candidacy. Additional required coursework (exclusive of seminars) may be completed during this period. Students are required to be continually enrolled while pursuing the completion of the dissertation.

Dissertation

After a student establishes doctoral candidacy, they must complete a dissertation that embodies the results of extended original research and includes material suitable for publication. The student is responsible for proposing a dissertation committee to be approved by the dissertation advisor at least one month prior to the dissertation defense. The committee must have a minimum of four members, including the primary advisor. At least two committee members must be faculty members in the Department of Chemical Engineering. Additionally, one of the committee members must be external to the Department of Chemical Engineering. Committee membership is not limited to faculty at Northeastern or to engineering faculty. The student is encouraged to consider experts in the dissertation topic and to work with the dissertation advisor to create a meaningful and helpful committee. The dissertation committee will approve the dissertation in its final form. The graduate school requirements for dissertation formatting and electronic submittal instructions can be found on the College of Engineering's webpage (https://coe.northeastern.edu/academics-experiential-learning/graduate-school-of-engineering/graduate-student-services/dissertation-thesis-instructions/). Students are responsible for contacting the Graduate School of Engineering for any updates to dissertation requirements and appropriate deadlines.

Dissertation Defense and Final Oral Examination

This comprehensive examination includes the public dissertation defense as well as a final oral examination to include the subject matter of the doctoral dissertation and significant developments in the field of the dissertation work. The oral presentation will be open to the public, including students, faculty, and the student's committee.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Biannual review
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A minimum of 32 semester hours of academic coursework is required, plus 2 optional semester hours for cooperative education and mentoring in chemical engineering. Independent study credits do not count toward the 32 required semester hours.

Code	Title	Hours
Core Courses		
A cumulative 3.250 GPA, with no individual class lower than a B–, is required for the following:		
CHME 7320	Chemical Engineering Mathematics	4
or ME 6200	Mathematical Methods for Mechanical Engineers 1	
CHME 7330	Chemical Engineering Thermodynamics	4
CHME 7340	Chemical Engineering Kinetics	4
CHME 7350	Transport Phenomena	4
Research		
CHME 9984	Research	4
Professional Development		
CHME 7391	Professional Development and Communication in Chemical Engineering 1	1
CHME 7392	Professional Development and Communication in Chemical Engineering 2	1
CHME 7393	Professional Development and Communication in Chemical Engineering 3	1
CHME 7394	Professional Development and Communication in Chemical Engineering 4	1
Seminar		

Complete the following (repeatable) course each semester:	
CHME 7390	Seminar
Recommended but optional:	
CHME 7395	Mentoring in Chemical Engineering
ENCP 6100	Introduction to Cooperative Education

Electives

Code	Title	Hours
Complete 8 semester hours. Consult your faculty advisor for acceptable courses:		8
BIOE 5410	Molecular Bioengineering	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5105	Materials Characterization Techniques	
CHME 5137	Computational Modeling in Chemical Engineering	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5179	Complex Fluids and Everyday Materials	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5510	Fundamentals in Process Safety Engineering	
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	
CHME 5621	Electrochemical Engineering	
CHME 5630	Biochemical Engineering	
CHME 5631	Biomaterials Principles and Applications	
CHME 5632	Advanced Topics in Biomaterials	
CHME 5683	Introduction to Polymer Science	
CHME 5699	Special Topics in Chemical Engineering	
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling	
CHME 7262	Special Topics in Process Safety	
CHME 7600	Pharmaceutical Engineering I	
CHME 7601	Pharmaceutical Engineering II	
CHME 7602	Pharmaceutical Engineering Laboratory	
CHME 7973	Special Topics in Chemical Engineering	
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ME 5620	Fundamentals of Advanced Materials	
NNMD 5270	Foundations in Nanomedicine: Therapeutics	
NNMD 5370	Nanomedicine Research Techniques	
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	

Dissertation

Code	Title	Hours
CHME 9990	Dissertation Term 1	
CHME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32 total semester hours required

Minimum 3.000 GPA overall required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Biannual review
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A minimum of 20 semester hours (SH) of academic coursework is required, plus 2 optional semester hours for cooperative education and mentoring in chemical engineering. Independent study credits do not count toward the 20 required semester hours.

Code	Title	Hours
Core Courses		
Complete at least one of the four core classes. A cumulative 3.250 GPA—with no individual class below a B minus—is required for core classes taken: [1]		4
CHME 7320	Chemical Engineering Mathematics	
or ME 6200	Mathematical Methods for Mechanical Engineers 1	
CHME 7330	Chemical Engineering Thermodynamics	
CHME 7340	Chemical Engineering Kinetics	
CHME 7350	Transport Phenomena	
Research		
CHME 9984	Research	4
Seminar and Professional Development		
CHME 7391	Professional Development and Communication in Chemical Engineering 1	1
CHME 7392	Professional Development and Communication in Chemical Engineering 2	1
CHME 7393	Professional Development and Communication in Chemical Engineering 3	1
CHME 7394	Professional Development and Communication in Chemical Engineering 4	1
Complete the following repeatable course each semester:		
CHME 7390	Seminar	
Recommended but optional:		
ENCP 6100	Introduction to Cooperative Education	
CHME 7395	Mentoring in Chemical Engineering	

Electives

Code	Title	Hours
Complete a minimum of 8 semester hours. Consult your faculty advisor for acceptable courses:		8
BIOE 5410	Molecular Bioengineering	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5105	Materials Characterization Techniques	
CHME 5137	Computational Modeling in Chemical Engineering	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5179	Complex Fluids and Everyday Materials	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5510	Fundamentals in Process Safety Engineering	
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	
CHME 5621	Electrochemical Engineering	
CHME 5630	Biochemical Engineering	
CHME 5631	Biomaterials Principles and Applications	
CHME 5632	Advanced Topics in Biomaterials	
CHME 5683	Introduction to Polymer Science	
CHME 5699	Special Topics in Chemical Engineering	
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling	
CHME 7262	Special Topics in Process Safety	
CHME 7600	Pharmaceutical Engineering I	
CHME 7601	Pharmaceutical Engineering II	
CHME 7602	Pharmaceutical Engineering Laboratory	
CHME 7973	Special Topics in Chemical Engineering	
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ME 5620	Fundamentals of Advanced Materials	
NNMD 5270	Foundations in Nanomedicine: Therapeutics	

NNMD 5370	Nanomedicine Research Techniques
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market

Dissertation

Code	Title	Hours
Complete the following two courses:		
CHME 9990	Dissertation Term 1	
CHME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Minimum 20 total semester hours required
Minimum 3.000 GPA overall required

[1] Additional core classes may be required by the chemical engineering graduate committee to achieve PhD candidacy, which would not count toward the 20 SH minimum for the PhD.

Interdisciplinary Engineering, PhD

130 Snell Engineering Center
617.373.2711

The College of Engineering offers an interdisciplinary engineering Doctor of Philosophy degree involving substantial work in two or more academic departments or disciplines. This is an individually designed program for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. In such cases, that student may design, in consultation with their faculty advisor(s), an interdisciplinary program. The program will correspond in scope and depth to Northeastern University's established degree standards but need not agree exactly with the regulations of individual units. Individually designed interdisciplinary degree programs must be approved by the appropriate graduate office(s).

The interdisciplinary engineering program admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements as well as all the required coursework.

Program Requirements

In order to pursue an individually designed interdisciplinary engineering graduate program, a student must have been accepted into an approved graduate program that will serve as the administrative home unit for the interdisciplinary engineering program:

- Department of Bioengineering (p. 348)
- Department of Chemical Engineering (p. 364)
- Department of Civil and Environmental Engineering (p. 380)
- Department of Electrical and Computer Engineering (p. 409)
- Department of Mechanical and Industrial Engineering (p. 473)

Students who have been dismissed from any of the COE departments will not be able to enroll into the interdisciplinary engineering PhD program with the department from which they were dismissed as either home or participating department. Successful application for admission to an individually designed interdisciplinary program consists of a written proposal describing the areas of proposed study and research. Part of this proposal will be a list of courses to be taken, a description of the qualifying and comprehensive examination process to be used, a timeline, and any other requirements of the program.

The interdisciplinary engineering PhD requires the commitment by a faculty member at Northeastern to be the advisor of the student and chair of the interdisciplinary committee for the student. This faculty member may or may not be a member of the administrative home unit. The committee must be assembled within the first semester of the program and must include faculty members from all of the participating units. At least two units must be represented on the committee. This committee will be responsible for overseeing the completion of the degree requirements. It will also be responsible for the administrative elements of the program, such as the monitoring of satisfactory progress; the design and grading of the preliminary and comprehensive exams, if applicable; graduation clearance; etc. This interdisciplinary committee is also responsible for an annual review of the progress of the student and for reporting this progress to the administrative home unit on an annual basis.

Qualifying Examination and Degree Candidacy

Interdisciplinary engineering PhD students must register for and pass the doctoral qualifying examination of their home department. In some cases, if deemed necessary by the interdisciplinary committee, students may be required to take some part of the doctoral qualifying examinations of the other department(s) involved with the student's program of study. To qualify as an interdisciplinary engineering doctoral candidate, students must successfully complete the doctoral qualifying examinations in addition to all their required coursework.

Dissertation

Students must present their dissertation proposal no more than 12 months after successfully completing their doctoral qualifying examinations. In addition, the presentation of the dissertation proposal and the actual dissertation defense shall be no less than six months apart. Interdisciplinary engineering PhD students must follow the dissertation guidelines of their home department.

Residency Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residency. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Direct Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 48 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		48

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	
or CHME 9991	Dissertation Term 2	
or CIVE 9991	Dissertation Term 2	
or EECE 9991	Dissertation Term 2	
or IE 9991	Dissertation Term 2	
or ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 20 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		20

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

or CHME 9991	Dissertation Term 2
or CIVE 9991	Dissertation Term 2
or EECE 9991	Dissertation Term 2
or IE 9991	Dissertation Term 2
or ME 9991	Dissertation Term 2

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Pharmaceutical Engineering, MS

The Master of Science in Pharmaceutical Engineering is offered jointly by Northeastern University's College of Engineering and Bouvé College of Health Sciences. The program prepares students with a fundamental understanding of pharmaceutical sciences and principles of engineering to develop the depth needed for advanced study of pharmaceutical engineering.

This program is generally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields in engineering, sciences, or mathematics. The program was designed in collaboration with the Department of Pharmaceutical Sciences to develop the depth needed for advanced study of pharmaceutical engineering. Students wishing to pursue the master's degree with undergraduate educational backgrounds other than engineering are required to demonstrate completion of mathematics coursework through differential equations or the equivalent to be admitted. Students are advised to work closely with their advisors and instructors to determine the electives that would meet their career goals.

Part-Time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit.

Master of Science students wishing to change their status from part time to full time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7600	Pharmaceutical Engineering I	4
CHME 7601	Pharmaceutical Engineering II	4
CHME 7602	Pharmaceutical Engineering Laboratory	2
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 7010	Pharmaceutical Sciences Laboratory	4

Restricted Elective Courses

Code	Title	Hours
At least 3 semester hours of total elective courses are required from pharmaceutical sciences (PHSC, PMST) and from chemical engineering (CHME). These semester hours could come from any elective group, as appropriate.		
Regulatory		
Complete 3 semester hours from the following:		3
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5500	Concepts in Regulatory Science	
BIOT 6320	Quality Management Systems and Validation	
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6002	Introduction to Regulatory Compliance and Practice	
Quality/Statistics		
Complete 4 semester hours from the following:		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
PHSC 6214	Experimental Design and Biostatistics	
Depth Electives		
Complete 7 semester hours from the following:		7
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6340	Sterile Manufacturing Operations	
BIOT 7250	Advanced Biotechnology Applications Laboratory	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5160	Drug Delivery: Engineering Analysis	

CHME 5179	Complex Fluids and Everyday Materials
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 7330	Chemical Engineering Thermodynamics
CHME 7350	Transport Phenomena
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5310	Cellular Physiology
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5555	Pharmaceutical Toxicology
PHSC 5560	Nanotoxicity
PHSC 5619	Mass Spectrometry in Drug Development
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Chemical Engineering, MSChE

For program contact information, please visit the College of Engineering website (https://che.northeastern.edu/academics/graduate-studies/ms-chme/).

The Master of Science in Chemical Engineering is normally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields. Students wishing to pursue the master's degree but with undergraduate educational backgrounds other than chemical engineering may be required to complete supplementary undergraduate coursework. These courses are in addition to the minimum course requirements. Students enrolled in the program are encouraged to seek guidance from their instructors and advisor regarding additional coursework that may supplement the graduate curriculum.

Students originally admitted to the master's degree program who wish to switch to the PhD program must petition the associate chair for graduate studies. If admission is granted, then the student must satisfy all the requirements of the doctoral degree program, including the requirements for doctoral candidacy.

Course Requirements

A minimum of 32 semester hours of academic work is required to qualify for the Master of Science degree in chemical engineering.

If pursuing a thesis option, at least 8 semester hours of thesis credit must be included as part of these 32 semester hours of credits. In addition, each student pursuing a thesis option must enroll in the department's seminar course for each semester they are working toward their degree. The faculty advisor and the student establish the sequence of courses that students take to pursue the Master of Science in Chemical Engineering.

If pursuing a coursework option, students must complete a minimum of 32 semester hours of coursework and no enrollment in the seminar course is required. See required core courses and example elective courses for all graduate students (p. 377).

Degree Requirements	Thesis Option	Coursework Option
Required core courses	16 SH	16 SH
Master of Science thesis	8 SH	N/A
Seminar	0 SH	N/A
Elective courses	8 SH	16 SH
Minimum semester hours required	**32 SH**	**32 SH**

Thesis Requirements

Students pursuing a Master of Science in Chemical Engineering with thesis must submit to the Graduate School of Engineering a written thesis that is approved by the thesis committee and department chair. For details, see the graduate school requirements and electronic submittal instructions (https://coe.northeastern.edu/academics-experiential-learning/graduate-school-of-engineering/graduate-student-services/dissertation-thesis-instructions/). MS with thesis students must also complete an oral master's thesis defense in order to successfully complete the program. The student will be expected to form a master's thesis committee, composed of a minimum of three members—one who is the advisor, one other faculty member from the chemical engineering department, and one member from outside the department. The oral presentation will be open to the public, including students, faculty, and the candidate's committee.

Part-time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit. A minimum of 32 semester hours of academic coursework is required for part-time students. The thesis and seminar course are not required for part-time students pursuing a master's degree.

Master of Science students wishing to change their status from part-time to full-time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Departure Prior to Thesis Completion

Occasionally, students must leave the chemical engineering department prior to completion of all degree requirements. In such instances, long time intervals have often elapsed before thesis or manuscript submission. Accordingly, the department has adopted the guideline that a student cannot submit a thesis for credit beyond three years after the student stops actively pursuing the research. Exceptions may be granted upon petition to the departmental graduate committee. Petitions must demonstrate extenuating circumstances and prove that the research is still of value to the profession.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Chemical Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Chemical Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors and 16 semester hours of required chemical engineering coursework.

ENGINEERING BUSINESS

Master's Degree in Chemical Engineering with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Chemical Engineering in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the chemical engineering core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business. (p. 529)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7320	Chemical Engineering Mathematics	4
or ME 6200	Mathematical Methods for Mechanical Engineers 1	
CHME 7330	Chemical Engineering Thermodynamics	4
CHME 7340	Chemical Engineering Kinetics	4
CHME 7350	Transport Phenomena	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 377)		16

THESIS OPTION

Code	Title	Hours
Thesis		
Complete the following courses. Please note that students pursuing the thesis option are required to register for CHME 7990 as many times as necessary to complete 8 semester hours and, in addition, must enroll in CHME 7390 for each semester they are working toward their degree.		8
CHME 7390	Seminar	
CHME 7990	Thesis	
Electives		
Complete 8 semester hours from the course list below. (p. 377)		8

Course List

Students can take electives outside this list with prior approval from the faculty advisor. Students may complete a maximum of 8 semester hours (thesis option) or 12 semester hours (nonthesis option) of coursework for credit outside the Department of Chemical Engineering under the guidance of their advisor and approval of the chemical engineering graduate program director.

Code	Title	Hours
BIOE 5410	Molecular Bioengineering	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5105	Materials Characterization Techniques	
CHME 5137	Computational Modeling in Chemical Engineering	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5179	Complex Fluids and Everyday Materials	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5510	Fundamentals in Process Safety Engineering	
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	
CHME 5621	Electrochemical Engineering	

CHME 5630	Biochemical Engineering
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 5699	Special Topics in Chemical Engineering
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling
CHME 7262	Special Topics in Process Safety
CHME 7973	Special Topics in Chemical Engineering
CHME 7978	Independent Study
EMGT 5220	Engineering Project Management
EMGT 6225	Economic Decision Making
EMGT 6305	Financial Management for Engineers
ME 5620	Fundamentals of Advanced Materials
NNMD 5270	Foundations in Nanomedicine: Therapeutics
NNMD 5272	Nanomedicine Seminar
NNMD 5274	Nanomedicine Seminar 2
NNMD 5370	Nanomedicine Research Techniques
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Process Safety Engineering, Graduate Certificate

The Graduate Certificate in Process Safety Engineering focuses on the integration of chemical engineering skills with the knowledge of process safety and regulation with specific attention on designing and developing solutions for industrial firms with the goal of creating environments that are safer and in compliance with regulatory rules and regulations.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of chemical engineering knowledge and skills to lead efforts within companies to plan and implement process safety designs that assist in meeting the regulatory requirements and confirming code compliance within an industrial firm in order to maintain the safety, health, and welfare of their employees and the public as well as making industrial firms safer and profitable.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Process Safety		
CHME 5510	Fundamentals in Process Safety Engineering	4
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	4
Relief and Scenario Modeling		
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling	4
Special Topics		
CHME 7262	Special Topics in Process Safety	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Civil and Environmental Engineering

Website (http://www.civ.neu.edu)

Jerome F. Hajjar, PhD, PE
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Overview

With a strategic focus in urban engineering and through a range of teaching and research strengths, anchored by several multidisciplinary, multi-institutional centers and programs, our academic programs are designed to prepare professionals to address the global, complex, and ever-evolving engineering challenges of our time by building on current department strengths and expanding into vital areas. We give our future master's and PhD graduates the opportunity to make real-world impact on and long-lasting contributions to the well-being and development of society.

Mission of the Department

Advancing innovative civil and environmental solutions for society and creating globally oriented engineering leaders by integrating experiential education and use-inspired interdisciplinary research.

Academic Programs

Within our graduate programs, students work alongside world-class faculty on advanced research and courses, developing a solid base for their careers. Three overarching themes are emphasized in our programs: environmental health, civil infrastructure security, and sustainable resource engineering. These themes are aligned with the department's premier strengths in simulation (both computational and experimental), smart sensing, data and network science, and urban informatics and are all reflected in the courses offered in our graduate programs.

MASTER OF SCIENCE DEGREE

The department offers five MS degree programs in the following areas: civil engineering (students can choose one out of six concentrations); environmental engineering; engineering and public policy; sustainable building systems; and climate science and engineering (in partnership with the Department of Marine and Environmental Science in the College of Science). Options for a master's thesis or report in place of coursework are available. All civil and environmental engineering master's programs are available on a full-time or part-time basis. For a full list of the department's academic program offerings, please refer to the Programs (p. 380) tab.

DOCTOR OF PHILOSOPHY DEGREE

The department offers the following PhD degrees: PhD in Civil and Environmental Engineering and Interdisciplinary PhD. The doctoral program is designed to be flexible with respect to subject area and may be adapted to any subject area in civil and environmental engineering, including interdisciplinary options within the department or across departments or colleges.

The PhD is awarded to students who demonstrate high academic achievement and research competence in the selected field. Students must pursue the PhD program on a basis consistent with the residence requirements for the degree (p. 382).

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 551) in combination with the MS degree.

Programs

Doctor of Philosophy (PhD)

- Civil and Environmental Engineering (p. 382)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Climate Science and Engineering
- Engineering and Public Policy (p. 387)

Master of Science in Civil Engineering (MSCivE)

- Civil Engineering with Concentration in Construction Management (p. 393)
- Civil Engineering with Concentration in Data and Systems (p. 390)
- Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering (p. 395)

- Civil Engineering with Concentration in Structures (p. 397)
- Civil Engineering with Concentration in Transportation (p. 399)
- Civil Engineering with Concentration in Water, Environmental, and Coastal Systems (p. 401)

Master of Science in Environmental Engineering (MSEnvE)

- Environmental Engineering (p. 403)

Master of Science in Sustainable Building Systems (MSSBS)

- Sustainable Building Systems (p. 405)

Graduate Certificate

- Climate and Engineering (p. 407)
- Sustainability Engineering (p. 408)

Civil and Environmental Engineering, PhD

The Doctor of Philosophy in Civil and Environmental Engineering offers students an opportunity for in-depth study in a broad range of areas in civil and environmental engineering. Awarding the Doctor of Philosophy degree is based on ability to formulate and execute original research addressing important problems and completion of a rigorous academic program that enhances the student's knowledge in relevant areas. The PhD program has two components:

1. An academic program of graduate-level courses that provides depth in a specific area of Civil and Environmental Engineering (the major field) as well as other coursework that provides additional exposure at an advanced level to one or more disciplines
2. The dissertation, an extended independent research effort on a relevant technical problem resulting in an original contribution to the field

Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying examinations (both written and oral area exams) and all the required coursework.

Each student's mastery of subject matter is measured by a qualifying examination covering a subset of topics selected from the major field. A doctoral dissertation committee periodically monitors research progress, and the candidate is required to present and defend his or her research results before the doctoral dissertation committee upon completion of the work.

Coursework Requirement

The academic program must include at least 20 semester hours (Advanced Standing) or 48 semester hours (Direct Entry) of graduate-level coursework at Northeastern University. A student may count no more than 4 semester hours of independent study (such as special project in civil and environmental engineering) toward the minimum course requirements. For direct entry students, a minimum of 40 semester hours must be related to the major field but may include courses from other departments when appropriate. The civil and environmental engineering (CEE) department encourages flexibility in program definition, especially in areas where complementary courses exist in other departments or where expertise resides outside the department and where the objective is to introduce new technology in civil and environmental engineering practice.

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Exam Preparation—Doctoral (CIVE 8960) , in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Upon successful completion of the qualifying exam and the majority of required coursework, each doctoral candidate must register in two consecutive semesters for Dissertation Term 1 (CIVE 9990) and Dissertation Term 2 (CIVE 9991). Upon completion of this sequence, the candidate must register for Dissertation Continuation (CIVE 9996) in every semester until the dissertation is complete. Students may not register for Continuation until they fulfill the two-semester dissertation sequence.

Qualifying Examination and Degree Candidacy

The objective of the doctoral qualifying examination is to determine whether the applicant possesses mastery of the fundamentals and ability to apply them to solve unfamiliar problems that require analysis, synthesis, and independent thinking, as well as communication skills to present research ideas and plans, motivate problems, respond to related questions, and defend assumptions and technical approach.

The qualifying exam includes written and oral components. Its content depends upon the educational background and objectives of the student. In general, the written component covers four subject areas selected from the major field and includes engineering and science disciplines, as well as civil and environmental engineering application areas. The oral component measures general comprehension and aptitude for research. If a student fails the exam, he or she may retake it one more time with the permission of the qualifying examination committee.

The qualifying exam is administered within the first 18 months of the PhD program, if the student already holds an MS degree. PhD students who begin the PhD program without a MS degree should take the qualifying exam within the first 30 months of the start of the program.

Under extraordinary circumstances, a student may be granted one additional semester before taking the qualifying exam but only by prior petition to the advisor, concentration representative, and graduate studies committee.

DISSERTATION

Once degree candidacy is established, a doctoral candidate may proceed with his or her dissertation. The candidate must write a dissertation proposal and name a CEE faculty member as the dissertation advisor. The candidate and the advisor must form a dissertation committee, which should have no fewer than four members, of which at least two are full-time (or affiliated) faculty from the CEE department. The committee will monitor progress and approve the final document.

DISSERTATION PROPOSAL PRESENTATION

Each student, along with a faculty advisor, must jointly develop a proposal defining the content of the academic program, subject to review by the dissertation committee. Intellectual rigor, connectivity of subject matter, and compatibility with departmental interests are critical issues. The doctoral dissertation committee's approval of the proposal represents a mutual agreement between the student and the committee.

Comprehensive Examination

The comprehensive exam is a defense of the doctoral research work and an examination on subject matter related to the dissertation area.

Each doctoral candidate must defend his or her dissertation within seven years from the start of the PhD program.

Annual Report

At the beginning of each calendar year, all CEE doctoral students including interdisciplinary students within CEE, should complete the Annual PhD Student Progress Report, which details academic and research activities and accomplishments over the previous year. These forms will be reviewed by the faculty in each respective concentration to ensure satisfactory progress, with feedback provided to the students as necessary.

Residence Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residence. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination and comprehensive examination
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements

Complete at least 48 semester hours of approved coursework. Consult your faculty advisor for acceptable courses. Please note that a maximum of 4 semester hours of Independent Study (CIVE 7978) will be accepted toward the 48-semester-hour requirement.

Dissertation

Code	Title	Hours
Complete the following:		
CIVE 9990	Dissertation Term 1	
CIVE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Coursework Requirement

The CEE department encourages flexibility in program definition, especially in areas where complementary courses exist in other departments or where expertise resides outside the department and where the objective is to introduce new technology in civil and environmental engineering practice. The academic program must include at least 20 semester hours of graduate-level coursework at Northeastern University. A student may count no more than 4 semester hours of independent study (such as special project in civil engineering) toward the minimum course requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination and comprehensive examination
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements

Complete 20 semester hours of approved coursework. Consult your faculty advisor for acceptable courses. Please note that a maximum of 4 semester hours of Independent Study (CIVE 7978) will be accepted toward the 20-semester-hour requirement.

Dissertation

Code	Title	Hours
CIVE 9990	Dissertation Term 1	
CIVE 9991	Dissertation Term 2	

Coursework Requirement

The academic program must include at least 20 semester hours of graduate-level coursework at Northeastern University.

A student may count no more than 4 semester hours of independent study (such as special project in civil engineering) toward the minimum course requirements.

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Climate Science and Engineering, MS

Overview

The Master of Science in Climate Science and Engineering is offered jointly by the College of Engineering and the College of Science. The program provides training in the fundamental scientific processes that underpin the structure and dynamics of the climate, as well as the engineering strategies and technologies required for decarbonization and adaptation to climate change.

Incoming students will typically hold a bachelor's degree in a science, engineering, or related field. The program is designed to prepare students for climate-facing positions in the public or private sectors and can serve as a springboard for students interested in pursuing doctoral-level research. Students must take at least 12 semester hours of College of Science courses and at least 12 semester hours of College of Engineering courses and includes a report, thesis, or coursework option.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. In order to ensure a balance of training across science and engineering, students must take at least 12 semester hours of College of Science courses (starting with EEMB, ENVR) and at least 12 semester hours of College of Engineering courses (starting with CIVE, EECE, ENSY, MATL, ME, SBSY) from the core requirements and restricted elective course options.

Core Requirements

Code	Title	Hours
Select from the core requirements listed below; any core course not used to meet this core course requirement can be taken as a restricted elective:		20
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
CIVE 5150	Climate and Atmospheric Change	
or ENVR 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5670	Global Biogeochemistry	
or ENVR 5670	Global Biogeochemistry	
CIVE 7110	Critical Infrastructure Resilience	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives course list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
or EEMB 8984	Research	
Complete 8 semester hours from the restricted electives course list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
or EEMB 8984	Research	
Complete 4 semester hours from the restricted electives course list below.		4

Restricted Electives

Code	Title	Hours
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7282	Coastal and Hydraulic Modeling	
CIVE 7385	Public Transportation	
CIVE 7392	Special Topics in Environmental Engineering	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5563	Advanced Spatial Analysis	
INTL 5100	Climate and Development	
LAW 7634	Energy Law and Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Engineering and Public Policy, MS

For program contact information, please visit the College of Engineering website (https://cee.northeastern.edu/academics/graduate-studies/ms-cepp/).

The purpose of this degree is to provide students with a background in engineering with the tools necessary to conduct robust policy analysis. It includes required core courses from the Department of Civil and Environmental Engineering and the School of Public Policy and Urban Affairs, complemented by electives in engineering and public policy, which can be met by two courses and a master's report (recommended), or by one course and a thesis, or by three courses. A minimum of 16 semester hours must be taken in the College of Engineering.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Engineering and Public Policy with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Engineering and Public Policy in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16 semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Sustainable Engineering and Systems Modeling Requirements

Code	Title	Hours
Complete 12 semester hours from the following:		12
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
or PPUA 5261	Dynamic Modeling for Environmental Decision Making	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 6777	Climate Hazards and Resilient Cities Abroad	
CIVE 6778	Climate Adaptation and Policy Abroad	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7155	Dynamics and Control of Infrastructure Systems	
CIVE 7272	Air Quality Management	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
ME 5645	Environmental Issues in Manufacturing and Product Use	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Public Policy and Analysis Requirements

Code	Title	Hours
Complete 8 semester hours from the following:		8
ECON 7266	Economics of Government	
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5260	Ecological Economics	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Elective Course List below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the Elective Course List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 4 semester hours from the Elective Course List below.		4

Elective Course List

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5670	Global Biogeochemistry	
CIVE 7230	Legal Aspects of Civil Engineering	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EMGT 6225	Economic Decision Making	
ENVR 5210	Environmental Planning	
ENVR 5260	Geographical Information Systems	
ENVR 6102	Environmental Science and Policy Seminar 2	
INSH 7400	Quantitative Analysis	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	

LPSC 7312	Cities, Sustainability, and Climate Change
PHTH 5214	Environmental Health
PHTH 5230	Global Health
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5268	International Environmental Policy
PPUA 5270	Food Systems and Public Policy
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 7346	Resilient Cities

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Data and Systems, MSCivE

This program is designed for students with career goals that require application of data and systems analysis to challenges across any discipline of civil and environmental engineering. The degree requirements include core courses (total of 20 semester hours) in data analysis and computing, systems and sensors, and data and systems topics in civil and environmental engineering, complemented by electives across multiple departments including mathematics, computer science, engineering, economics, and policy.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Data and Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Data and Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 20-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved data and systems engineering technical courses.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. At least 20 semester hours (of the 32 semester hours) must be listed as CIVE or SBSY and must form a cohesive advisor-approved program.

Core Requirements

Code	Title	Hours
Complete 20 semester hours from the following course lists:		20
Data and Computing		
Complete at least 4 semester hours from the following:		4
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
or ENVR 6500	Biostatistics	
or IE 6200	Engineering Probability and Statistics	
or IE 7280	Statistical Methods in Engineering	
or INSH 5301	Introduction to Computational Statistics	
or MATH 7343	Applied Statistics	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
or PPUA 5262	Big Data for Cities	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
DAMG 6105	Data Science Engineering with Python	
DAMG 6210	Data Management and Database Design	
ENVR 5260	Geographical Information Systems	
IE 5640	Data Mining for Engineering Applications	
or IE 7275	Data Mining in Engineering	
Systems and Sensors		
Complete at least 4 semester hours from the following:		4
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	

CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5524	Vibration-Based Structural Health Monitoring	
CIVE 7388	Special Topics in Civil Engineering (Dynamics and Control of Infrastructure)	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
IE 5500	Systems Engineering in Public Programs	
OR 6205	Deterministic Operations Research	
OR 7230	Probabilistic Operation Research	
OR 7245	Network Analysis and Advanced Optimization	
PHYS 5116	Network Science 1	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
Civil and Environmental Systems		
Complete at least 8 semester hours from the following:		8
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7252	Water Engineering: Planning, Design, and Management	
CIVE 7380	Performance Models and Simulation of Transportation Networks	
CIVE 7381	Transportation Demand Forecasting and Model Estimation	
CIVE 7385	Public Transportation	
IE 7200	Supply Chain Engineering	
OR 7310	Logistics, Warehousing, and Scheduling	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	
SBSY 5250	Building Performance Simulation	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete the remaining semester hours from the electives list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete the remaining semester hours from the electives list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete the remaining semester hours from the electives list below.		4

Course Lists

Any core course not used to meet the core course requirements can be used as an elective, as can the following electives:

ELECTIVES LIST

Code	Title	Hours
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 7220	Construction Management	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7255	Environmental Physical/Chemical Processes	
CIVE 7260	Hydrologic Modeling	
CIVE 7382	Advanced Traffic Control and Simulation	

EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7204	Applied Probability and Stochastic Processes
IE 5617	Lean Concepts and Applications
IE 7215	Simulation Analysis
SBSY 5300	Information Systems for Integrated Project Delivery

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Construction Management, MSCivE

This program is intended for students interested in construction management and engineering or a closely related field. It includes required core courses primarily from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in civil and environmental engineering and other departments such as mechanical and industrial engineering and business administration. Based on proven proficiency in given areas, students may waive certain core courses and replace them with alternate elective courses.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	18 SH	18 SH	18 SH
Elective courses	10 SH	6 SH	14 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with a Concentration in Construction Management with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with a Concentration in Construction Management in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 34-semester-hour degree and certificate will require fulfillment of the 18-semester-hour construction management core.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

ENGINEERING BUSINESS

Master's Degree in Civil Engineering with Concentration in Construction Management with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Civil Engineering with Concentration in Construction Management in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business.

Engineering Business (p. 529)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 5221	Construction Project Control and Organization	2
CIVE 7220	Construction Management	4
CIVE 7230	Legal Aspects of Civil Engineering	4
EMGT 6305	Financial Management for Engineers	4
IE 6200	Engineering Probability and Statistics	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 14 semester hours from the course list below.		14

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 10 semester hours from the course list below.		10

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 6 semester hours from the course list below.		6

Course List

Code	Title	Hours
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
ACCT 6201	Financial Reporting and Managerial Decision Making 2	
CIVE 5231	Alternative Project Delivery Systems in Construction	
CIVE 7151	Urban Informatics and Processing	
CIVE 7240	Construction Equipment and Modeling	
CIVE 7301	Advanced Soil Mechanics	
CIVE 7302	Advanced Foundation Engineering	
DAMG 6210	Data Management and Database Design	
EMGT 5300	Engineering/Organizational Psychology	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
or IE 7275	Data Mining in Engineering	
IE 7215	Simulation Analysis	
IE 7290	Reliability Analysis and Risk Assessment	
INFO 6215	Business Analysis and Information Engineering	
INFO 6245	Planning and Managing Information Systems Development	
OR 6205	Deterministic Operations Research	
SBSY 5200	Sustainable Engineering Systems for Buildings	
SBSY 5250	Building Performance Simulation	
SBSY 5300	Information Systems for Integrated Project Delivery	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE

This program includes study in the areas of soil mechanics/foundations and geoenvironmental engineering. It includes studies of soil and related earth materials for problems related to the protection of human health and the environment. Related areas include soil mechanics, fate/transport in subsurfaces, subsurface remediation, and others. The degree requirements include core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in civil and environmental engineering, as well as electives from other departments such as mechanical and industrial engineering.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	8 SH	8 SH	8 SH
Elective courses	20 SH	16 SH	24 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with a Concentration in Geotechnical/Geoenvironmental Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with a Concentration in Geotechnical/Geoenvironmental Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 8-semester-hour core curriculum and 12 semester hours of restricted electives from the geotechnical/geoenvironmental engineering concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand. For students pursuing a concentration in geotechnical/geoenvironmental engineering, the two courses required by the concentration are offered in alternate years. To complete this certificate program in two years, one of the courses needs to be taken in the first year and the other in the second year.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 7301	Advanced Soil Mechanics	4
CIVE 7302	Advanced Foundation Engineering	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 24 semester hours from the electives list below.		24

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 20 semester hours from the electives list below.		20

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 16 semester hours from the electives list below.		16

Electives List

Code	Title	Hours
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5699	Special Topics in Civil Engineering (Vibration-based Structural Health Monitoring)	
CIVE 7230	Legal Aspects of Civil Engineering	
CIVE 7240	Construction Equipment and Modeling	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7260	Hydrologic Modeling	
CIVE 7311	Soil and Foundation Dynamics	
CIVE 7312	Earthquake Engineering	
CIVE 7313	Ground Improvement	
CIVE 7330	Advanced Structural Analysis	
CIVE 7331	Structural Dynamics	
IE 6200	Engineering Probability and Statistics	
IE 7290	Reliability Analysis and Risk Assessment	
ME 5657	Finite Element Method 1	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Structures, MSCivE

For program contact information, please visit this website (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/).

This program is designed for students with career goals in structural engineering and structural design. The program includes courses in structural analysis and design, structural mechanics, dynamics of structures, earthquake engineering, wind engineering, and structural health monitoring. The degree requirements include core courses from the Department of Civil and Environmental Engineering, complemented by electives in civil and environmental engineering, as well as electives from other departments such as mechanical and industrial engineering and mathematics.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	8 SH	8 SH	8 SH
Restricted electives	12 SH	12 SH	12 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Structures with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Structures in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 8-semester-hour core curriculum and 12 semester hours of restricted electives from the structures concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 7330	Advanced Structural Analysis	4
CIVE 7331	Structural Dynamics	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives below.		12
Complete 12 semester hours from the other electives below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 12 semester hours from the restricted electives below.		12
Complete 8 semester hours from the other electives below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 12 semester hours from the restricted electives below.		12
Complete 4 semester hours from the other electives below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Code	Title	Hours
CIVE 5522	Structural Systems Modeling	
CIVE 7302	Advanced Foundation Engineering	
CIVE 7312	Earthquake Engineering	
CIVE 7340	Seismic Analysis and Design	
CIVE 7341	Structural Reliability	
CIVE 7342	System Identification	
CIVE 7350	Behavior of Concrete Structures	
CIVE 7351	Behavior of Steel Structures	
CIVE 7354	Wind Engineering	
CIVE 7355	Advanced Bridge Design	
CIVE 7357	Advanced Structural Mechanics	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
CIVE 7388	Special Topics in Civil Engineering (Dynamics and Control of Infrastructure Systems)	

OTHER ELECTIVES LIST

Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5520	Structural Systems	
CIVE 5524	Vibration-Based Structural Health Monitoring	
CIVE 5525	Prestressed Concrete Design	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7301	Advanced Soil Mechanics	
CIVE 7311	Soil and Foundation Dynamics	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	
MATL 7365	Properties and Processing of Electronic Materials	
ME 5240	Computer Aided Design and Manufacturing	
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5658	Continuum Mechanics	
ME 5659	Control Systems Engineering	
ME 6200	Mathematical Methods for Mechanical Engineers 1	
ME 7238	Finite Element Method 2	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Transportation, MSCivE

This program is designed for students with career goals in transportation engineering and transportation planning. The degree requirements include core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in civil and environmental engineering and by related courses in applied mathematics, engineering, economics, policy, and management.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	12 SH	12 SH	12 SH
Restricted electives	8 SH	8 SH	12 SH
Other electives	8 SH	4 SH	8 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Transportation with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Transportation in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 20-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 12-semester-hour core curriculum and 8 semester hours of restricted electives from the transportation concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 5373	Transportation Systems: Analysis and Planning	4
CIVE 5376	Traffic Engineering and Sustainable Urban Street Design	4
IE 6200	Engineering Probability and Statistics	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives list below.		12
Complete 8 semester hours from the other electives list below.		8

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the restricted electives list below.		8
Complete 8 semester hours from the other electives list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 8 semester hours from the restricted electives list below.		8
Complete 4 semester hours from the other electives list below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Code	Title	Hours
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7380	Performance Models and Simulation of Transportation Networks	
CIVE 7381	Transportation Demand Forecasting and Model Estimation	
CIVE 7382	Advanced Traffic Control and Simulation	
CIVE 7385	Public Transportation	
CIVE 7387	Design Aspects of Roadway Safety	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
IE 7215	Simulation Analysis	
IE 7280	Statistical Methods in Engineering	

OTHER ELECTIVES LIST

Any restricted elective not used to meet the restricted elective requirement can be used as another elective. Courses outside this list may be taken as electives with advisor approval.

Code	Title	Hours
DAMG 6210	Data Management and Database Design	
IE 7275	Data Mining in Engineering	
IE 7290	Reliability Analysis and Risk Assessment	
MATH 7343	Applied Statistics	
OR 6205	Deterministic Operations Research	
OR 7230	Probabilistic Operation Research	
OR 7245	Network Analysis and Advanced Optimization	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE

This program integrates the study of infrastructure; hydrology; hydraulics; engineering for coastal areas; numerical modeling; remote sensing; spatial and temporal data analysis; and physical, chemical, and biological processes that impact the water and air quality to provide students with the knowledge and tools for developing and managing sustainable, resilient water resources and infrastructure. It includes required core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in electrical and computer engineering, mechanical and industrial engineering, and earth and environmental sciences.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	8 SH	8 SH	8 SH
Restricted electives	12 SH	12 SH	12 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Water, Environmental, and Coastal Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Water, Environmental, and Coastal Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 12-semester-hour core curriculum and 8 semester hours of restricted electives from the WECS concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 8 semester hours of the following:		8
CIVE 5281	Coastal Dynamics and Design	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7260	Hydrologic Modeling	
CIVE 7281	Coastal and Nearshore Hydrodynamics	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 12 semester hours from the Other Electives List below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 8 semester hours from the Other Electives List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 4 semester hours from the Other Electives List below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Any required core course not used to meet the required core course requirement can be taken as a restricted elective.

Code	Title	Hours
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5366	Air Quality Engineering and Science	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7252	Water Engineering: Planning, Design, and Management	
CIVE 7255	Environmental Physical/Chemical Processes	
CIVE 7278	Air Quality Modeling and Forecasting	
CIVE 7279	Advanced Air Quality	
CIVE 7282	Coastal and Hydraulic Modeling	
ME 6200	Mathematical Methods for Mechanical Engineers 1	

OTHER ELECTIVES LIST

Any required core course not used to meet the required core course or restricted elective requirements can be taken as another elective. Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5670	Global Biogeochemistry	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EECE 7204	Applied Probability and Stochastic Processes	
ENVR 5260	Geographical Information Systems	
EEMB 5516	Oceanography	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7290	Reliability Analysis and Risk Assessment	
MATH 7341	Probability 2	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Environmental Engineering, MSEnvE

This program integrates the study of physical, chemical, and biological processes and fundamental principles for water and wastewater treatment and disposal, hazardous waste management, surface water and groundwater quality, water resources management, and air quality management. Successful graduates will have the ability to develop and implement technologies for various environmental applications with the goal to improve and protect the environment and human health. It includes required core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-envi/) (CEE), complemented by electives in civil and environmental engineering, mechanical and industrial engineering, earth and environmental sciences, and mathematics.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core electives	12 SH	12 SH	12 SH
Restricted electives	8 SH	8 SH	12 SH
Other electives	8 SH	4 SH	8 SH
Master of Science report/thesis	4 SH	8 SH	

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Environmental Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Environmental Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16 semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved environmental engineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete three of the following:		12
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7255	Environmental Physical/Chemical Processes	
CIVE 7272	Air Quality Management	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 8 semester hours from the Other Electives List below.		8

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the Restricted Electives List below.		8
Complete 8 semester hours from the Other Electives List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 8 semester hours from the Restricted Electives List below.		8
Complete 4 semester hours from the Other Electives List below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Any required core course not used to meet the required core course requirement can be taken as a restricted elective.

Code	Title	Hours
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 7252	Water Engineering: Planning, Design, and Management	
CIVE 7260	Hydrologic Modeling	
CIVE 7272	Air Quality Management	
CIVE 7278	Air Quality Modeling and Forecasting	
CIVE 7279	Advanced Air Quality	
CIVE 7392	Special Topics in Environmental Engineering (Aquatic Biogeochemistry)	

OTHER ELECTIVES LIST

Any required core course not used to meet the required core course requirement can be taken as another elective. Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5670	Global Biogeochemistry	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EECE 7204	Applied Probability and Stochastic Processes	
ENVR 5190	Soil Science	
ENVR 5260	Geographical Information Systems	
EEMB 5516	Oceanography	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7290	Reliability Analysis and Risk Assessment	
MATH 7241	Probability 1	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Sustainable Building Systems, MSSBS

Website (https://cee.northeastern.edu/academics/graduate-studies/ms-subs/)

The sustainable building systems program focuses on the design and operation of buildings to provide a comfortable, healthy, and productive indoor environment with minimal energy and environmental impact. Students have an opportunity to develop leadership and decision-making skills to implement sustainable building practices in either the private or public sectors in the global market.

The graduates of the **Master of Science in Sustainable Building Systems** program should display a high level of engineering knowledge in a broad range of architectural engineering, civil engineering, and construction management while embracing the concepts of engineering sustainability as related to energy and materials usage and the effects on the environment. Graduates will have the base training necessary to lead efforts within companies to plan and implement sustainable practices for the design and operation of buildings, realize energy and materials efficiency improvements, and minimize environmental impact. Upon graduation, students will have a theoretical background to the concepts behind the LEED (Leadership in Energy and Environmental Design) Green Associate examination.

Below is a typical course sequence for graduation in two semesters. The program is flexible to accommodate full-time students—who wish to proceed over a period of two to four semesters—and part-time students—who can complete the program requirements by taking one to two courses per semester, finishing the program in approximately four years.

Degree Requirements	Full-Time Study	Part-Time Study
Core courses	12	12
Restricted electives	8	8
Open electives	12	12

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Sustainable Building Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Sustainable Building Systems in addition to earning a Graduate Certificate in Engineering Leadership. Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 12-semester-hour core curriculum and 8 semester hours of restricted electives from the sustainable building systems coursework.

The Civil and Environmental Engineering Department encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Engineering Leadership (p. 551)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARCH 5210 and ARCH 5211	Environmental Systems and Recitation for ARCH 5210	4
SBSY 5100	Sustainable Design and Technologies in Construction	4
SBSY 5200	Sustainable Engineering Systems for Buildings	4
Students must register for this 0 SH course every semester:		
SBSY 5400	Sustainable Building Systems Seminar	

Electives

RESTRICTED ELECTIVES LIST

Code	Title	Hours
Complete 8 semester hours from the following:		8
ARCH 5220	Integrated Building Systems	
CIVE 5221	Construction Project Control and Organization	
CIVE 5231	Alternative Project Delivery Systems in Construction	

CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure
CIVE 7220	Construction Management
or EMGT 5220	Engineering Project Management
CIVE 7230	Legal Aspects of Civil Engineering
EMGT 6305	Financial Management for Engineers
SBSY 5250	Building Performance Simulation
SBSY 5300	Information Systems for Integrated Project Delivery

OTHER ELECTIVES LIST

Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
Complete 12 semester hours from the following:		12
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
ACCT 6201	Financial Reporting and Managerial Decision Making 2	
CIVE 7151	Urban Informatics and Processing	
CIVE 7350	Behavior of Concrete Structures	
CIVE 7351	Behavior of Steel Structures	
CIVE 7388	Special Topics in Civil Engineering (Dynamics and Control of Infrastructure Systems)	
FINA 6200	Value Creation through Financial Decision Making	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
LPSC 7312	Cities, Sustainability, and Climate Change	
ME 5645	Environmental Issues in Manufacturing and Product Use	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Climate and Engineering, Graduate Certificate

Climate change is a defining challenge of the 21st century. This three-course certificate in climate and engineering provides students with the foundational knowledge of how climate change will impact engineered systems and approaches for adaptation at multiple scales. Students will also acquire the analytical skills to evaluate technologies and engineering approaches for safety, climate effectiveness, and equality in societal costs and benefits.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete one of the following:		4
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5699	Special Topics in Civil Engineering (Climate Technologies for Decarbonization, Mitigation, and Adaptation)	

Electives

Code	Title	Hours
Complete two of the following:		8
CIVE 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5670	Global Biogeochemistry	
CIVE 5699	Special Topics in Civil Engineering (Intro to Air Quality Engineering Science)	
CIVE 5699	Special Topics in Civil Engineering (Climate Technologies for Decarbonization, Mitigation, and Adaptation)	
CIVE 5984	Research (4 SH, with topic approval of program advisor)	
CIVE 7272	Air Quality Management	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sustainability Engineering, Graduate Certificate

Overview

Society is facing increasingly complex and multidisciplinary challenges in balancing the relationship between the built environment and the earth system. The four-course certificate in sustainability engineering provides foundational knowledge that facilitates framing challenges and working on multidisciplinary topics to address sustainability challenges, including engineering perspectives, toolsets, and data methods.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Complete one of the following:		4
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
Complete one of the following:		4
CIVE 5699	Special Topics in Civil Engineering (Intro to Air Quality Engineering Science - 4 semester hours)	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
Complete one of the following:		4
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 6566	Sustainable Urban Transportation: Netherlands	
SBSY 5100	Sustainable Design and Technologies in Construction	
Complete one of the following:		4
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5984	Research (4 semester hours)	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7260	Hydrologic Modeling	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering

Website (http://www.ece.neu.edu)

Srinivas Tadigadapa, PhD
Professor and Chair

409 Dana Research Center
617.373.7529
617.373.4431 (fax)

The Department of Electrical and Computer Engineering's graduate program is a dynamic and thriving center of world-recognized research in a wide range of areas. The department has strong ties to local industry and the world-famous hospitals and medical centers of Boston and is involved in many joint research projects with them. With five NSF- and DHS-funded research centers and over 20 industrial partners, faculty and students are actively conducting cutting-edge research in areas such as computer vision; pattern recognition and machine learning; brain-computer interface; computer architecture; high-performance computing; embedded systems; hardware and software security; power systems and power electronics; underwater communication networks and signal processing; robotics; information theory; communications, control, and signal processing; Internet of Things; RF, electromagnetics, optics, and magnetic materials; micro/nanomechanical structures and advanced nanomaterials; power-first system/computer architecture; ultralow power biomedical and neural circuits and systems.

ECE's graduate program educates MS and PhD students with deep fundamental and practical knowledge in the various disciplines of electrical and computer engineering by offering a strong curriculum and providing opportunities for research in these disciplines. The department educates the next generation of highly skilled engineers and researchers with necessary skills to address the future needs of academia, industry, government, and humanity.

Overview of Programs Offered

ECE's graduate program offers a Master of Science in Electrical and Computer Engineering, a Master of Science in Electrical and Computer Engineering Leadership, a Master of Science in Applied Physics and Engineering, a Master of Science in Data Science, a Master of Science in Robotics, a Master of Science in Internet of Things, a Master of Science in Wireless and Network Engineering, a Doctor of Philosophy in Computer Engineering, a Doctor of Philosophy in Cybersecurity, a Doctor of Philosophy in Electrical Engineering, and a Doctor of Philosophy in Interdisciplinary Engineering (housed in the College of Engineering).

Mission of the Department

The primary educational missions of the electrical and computer engineering department are to educate undergraduate students so they have the opportunity to obtain successful careers in electrical and computer engineering and related disciplines and pursue advanced graduate study in engineering or related disciplines. The mission of the graduate program is to educate graduate students so they have the skills to solve complex engineering problems and can make meaningful contributions to research and industry.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Master of Science in Electrical and Computer Engineering Leadership (MSECEL) (p. 472) along with the Graduate Certificate in Engineering Leadership.

In addition, students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the Master of Science in Electrical and Computer Engineering. This option results in an increase in total hours beyond that required for the master's degree only.

Programs

Doctor of Philosophy (PhD)

- Computer Engineering (p. 411)
- Cybersecurity (p. 302)
- Electrical Engineering (p. 419)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Applied Physics and Engineering (p. 421)
- Data Science (p. 279)
- Internet of Things (p. 286)
- Robotics (p. 290)
- Wireless and Network Engineering (p. 432)

Master of Science in Electrical and Computer Engineering (MSECE)

- Concentration in Communications, Control, and Signal Processing (p. 434)
- Concentration in Computer Networks and Security (p. 444)
- Concentration in Computer Systems and Software (p. 439)
- Concentration in Computer Vision, Machine Learning, and Algorithms (p. 448)
- Concentration in Electromagnetics, Plasma, and Optics (p. 453)
- Concentration in Hardware and Software for Machine Intelligence (p. 458)
- Concentration in Microsystems, Materials, and Devices (p. 463)
- Concentration in Power Systems (p. 467)

Master of Science in Electrical and Computer Engineering Leadership (MSECEL)

- Electrical and Computer Engineering Leadership (p. 472)

Computer Engineering, PhD

The Doctor of Philosophy in Computer Engineering offers students an opportunity for study in a broad range of areas in computer engineering. Details on PhD requirements can be found in the *Graduate Program Guide.* A summary of requirements is given below.

Qualifying Exam and Degree Candidacy

The PhD qualifying exam is the examination for admissions to the doctoral programs in electrical engineering and in computer engineering. The exam has the dual purposes of serving as an indicator of the student's capability for successful completion of the PhD in electrical engineering or in computer engineering and of serving as a guide to the student's advisor in developing a suitable plan of study, tailored to the individual needs of the student.

A student who has matriculated into the PhD program is considered a predoctoral student, whether they are BS entry or advanced entry. Upon successful completion of the qualifying exam, the student is designated a PhD candidate. A student who fails the qualifying exam will be permitted to retake the exam only one more time.

Annual Review

PhD students are reviewed annually. Each student is evaluated and receives a grade of satisfactory, needs improvement, or unsatisfactory.

Residence Requirement

After reaching PhD candidacy, one year of full-time graduate work or two consecutive years of part-time graduate work satisfy the university residence requirement. In the latter case, the student's advisor must approve a detailed schedule in order to ensure that the student devotes at least half of the time to the requirements of the Graduate School of Engineering.

Dissertation

Within one year of passing the PhD qualifying exam, the PhD candidate must form a dissertation committee. A dissertation committee must have at least three members that hold a PhD or equivalent degree. At least two of the committee members must be tenured or tenure-track Department of Electrical and Computer Engineering faculty, and the committee must include the student's advisor. The chair of the committee must be a tenured or tenure-track faculty member in the ECE department.

The dissertation committee must design an appropriate program of study that prepares the student to be a successful doctoral-level engineer as well as direct the candidate's dissertation research. The dissertation committee will approve the dissertation in final form.

DISSERTATION AND DISSERTATION CONTINUATION REGISTRATION

Upon successful completion of the PhD qualifying exam and the required coursework, the PhD candidate must register in two consecutive semesters for Dissertation Term 1 (EECE 9990) and Dissertation Term 2 (EECE 9991). Upon completion of this sequence, the student must register for Dissertation Continuation (EECE 9996) in every semester until the dissertation is completed. A student may not register for Continuation until they fulfill the two-semester sequence of Dissertation.

REGISTRATION REQUIREMENTS FOR PREDOCTORAL AND PHD CANDIDATE GRADUATE ASSISTANTS

The ECE department requires that predoctoral students and PhD candidates who hold research or teaching assistantships be registered full-time. Predoctoral PhD students may register for Research (EECE 9986) (zero credit, full-time equivalent) *if needed* to fulfill the registration requirement.

PHD PROPOSAL REVIEW

Each PhD candidate must demonstrate, by means of the proposal review, subject matter knowledge satisfactory for the award of the degree.

The proposal review is an oral presentation followed by a question-and-answer session administered by the student's dissertation advisor/committee. The proposal review will be given at the time the student submits their dissertation proposal to the dissertation advisor/committee for approval. As part of this exam, the dissertation advisor/committee will review the student's doctoral program and their performance in graduate courses, as well as examine the student on subject matter related to their graduate coursework and dissertation subject area.

FINAL DISSERTATION DEFENSE

The final dissertation defense will include the subject matter of the dissertation and significant developments in the field of the dissertation work. Other related fields may be included if recommended by the examining faculty. The dissertation defense must be scheduled at least six months after the PhD proposal review.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual departmental review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 32 semester hours of approved coursework—equivalent of MSECE degree. Then complete 16 semester hours, of which 8 must be graduate-level EECE courses. Consult faculty research advisor for acceptable courses.		48

Dissertation

Code	Title	Hours
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Complete 16 semester hours of approved coursework. At least 8 semester hours must be graduate-level EECE courses. Consult your faculty adviser for acceptable courses.

Dissertation

Code	Title	Hours
Complete the following two courses:		
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Cybersecurity, PhD

A research-based, interdisciplinary Doctor of Philosophy (PhD) in Cybersecurity combines a strong security technical foundation with a security policy and social sciences perspective. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Students who choose the PhD in Cybersecurity program have a strong desire to pursue academic research solving critical cybersecurity challenges facing today's society. The PhD program is a natural path for students in the college's Master of Science in Cybersecurity (http://www.ccs.neu.edu/graduate/degree-programs/m-s-in-information-assurance/)program who want to pursue research and students with bachelor's degrees and an interest in research-focused careers. Students who pursue careers in advancing the state of the art of cybersecurity have an opportunity to gain:

- A strong technical foundation in cybersecurity and an interdisciplinary perspective based on policy and social science
- A path to a research-focused career coupled with depth in information assurance research at a leading institution, one of the earliest designees by NSA/DHS as a National Center of Academic Excellence in Information Assurance Research, Information Assurance/Cyber Defense, and Cyber Operations
- The opportunity to work with and learn from faculty who are recognized internationally for their expertise and contributions in information assurance from Northeastern University's Khoury College of Computer Sciences, the Department of Electrical and Computer Engineering, and the College of Social Sciences and Humanities
- Access to research projects at Northeastern's research centers focused on security:
  - The Cybersecurity and Privacy Institute (https://cyber.ccis.northeastern.edu/about/): The mission of Northeastern's Cybersecurity and Privacy Institute is to safeguard critical technology. Forging partnerships with experts in industry, government, and academia worldwide, the Institute's faculty and students develop, protect, and enhance technologies on which the world relies—from mobile devices and "smart" IoT applications to tomorrow's self-driving cars and delivery drones. Their expertise spans algorithm auditing; cloud security; cryptography; differential privacy; embedded device security; internet-scale security measurements; machine learning; big data; security, malware, and advanced threats; network protocols and security; web and mobile security; and wireless network security.
  - The International Secure Systems Lab (http://www.iseclab.org/), affiliated with Northeastern, a collaborative effort of European and U.S. researchers focused on web security, malware, and vulnerability analysis; intrusion detection; and other computer security issues.
  - The ALERT Center (http://www.northeastern.edu/alert/), where Northeastern is the lead institution, a multiuniversity Department of Homeland Security Center of Excellence involved in research, education, and technology related to threats from explosives.

The benefits of the Boston area:

- World-renowned for academic and research excellence, the Boston area is also home to some of the nation's largest Department of Defense contractors and government and independent labs such as MIT Lincoln Lab, MITRE, and Draper Lab.

Degree Requirements

The PhD in Cybersecurity degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need four to five years to complete the program, and they will be awarded a master's degree en route to the PhD.

Doctoral Degree Candidacy

A student is considered a PhD degree candidate after completing the core courses with at least a 3.500 GPA, with no grades lower than a B in the core courses, and either publishing a paper in a strong conference or journal or passing an oral exam that is conducted by a committee of three cybersecurity faculty members and based on paper(s) written by the student.

RESIDENCY

One year of continuous full-time study is required after admission to the PhD candidacy. During this period, the student will be expected to make substantial progress in preparing for the comprehensive examination.

TEACHING REQUIREMENT

All cybersecurity PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment or quiz or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
The doctoral dissertation advising team for each student consists of two cybersecurity faculty members, one in a technical area. When appropriate, the second faculty advisor will be from the policy/social science area.

DISSERTATION COMMITTEE
With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD cybersecurity curriculum committee. The four members must include the advisor, two internal members, and an external member.

COMPREHENSIVE EXAMINATION
A PhD student must submit a written dissertation proposal and present it to the dissertation committee. The proposal should identify the research problem, the research plan, and the potential impact of the research on the field. The presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee after the public presentation.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in cybersecurity.

AWARDING OF MASTER'S DEGREES
Students who enter the PhD in Cybersecurity program with a bachelor's degree have the option of obtaining a master's degree from one of the departments participating in the program. To do so, they must meet all of the department's degree requirements.

Program Requirements
Bachelor's Degree Entrance
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each core course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	
EECE 7390	Computer Hardware Security	
Machine Learning		
CS 6140	Machine Learning	
CS 7150	Deep Learning	
CY 6720	Machine Learning in Cybersecurity and Privacy	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	

EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Degree Requirements

Incoming PhD in cybersecurity students who have already completed a Master of Science in an adjacent field may petition to the graduate program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that

advanced entry does not waive by itself any part of the PhD coursework requirements. As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Doctoral Degree Candidacy

Refer to the PhD Cybersecurity overview (p. 302) for admission to candidacy requirements.

Residency

Refer to the PhD Cybersecurity overview (p. 302) for residency requirements.

Teaching Requirement

Refer to the PhD Cybersecurity overview (p. 302) for teaching requirements.

Dissertation Advising

Refer to the PhD Cybersecurity overview (p. 302) for dissertation advising requirements.

Dissertation Committee

Refer to the PhD Cybersecurity overview (p. 302) for dissertation committee requirements.

Comprehensive Examination

Refer to the PhD Cybersecurity overview (p. 302) for comprehensive examination requirements.

Dissertation Defense

Refer to the PhD Cybersecurity overview (p. 302) for dissertation defense and completion requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirement

Students are required to take all core courses unless otherwise determined by the program. Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each core course.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Students are required to take all courses unless otherwise determined by the program.

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	

EECE 7390	Computer Hardware Security
Machine Learning	
CS 6140	Machine Learning
CS 7150	Deep Learning
CY 6720	Machine Learning in Cybersecurity and Privacy
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

Minimum 16 semester hours required
Minimum 3.000 GPA required

Electrical Engineering, PhD

The PhD program in electrical engineering offers students an opportunity for study in a broad range of areas in electrical engineering. Details on PhD requirements can be found in the *Graduate Program Guide.* A summary of requirements is given below.

Qualifying Exam and Degree Candidacy

The PhD qualifying exam is the examination for admissions to the doctoral programs in electrical engineering and in computer engineering. The exam has the dual purposes of serving as an indicator of the student's capability for successful completion of the PhD in electrical engineering or in computer engineering and of serving as a guide to the student's advisor in developing a suitable plan of study, tailored to the individual needs of the student.

A student who has matriculated into the PhD program is considered a predoctoral student, whether they are BS entry or advanced entry. Upon successful completion of the qualifying exam, the student is designated a PhD candidate. A student who fails the qualifying exam will be permitted to retake the exam only one more time.

Annual Review

PhD students are reviewed annually. Each student is evaluated and receives a grade of satisfactory, needs improvement, or unsatisfactory.

Residence Requirement

After reaching PhD candidacy, one year of full-time graduate work or two consecutive years of part-time graduate work satisfy the university residence requirement. In the latter case, the student's advisor must approve a detailed schedule in order to ensure that the student devotes at least half of the time to the requirements of the Graduate School of Engineering.

Dissertation

Within one year of passing the PhD qualifying exam, the PhD candidate must form a dissertation committee. A dissertation committee must have at least three members that hold a PhD or equivalent degree. At least two of the committee members must be tenured or tenure-track ECE faculty and the committee must include the student's advisor. The chair of the committee must be a tenured or tenure-track faculty member in the ECE department.

The dissertation committee must design an appropriate program of study that prepares the student to be a successful doctoral-level engineer as well as direct the candidate's dissertation research. The dissertation committee will approve the dissertation in final form.

DISSERTATION AND DISSERTATION CONTINUATION REGISTRATION

Upon successful completion of the PhD qualifying exam and the required coursework, the PhD candidate must register in two consecutive semesters for Dissertation Term 1 (EECE 9990) and Dissertation Term 2 (EECE 9991). Upon completion of this sequence, the student must register for Dissertation Continuation (EECE 9996) in every semester until the dissertation is completed. A student may not register for Continuation until they fulfill the two-semester sequence of Dissertation.

REGISTRATION REQUIREMENTS FOR PREDOCTORAL AND PHD CANDIDATE GRADUATE ASSISTANTS

The ECE department requires that predoctoral students and PhD candidates who hold research or teaching assistantships be registered full-time. Predoctoral PhD students may register for Research (EECE 9986) (zero credit, full-time equivalent) if needed to fulfill the registration requirement.

PHD PROPOSAL REVIEW

Each PhD candidate must demonstrate, by means of the proposal review, subject matter knowledge satisfactory for the award of the degree.

The proposal review is an oral presentation followed by a question-and-answer session administered by the student's dissertation advisor/committee. The proposal review will be given at the time the student submits their dissertation proposal to the dissertation advisor/committee for approval. As part of this exam, the dissertation advisor/committee will review the student's doctoral program and their performance in graduate courses, as well as examine the student on subject matter related to their graduate coursework and dissertation subject area.

FINAL DISSERTATION DEFENSE

The final dissertation defense will include the subject matter of the dissertation and significant developments in the field of the dissertation work. Other related fields may be included if recommended by the examining faculty. The dissertation defense must be scheduled at least six months after the PhD proposal review.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 32 semester hours of approved coursework—equivalent of MSECE degree. Then complete 16 semester hours, of which 8 must be graduate-level EECE courses. Consult your faculty research advisor for acceptable courses.		48

Dissertation

Code	Title	Hours
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Complete 16 semester hours of approved coursework. At least 8 semester hours must be graduate-level EECE courses. Consult your faculty adviser for acceptable courses.

Dissertation

Code	Title	Hours
Complete the following two courses:		
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Applied Physics and Engineering, MS

The combined MS program in applied physics and engineering allows graduate students to receive training in one of three concentrations of the electrical and computer engineering department while also receiving fundamental graduate-level physics training that is relevant to that area.

Thesis Option

A student may complete an additional 8 semester hours of thesis. Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) (4 semester hours) or Thesis (PHYS 7990) (4 semester hours), depending on the affiliation of the thesis advisor. A thesis committee is composed of an advisor and two faculty members from physics or electrical engineering.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Concentrations

Complete one of the following concentrations:

- Microsystems, Materials, and Devices (p. 421)
- Electromagnetics, Plasma, and Optics (p. 421)
- Analysis, Modeling, and Computation (p. 422)

MICROSYSTEMS, MATERIALS, AND DEVICES

Code	Title	Hours
Core Courses		
EECE 7201	Solid State Devices	4
PHYS 7324	Condensed Matter Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5606	Micro- and Nanofabrication	
EECE 5680	Electric Drives	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7240	Analog Integrated Circuit Design	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7353	VLSI Design	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7302	Electromagnetic Theory	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7734	Topics: Condensed Matter Physics	

ELECTROMAGNETICS, PLASMA, AND OPTICS

Code	Title	Hours
Core Courses		
EECE 7203	Complex Variable Theory and Differential Equations	4
PHYS 7302	Electromagnetic Theory	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5698	Special Topics in Electrical and Computer Engineering (Subsurface Imaging)	
EECE 7105	Optics for Engineers	
EECE 7202	Electromagnetic Theory 1	

EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7270	Electromagnetic Theory 2	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7275	Antennas and Radiation	
EECE 7293	Modern Imaging	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7731	Biological Physics 1	

ANALYSIS, MODELING, AND COMPUTATION

Code	Title	Hours
Core Courses		
EECE 7205	Fundamentals of Computer Engineering	4
PHYS 7321	Computational Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7374	Fundamentals of Computer Networks	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5116	Network Science 1	
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7305	Statistical Physics	
PHYS 7335	Dynamical Processes in Complex Networks	

Thesis Option

Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) or Thesis (PHYS 7990) , depending on the affiliation of the thesis advisor. Thesis credits cannot be substituted for any of the coursework listed above. This option requires a total of 40 semester hours for the master's degree.

Program Credit/GPA Requirements

32–40 total semester hours required
Minimum 3.000 GPA required

Data Science, MS

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science (p. 281)— (p.)Align (p. 281) fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses.

Code	Title	Hours
Complete 20 semester hours from the following:		
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
Khoury College of Computer Sciences		
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5610	Web Development	
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6240	Large-Scale Parallel Data Processing	
CS 6350	Empirical Research Methods	
CS 6620	Fundamentals of Cloud Computing	
CS 6650	Building Scalable Distributed Systems	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7250	Information Visualization: Theory and Applications	
CS 7280	Special Topics in Database Management	

CS 7290	Special Topics in Data Science
DS 7990	Thesis
DS 7995	Project
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 semester hours (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative semester hours to 4. In order to earn this additional credit, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Internet of Things, MS

The Master of Science in Internet of Things is an interdisciplinary program administered by the Institute for the Wireless Internet of Things, the Department of Electrical and Computer Engineering, and the Khoury College of Computer Sciences. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the development of a globally interconnected continuum of untethered devices and objects interacting with the physical environment, people, and each other. The program will provide students with the necessary knowledge and skills to understand, design, and implement autonomous wireless networked systems of tomorrow operating in uncertain, challenging, extreme environments, through a combination of coursework, master project research, and/or industry experience.

Program Requirements

Core Requirements

Code	Title	Hours
EECE 5155	Wireless Sensor Networks and the Internet of Things	4
Complete one of the following:		4
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
Complete one of the following:		4
CS 5800	Algorithms	
CS 7800	Advanced Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Complete one of the following:		4
CS 6140	Machine Learning	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5698	Special Topics in Electrical and Computer Engineering	
Complete one of the following:		4
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7368	High-Level Design of Hardware-Software Systems	
Complete two courses from the following for a total of 4 semester hours:		
EECE 7400	Special Problems in Electrical and Computer Engineering	1
INNO 6230	Platform Innovation	3
or MGMT 6280	Innovation for Next-Generation Products and Systems	
Complete one of the following:		4
CY 5120	Applied Cryptography	
CY 5150	Network Security Practices	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
EECE 5641	Introduction to Software Security	
EECE 5699	Computer Hardware and System Security	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 4 semester hours from the course list below. (p. 286)		4

MASTER'S PROJECT OPTION

Code	Title	Hours
EECE 7674	Master's Project	4

Course List

Code	Title	Hours
Courses in College of Engineering		
Electrical and Computer Engineering		
EECE 5360	Combinatorial Optimization	
EECE 5550	Mobile Robotics	

EECE 5554	Robotics Sensing and Navigation
EECE 5606	Micro- and Nanofabrication
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5645	Parallel Processing for Data Analytics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5699	Computer Hardware and System Security
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7240	Analog Integrated Circuit Design
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7275	Antennas and Radiation
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7390	Computer Hardware Security
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances on Deep Learning)
Bioengineering	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design
Civil and Environmental Engineering	
CIVE 5280	Remote Sensing of the Environment
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering
CIVE 7151	Urban Informatics and Processing
CIVE 7380	Performance Models and Simulation of Transportation Networks

Courses Outside College of Engineering	
Khoury College of Computer Science	
Computer Science	
CS 5700	Fundamentals of Computer Networking
CS 6140	Machine Learning
CS 7150	Deep Learning
Cybersecurity	
CY 5120	Applied Cryptography
CY 5150	Network Security Practices
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
CY 6760	Wireless and Mobile Systems Security
D'Amore-McKim School of Business	
Entrepreneurship and Innovation	
INNO 6200	Enterprise Growth and Innovation
INNO 6222	Competing in Dynamic, Innovation-Driven Markets
Management	
MGMT 6280	Innovation for Next-Generation Products and Systems
Entrepreneurship Technological	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
Bouvé College of Health Sciences	
Health Informatics	
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5301	Evaluating Health Technologies
HINF 6400	Introduction to Health Data Analytics
Nursing	
NRSG 6306	Health Informatics
College of Arts, Media and Design	
Communication Studies	
COMM 6605	Youth and Communication Technology
School of Law	
LW 6101	Introduction to Legal Studies 1: Law and Legal Reasoning
LW 6102	Introduction to Legal Studies 2
LW 6140	Data Regulation and Compliance
LW 6231	Identifying and Securing Intellectual Property Rights
LW 6232	Intellectual Property and Media
LW 6400	Law, Policy and Legal Argument
LW 7369	Intellectual Property
LW 7669	Law and Technology
College of Social Sciences and Humanities	
Law and Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change
Public Policy and Urban Affairs	
PPUA 5262	Big Data for Cities
Political Science	
POLS 7341	Security and Resilience Policy
POLS 7346	Resilient Cities
POLS 7441	Cyberconflict
Philosophy	

PHIL 5005	Information Ethics
College of Science	
Physics	
PHYS 5116	Network Science 1

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Robotics, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academic-programs/ms-robo/).

The multidisciplinary Master of Science program in robotics is offered by the College of Engineering and the Khoury College of Computer Sciences. The program is designed to provide students comprehensive training in algorithms, sensors, control systems, and mechanisms used in robotics.

Gordon Institute of Engineering Leadership

Master's Degree in Robotics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Robotics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved robotics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mechanical Engineering		
Complete one of the following:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Electrical and Computer Engineering		
Complete one of the following:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Computer Science		
Complete one of the following:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	

Concentrations

Complete one of the following concentrations:

- Mechanical Engineering (p. 290)
- Electrical and Computer Engineering (p. 291)
- Computer Science (p. 291)

MECHANICAL ENGINEERING

Code	Title	Hours
Students in the mechanical engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional ME course not used to fulfill the core requirements:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
ME 7945	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		

ME 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

ELECTRICAL AND COMPUTER ENGINEERING

Code	Title	Hours
Students in the electrical and computer engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional EECE course not used to fulfill the core requirements:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
EECE 7674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
EECE 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

COMPUTER SCIENCE

Code	Title	Hours
Students in the computer science concentration follow the Khoury College of Computer Sciences co-op policies.		
Required Course		
Complete one additional CS course not used to fulfill the core requirements:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
CS 8674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
CS 8674	Master's Project	4
CS 7990	Thesis	4
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

Elective Course List

Code	Title	Hours
CS 5097	Mixed Reality	
CS 5100	Foundations of Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6350	Empirical Research Methods	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
DS 5220	Supervised Machine Learning and Learning Theory	
EECE 5550	Mobile Robotics	

EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5580	Classical Control Systems
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7150	Autonomous Field Robotics
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
IE 6500	Human Performance
IE 7280	Statistical Methods in Engineering
IE 7315	Human Factors Engineering
IE 7615	Neural Networks and Deep Learning
ME 5240	Computer Aided Design and Manufacturing
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7247	Advanced Control Engineering

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Wireless and Network Engineering, MS

Overview

The Master of Science in Wireless and Network Engineering is administered by the Institute for the Wireless Internet of Things and the Department of Electrical and Computer Engineering. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the future of our hyperconnected society. The program will provide students with the necessary knowledge and skills to understand, design, and implement present and future wireless and wired communication networks through a combination of coursework, master thesis research, and/or industry experience.

Program Requirements

Core Requirements

Code	Title	Hours
Complete two of the following:		8
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
EECE 7374	Fundamentals of Computer Networks	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 24 semester hours from the course list below. (p. 432)		24

THESIS OPTION

Code	Title	Hours
EECE 7990	Thesis	8
Complete 16 semester hours from the course list below. (p. 432)		16

Course List

Code	Title	Hours
Electrical and Computer Engineering		
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5360	Combinatorial Optimization	
EECE 5610	Digital Control Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5640	High-Performance Computing	
EECE 5641	Introduction to Software Security	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5645	Parallel Processing for Data Analytics	
EECE 5666	Digital Signal Processing	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5697	Acoustics and Sensing	
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)	
EECE 5699	Computer Hardware and System Security	
EECE 7200	Linear Systems Analysis	
EECE 7202	Electromagnetic Theory 1	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7247	Radio Frequency Integrated Circuit Design	
EECE 7275	Antennas and Radiation	
EECE 7336	Digital Communications	
EECE 7337	Information Theory	

EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7352	Computer Architecture
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Networks Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7400	Special Problems in Electrical and Computer Engineering
Computer Science	
CS 5520	Mobile Application Development
CS 5610	Web Development
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 7610	Foundations of Distributed Systems
Cybersecurity	
CY 6740	Network Security

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with a Concentration in Communications, Control, and Signal Processing with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with a Concentration in Communications, Control, and Signal Processing in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved communications, control, and signal processing technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5576	Wireless Communication Systems	
EECE 5666	Digital Signal Processing	
EECE 7200	Linear Systems Analysis	
EECE 7204	Applied Probability and Stochastic Processes	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 435)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 435)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 435)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below. (p. 435)	4
Note: Depth courses cannot be taken for breadth.	
Electives	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

In the coursework option a maximum of two courses may be taken outside of electrical and computer engineering. Thesis track students can take up to three courses outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5576	Wireless Communication Systems	
EECE 5580	Classical Control Systems	
EECE 5610	Digital Control Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5665	Signal Processing for Global Navigation Satellite Systems	
EECE 5666	Digital Signal Processing	
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)	
EECE 7200	Linear Systems Analysis	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7211	Nonlinear Control	
EECE 7213	System Identification and Adaptive Control	
EECE 7214	Optimal and Robust Control	
EECE 7215	Introduction to Distributed Intelligence	
EECE 7310	Modern Signal Processing	
EECE 7311	Two Dimensional Signal and Image Processing	
EECE 7323	Numerical Optimization Methods	
EECE 7336	Digital Communications	
EECE 7337	Information Theory	
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization	
EECE 7346	Probabilistic System Modeling and Analysis	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Current Research in NonLinear Systems)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for MS Thesis Students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	
ME 7247	Advanced Control Engineering	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	

CS 7800	Advanced Algorithms
CY 5770	Software Vulnerabilities and Security
CY 6740	Network Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5161	Thin Film Technologies
EECE 5170	Introduction to Multiferroics Materials and Systems
EECE 5554	Robotics Sensing and Navigation
EECE 5606	Micro- and Nanofabrication
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7205	Fundamentals of Computer Engineering
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients

EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	

CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree programs in electrical and computer engineering offer in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on groundbreaking research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Computer Systems and Software with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science degree in Electrical and Computer Engineering with Concentration in Computer Systems and Software in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved computer systems and software technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5640	High-Performance Computing	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	
EECE 7376	Operating Systems: Interface and Implementation	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 440)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 440)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 440)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 440)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

A maximum of three courses may be taken outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
EECE 5552	Assistive Robotics	
EECE 5640	High-Performance Computing	
EECE 5643	Simulation and Performance Evaluation	
EECE 5699	Computer Hardware and System Security	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7368	High-Level Design of Hardware-Software Systems	
EECE 7376	Operating Systems: Interface and Implementation	
EECE 7390	Computer Hardware Security	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5161	Thin Film Technologies	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5550	Mobile Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5576	Wireless Communication Systems	
EECE 5580	Classical Control Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5610	Digital Control Systems	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5639	Computer Vision	

EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5697	Acoustics and Sensing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240

EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7364	Mobile and Wireless Networking
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	

CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Computer Networks and Security with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Computer Networks and Security in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved computer networks and security technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete 8 semester hours from the following:		8
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5641	Introduction to Software Security	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7374	Fundamentals of Computer Networks	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 445)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 445)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 445)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 445)	4
Note: Depth courses cannot be taken for breadth.	
Electives	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

A maximum of three courses may be taken outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
CS 6760	Privacy, Security, and Usability	
CY 6740	Network Security	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5576	Wireless Communication Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5640	High-Performance Computing	
EECE 5641	Introduction to Software Security	
EECE 5643	Simulation and Performance Evaluation	
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)	
EECE 5699	Computer Hardware and System Security	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7346	Probabilistic System Modeling and Analysis	
EECE 7364	Mobile and Wireless Networking	
EECE 7374	Fundamentals of Computer Networks	
EECE 7390	Computer Hardware Security	
EECE 7393	Analysis and Design of Data Networks	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 7800	Advanced Algorithms	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5580	Classical Control Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5610	Digital Control Systems	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5639	Computer Vision	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	

EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter

EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7376	Operating Systems: Interface and Implementation
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved computer vision, machine learning, and algorithms technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5554	Robotics Sensing and Navigation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 449)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 449)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 449)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 449)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

A maximum of three courses may be taken outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 7800	Advanced Algorithms	
EECE 5360	Combinatorial Optimization	
EECE 5550	Mobile Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5642	Data Visualization	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5645	Parallel Processing for Data Analytics	
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)	
EECE 7150	Autonomous Field Robotics	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7215	Introduction to Distributed Intelligence	
EECE 7323	Numerical Optimization Methods	
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization	
EECE 7352	Computer Architecture	
EECE 7370	Advanced Computer Vision	
EECE 7397	Advanced Machine Learning	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	
MATH 7233	Graph Theory	

BREADTH COURSES

Code	Title	Hours
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CY 5770	Software Vulnerabilities and Security	

CY 6740	Network Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5115	Dynamical Systems in Biological Engineering
EECE 5161	Thin Film Technologies
EECE 5170	Introduction to Multiferroics Materials and Systems
EECE 5552	Assistive Robotics
EECE 5576	Wireless Communication Systems
EECE 5580	Classical Control Systems
EECE 5606	Micro- and Nanofabrication
EECE 5610	Digital Control Systems
EECE 5641	Introduction to Software Security
EECE 5643	Simulation and Performance Evaluation
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control

EECE 7214	Optimal and Robust Control
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	

CS 5800	Algorithms
CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved electromagnetics, plasma, and optics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 7202	Electromagnetic Theory 1	
EECE 7203	Complex Variable Theory and Differential Equations	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
A maximum of two courses may be taken outside of Electrical and Computer Engineering.		
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 454)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 454)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 additional semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
A maximum of three courses may be taken outside of Electrical and Computer Engineering.		
Thesis		
EECE 7990	Thesis	8
Depth Courses		

Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 454)	4
Breadth Courses	
Complete 4 semester hours from the breadth course list below. (p. 454)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 additional semester hours from either depth or breadth courses.	8

Course Lists

DEPTH COURSES

Code	Title	Hours
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5697	Acoustics and Sensing	
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)	
EECE 7105	Optics for Engineers	
EECE 7202	Electromagnetic Theory 1	
EECE 7203	Complex Variable Theory and Differential Equations	
EECE 7270	Electromagnetic Theory 2	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7275	Antennas and Radiation	
EECE 7284	Optical Properties of Matter	
EECE 7293	Modern Imaging	
EECE 7296	Electronic Materials	
EECE 7297	Advanced Magnetic Materials—Magnetic Devices	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5161	Thin Film Technologies	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	

EECE 5576	Wireless Communication Systems
EECE 5580	Classical Control Systems
EECE 5606	Micro- and Nanofabrication
EECE 5610	Digital Control Systems
EECE 5626	Image Processing and Pattern Recognition
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication

EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the Program Requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved hardware and software for machine intelligence technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
A maximum of three courses may be taken outside of the electrical and computer engineering EECE subject code.		
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 459)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 460)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours of either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
A maximum of three courses may be taken outside of electrical and computer engineering.		
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. (p. 459)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 460)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 additional semester hours from either depth or breadth courses.	8

Course Lists

DEPTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
CS 7340	Theory and Methods in Human Computer Interaction	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5641	Introduction to Software Security	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5645	Parallel Processing for Data Analytics	
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)	
EECE 5699	Computer Hardware and System Security	
EECE 7150	Autonomous Field Robotics	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7215	Introduction to Distributed Intelligence	
EECE 7323	Numerical Optimization Methods	
EECE 7337	Information Theory	
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization	
EECE 7346	Probabilistic System Modeling and Analysis	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7368	High-Level Design of Hardware-Software Systems	
EECE 7370	Advanced Computer Vision	
EECE 7390	Computer Hardware Security	
EECE 7393	Analysis and Design of Data Networks	
EECE 7397	Advanced Machine Learning	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robotics)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Human Centered Computing)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	

EECE 7674	Master's Project (MS Thesis students cannot take this course)
IE 7615	Neural Networks and Deep Learning
MATH 7233	Graph Theory
PHIL 5010	AI Ethics

BREADTH COURSES

Code	Title	Hours
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5161	Thin Film Technologies	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5360	Combinatorial Optimization	
EECE 5576	Wireless Communication Systems	
EECE 5580	Classical Control Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5610	Digital Control Systems	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5647	Nanophotonics	
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology	
EECE 5652	Microwave Circuits and Systems	
EECE 5665	Signal Processing for Global Navigation Satellite Systems	
EECE 5666	Digital Signal Processing	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680	
EECE 5682	Power Systems Analysis 1	
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684	
EECE 5688	Analysis of Unbalanced Power Grids	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5697	Acoustics and Sensing	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)	
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)	

EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 7105	Optics for Engineers
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	

CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved microsystems, materials, and devices technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5606	Micro- and Nanofabrication	
EECE 7201	Solid State Devices	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7353	VLSI Design	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 464)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 464)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 additional semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 464)		4
Breadth Courses		
Complete 4 semester hours from the breadth course list below. (p. 464)		4

Note: Depth courses cannot be taken for breadth.

Elective	
Complete 8 additional semester hours from either depth or breadth courses.	8

Course Lists

In the coursework option, a maximum of two courses may be taken outside of electrical and computer engineering. Thesis track students can take up to three courses outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
EECE 5161	Thin Film Technologies	
EECE 5606	Micro- and Nanofabrication	
EECE 5647	Nanophotonics	
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology	
EECE 5652	Microwave Circuits and Systems	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)	
EECE 7201	Solid State Devices	
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7247	Radio Frequency Integrated Circuit Design	
EECE 7250	Power Management Integrated Circuits	
EECE 7284	Optical Properties of Matter	
EECE 7296	Electronic Materials	
EECE 7297	Advanced Magnetic Materials—Magnetic Devices	
EECE 7353	VLSI Design	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	

EECE 5115	Dynamical Systems in Biological Engineering
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5170	Introduction to Multiferroics Materials and Systems
EECE 5550	Mobile Robotics
EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5576	Wireless Communication Systems
EECE 5580	Classical Control Systems
EECE 5610	Digital Control Systems
EECE 5626	Image Processing and Pattern Recognition
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7270	Electromagnetic Theory 2

EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Power Systems, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Power Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Power Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved power systems technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5680	Electric Drives	
EECE 5682	Power Systems Analysis 1	
EECE 5684	Power Electronics	
EECE 7200	Linear Systems Analysis	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 468)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 468)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 468)		4
Breadth Courses		
Complete 4 semester hours from the breadth course list below. (p. 468)		4

Note: Depth courses cannot be taken for breadth.

Elective	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

In the coursework option a maximum of two courses may be taken outside of electrical and computer engineering. Thesis track students can take up to three courses outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
EECE 5580	Classical Control Systems	
EECE 5610	Digital Control Systems	
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680	
EECE 5682	Power Systems Analysis 1	
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684	
EECE 5688	Analysis of Unbalanced Power Grids	
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)	
EECE 7200	Linear Systems Analysis	
EECE 7211	Nonlinear Control	
EECE 7213	System Identification and Adaptive Control	
EECE 7214	Optimal and Robust Control	
EECE 7224	Power Systems State Estimation	
EECE 7226	Modeling and Simulation of Power System Transients	
EECE 7228	Advanced Power Electronics	
EECE 7250	Power Management Integrated Circuits	
EECE 7323	Numerical Optimization Methods	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5161	Thin Film Technologies	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5576	Wireless Communication Systems	
EECE 5606	Micro- and Nanofabrication	

EECE 5626	Image Processing and Pattern Recognition
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7215	Introduction to Distributed Intelligence
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter

EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering Leadership, MSECEL

The Gordon Engineering Leadership Program is a transformational, technical, and challenging graduate-level learning experience targeted for engineering professionals.

The Gordon Institute, in collaboration with the College of Engineering, offers the Master of Science in Electrical and Computer Engineering Leadership (MSECEL) as formal recognition of the combined focus in electrical and computer engineering technical skills and midlevel engineers' leadership acumen and broadened cross-functional capabilities. This program is offered through participation in the Gordon Engineering Leadership Program at Northeastern University and requires an additional application to the Gordon program.

Pursuing the MSECEL and the graduate certificate allows participants to:

- Enhance technical knowledge in electrical and computer engineering
- Take part in a hands-on curriculum (p. 472) taught by industry-experienced professors
- Work with peers from across engineering fields on leadership skills development
- Receive one-on-one mentoring from industry experts and faculty

The Gordon Engineering Leadership Program anchors around an intense, market-worthy challenge project based on your organization's strategic needs. This is a unique opportunity to apply your classroom experience to a professional setting, potentially further accelerating your career.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Leadership		
ENLR 5121	Engineering Leadership 1	2
ENLR 5122	Engineering Leadership 2	2
Foundations		
ENLR 5131	Scientific Foundations of Engineering 1	2
ENLR 5132	Scientific Foundations of Engineering 2	2
Project		
ENLR 7440	Engineering Leadership Challenge Project 1	4
ENLR 7442	Engineering Leadership Challenge Project 2	4
Concentration Courses		
Complete 16 semester hours from any of the approved depth/breadth course lists within any of the seven EECE concentrations. Students are encouraged to take at least three courses within the same concentration.		16

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Mechanical and Industrial Engineering

Website (https://mie.northeastern.edu/academics/graduate-studies/)

Marilyn L. Minus, PhD
Professor and Chair

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Mechanical engineers design, develop, and support the manufacture of machinery and devices to transmit power or to convert energy from thermal to mechanical form in order to power the modern world and its machines. Traditionally, mechanical engineers have designed and tested devices, such as heating and air-conditioning systems, machine tools, internal combustion engines, and steam power plants. Today, they also play primary roles in the development of new technologies in a variety of fields—energy conversion, solar energy utilization, environmental control, prosthetics, transportation, manufacturing, robotics, and new-materials development.

Industrial engineers design and analyze systems that include people, equipment, and materials and their interactions and performance in the workplace. An industrial engineer collects this information and evaluates alternatives to make decisions that best advance the goals of the enterprise. Industrial engineers work in manufacturing firms, hospitals, banks, public utilities, transportation, government agencies, insurance companies, and construction firms. Among the projects they undertake are design and implementation of a computer-integrated supply chain or manufacturing system, facilities planning for a variety of industries, design of a robotics system in a manufacturing environment, long-range corporate planning, development and implementation of a quality-control system, simulation analyses to improve processes and make operational decisions, design of healthcare operations to enhance patient safety and improve efficiency, productivity, and development of computer systems for information control.

Mission of the Department

The mission of the Department of Mechanical and Industrial Engineering is to educate persons for professional and technical excellence; to perform research to advance the science and practice of engineering; to engage in service activities that advance the department, the university, and the profession; and to instill in ourselves and our students habits and attitudes that promote ethical behavior, professional responsibility, and careers that advance the well-being of society.

Academic Programs

The Department of Mechanical and Industrial Engineering offers comprehensive research and educational programs for both Master of Science and Doctor of Philosophy students. Our cutting-edge and vibrant doctoral programs include PhDs in industrial engineering, mechanical engineering, and an interdisciplinary engineering PhD (housed in the College of Engineering). Our MS degree programs are offered in both traditional mechanical and industrial engineering, as well as data analytics engineering, energy systems, engineering management, human factors, operations research, and advanced and intelligent manufacturing. These extensive programs and concentrations allow for the selection of a degree that meets a wide variety of personal and professional goals. Graduate students work with our world-renowned faculty to achieve research experience and their career goals and have opportunities to participate in the graduate cooperative education program.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (https://www.northeastern.edu/graduate/programs/#/certificate/engineering,leadership/-/-/-/-/-).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (https://www.northeastern.edu/graduate/program/graduate-certificate-in-engineering-leadership-5272/) in combination with the MS degree.

ENGINEERING BUSINESS

Students have the opportunity to pursue the Galante Engineering Business Certificate (https://www.northeastern.edu/graduate/program/galante-engineering-business-certificate-14806/) in combination with several MS degrees.

Programs

Doctor of Philosophy (PhD)

- Industrial Engineering (p. 475)
- Interdisciplinary Engineering (p. 357)
- Mechanical Engineering (p. 478)

Master of Science (MS)

- Advanced and Intelligent Manufacturing (p. 481)
- Data Analytics Engineering (p. 485)
- Human Factors (p. 490)

Master of Science in Industrial Engineering (MSIE)

- Industrial Engineering (p. 493)

Master of Science in Engineering Management (MSEM)

- Engineering Management (p. 497)

Master of Science in Energy Systems (MSEneS)

- Energy Systems (p. 504)
- Energy Systems—Academic Link Program (p. 507)

Master of Science in Mechanical Engineering (MSME)

- Mechanical Engineering with Concentration in General Mechanical Engineering (p. 509)
- Mechanical Engineering with Concentration in Mechanics and Design (p. 514)
- Mechanical Engineering with Concentration in Materials Science (p. 512)
- Mechanical Engineering with Concentration in Mechatronics (p. 517)
- Mechanical Engineering with Concentration in Thermofluids (p. 520)

Master of Science in Operations Research (MSOR)

- Operations Research (p. 523)

Graduate Certificate

- Data Analytics Engineering (p. 526)
- Energy Systems (p. 527)
- Energy Systems Management (p. 528)
- Engineering Business (p. 529)
- Engineering Economic Decision Making (p. 531)
- Engineering Management (p. 532)
- Lean Six Sigma (p. 533)
- Renewable Energy (p. 534)
- Software Engineering Systems (p. 554)
- Sustainable Energy Systems (p. 535)
- Supply Chain Engineering Management (p. 536)
- Technology Systems Management (p. 537)

Industrial Engineering, PhD

Requirements

The PhD is awarded to students who demonstrate high academic achievement and research competence in the fields of mechanical engineering. To earn a PhD, a student must complete an approved, rigorous program of advanced coursework and submit and defend an original dissertation of independent research. The Department of Mechanical and Industrial Engineering expects all successful doctoral candidates to show depth of knowledge and research innovation in their chosen field of specialization.

The MIE department admits applicants to the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements (both written and oral components) as well as all the required coursework.

Academic and Research Advisors

PhD students must find a research advisor within their first year of study. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Students are advised by the faculty advisor of their discipline before they select their research advisor(s). The research advisor and co-advisor (if applicable) must serve on the PhD student's oral examination, dissertation proposal, and dissertation defense committees.

Change of Research Advisor

Students who wish to change their research advisor need to use the MIE petition form to make that request. The petition form must be signed by the student and by the student's current and future research advisor. The signed petition form should then be submitted to the MIE department for further processing.

Course Requirements and Plan of Study

Each doctoral student, together with their research advisor, should develop an initial program during the first semester of study. The final program is also subject to the approval of the dissertation committee, who will add the program of study to the student's record upon admission to doctoral candidacy.

DIRECT ENTRY

A typical program of study includes at least 40 semester hours of coursework beyond a bachelor's degree. Students who apply to earn a master's degree along the way to a PhD must complete a total of 52 semester hours (32 semester hours to earn a master's degree and an additional 20 semester hours in order to earn a PhD). The 32 semester hours of coursework that apply toward the master's degree may include up to 8 semester hours of thesis or 4 semester hours of project or approved independent study coursework. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of Independent Study (IE 7978) as part of their required coursework. An independent study must be approved by the research advisor. When thesis or project is selected, an independent study course cannot be taken.

ADVANCED ENTRY

A typical program of study includes at least 20 semester hours of coursework beyond a master's degree. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of Independent Study (IE 7978) as part of their required coursework. An independent study must be approved by the research advisor.

PHD CANDIDACY

To qualify as a doctoral candidate, a doctoral student must successfully complete the doctoral qualifying requirements as well as all the required coursework.

Doctoral Qualifying Requirements

Doctoral qualifying requirements framework: The goal of the Doctoral Qualifying Examination is to: test a student's knowledge in fundamental topics; to gauge the student's potential to conduct independent research; and to provide opportunities for feedback to the student.

The Doctoral Qualifying Examination will be administered by a committee of at least three members, with a minimum of two who are full-time faculty members in the MIE department. The exam comprises both a written and an oral portion, with specifics determined by the faculty of each concentration. Complete details are provided to students in the PhD Qualifying Requirement Guidelines on the MIE department graduate website (https://mie.northeastern.edu/academics/graduate-studies/).

Upon successfully completing both the written and oral components in addition to all the necessary coursework, as specified by the student's concentration, the student will be designated as a PhD candidate.

Appeal Procedure

The doctoral qualifying requirements process provides means for reevaluation for students who fail one or more components to appeal the Graduate Affairs Committee decision. All communications related to these should be coordinated through the student's research advisor. Only the student's research advisor may request the MIE Graduate Affairs Committee to reevaluate the student's performance.

PhD Students Annual Review

All PhD students in the MIE department must complete the PhD Students Annual Review form with their research advisor(s) and submit any supporting documents. Annual reviews will be filed with the MIE Department of Graduate Affairs.

PhD Students Changing Their Program

PhD students who, for any reason, decide to change their degree program (i.e., from PhD in ME to PhD in IE or vice versa) must satisfy the doctoral qualifying requirements (based on the student's new major research area (i.e., industrial engineering, materials, mechanics, mechatronics, or thermofluids).

Interdisciplinary PhD Students with MIE as the Home Department

Students pursuing the College of Engineering interdisciplinary PhD program with the MIE department as their home department must satisfy the the MIE doctoral qualifying requirements. Students dismissed from the ME or IE PhD programs in the MIE department cannot enroll in the PhD Interdisciplinary Engineering program with MIE as the primary affiliation.

Dissertation Proposal Preparation and Presentation Timing

Students must present their dissertation proposal no more than 18 months after successfully completing the oral exam. In addition, the presentation of the dissertation proposal and the actual dissertation defense (see below) shall be no less than 6 months apart. The student's dissertation committee will invite any additional faculty deemed appropriate to that field; this dissertation committee will then conduct the dissertation proposal session. Each student's dissertation committee must be comprised of at least three members, including the research advisor. At least two of those three members must be full-time MIE faculty members. At least three committee members should hold a PhD and at least two shall be Northeastern University faculty. The chair of the dissertation committee shall be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD or an appropriate terminal degree for the discipline. Exceptions to this policy will be considered and, if appropriate, approved by the provost or their designee.

Dissertation Course Requirements

Upon successful completion of the doctoral qualifying requirements as well as all the required coursework, the doctoral candidate, in consultation with their research advisor, must register in two consecutive semesters (may include full summer term) for Dissertation Term 1 (IE 9990) and Dissertation Term 2 (IE 9991). Upon completion of this sequence, the student must then register for Dissertation Continuation (IE 9996) in every semester (in each fall and spring term and also in the summer term if summer is the student's last semester) until the dissertation is completed. Students may not register for Dissertation Continuation (IE 9996) until they fulfill the two-semester sequence of Dissertation Term 1 (IE 9990) and Dissertation Term 2 (IE 9991).

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Candidacy Preparation—Doctoral (IE 8960), in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Final Oral (Dissertation Defense) Examination

All doctoral candidates must pass a final oral exam. This exam will be scheduled once the dissertation committee agrees that the candidate's research is at a stage where it is appropriate for formal presentation and after completion of all other PhD requirements, including all the coursework approved in the final program of study. The objective of the exam is for the candidate to present and defend the results of the dissertation research and to demonstrate depth of knowledge and significant expertise in the area of that research under questioning from the dissertation committee and other attendees.

The exam shall be publicly advertised **at least one week in advance** and all faculty members may attend and participate. At the conclusion of the presentation and subsequent questions period, the dissertation committee will convene to determine the outcome. The committee may recommend that the candidate be awarded the PhD or may require additional research and/or modifications of the dissertation. In some cases, candidates may be asked to present an additional final oral dissertation defense.

Residency Requirement

After achieving PhD candidacy, the university residency requirement is satisfied by two semesters of full-time graduate registration or four semesters of part-time graduate registration. Students must be continually enrolled during the pursuit of dissertation.

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Recommended Courses		
Note: Semester hours can be counted toward coursework component with advisor approval.		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Coursework		
Requires 40 semester hours of coursework, including up to 4 semester hours of Independent Study (IE 7978).		40

Dissertation

Code	Title	Hours
Complete the following (must register in two consecutive semesters, which may include full summer term):		
IE 9990	Dissertation Term 1	
IE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Master's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

General Requirements

Code	Title	Hours
Recommended Courses		
Semester hours can be applied toward coursework component with advisor approval.		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Coursework		
Requires 20 semester hours of coursework, including up to 4 semester hours of Independent Study (IE 7978). Please consult your faculty advisor for acceptable courses.		20

Dissertation Courses

Code	Title	Hours
Complete the following two courses. Must register in two consecutive semesters (may include full summer term):		
IE 9990	Dissertation Term 1	
IE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Mechanical Engineering, PhD

Requirements

The PhD is awarded to students who demonstrate high academic achievement and research competence in the fields of mechanical engineering. To earn a PhD, a student must complete an approved, rigorous program of advanced coursework and submit and defend an original dissertation of independent research. The Department of Mechanical and Industrial Engineering expects all successful doctoral candidates to show depth of knowledge and research innovation in their chosen field of specialization.

The MIE department admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements (both written and oral components) as well as all the required coursework.

Academic and Research Advisors

PhD students must find a research advisor within their first year of study. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Students are advised by the faculty advisor of their discipline before they select their research advisor(s). The research advisor and co-advisor (if applicable) must serve on the PhD student's oral examination, dissertation proposal, and dissertation defense committees.

Change of Research Advisor

Students who wish to change their research advisor need to use the MIE petition form to make that request. The petition form must be signed by the student and by the student's current and future research advisor. The signed petition form should then be submitted to the MIE department for further processing.

Course Requirements and Plan of Study

Each doctoral student, together with their research advisor, should develop an initial program during the first semester of study. The final program is also subject to the approval of the dissertation committee, who will add the program of study to the student's record upon admission to doctoral candidacy.

DIRECT ENTRY

A typical program of study includes at least 40 semester hours of coursework beyond a bachelor's degree. Students who choose to get a master's degree along the way to a PhD must complete a total of 52 semester hours (32 semester hours to earn a master's degree and an additional 20 semester hours in order to earn a PhD). The 32 semester hours of coursework that apply toward the master's degree may include up to 8 semester hours of thesis or 4 semester hours of project or approved independent study coursework. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of (ME 7978) as part of their required coursework. An independent study must be approved by the research advisor. When thesis or project is selected, an independent study course cannot be taken.

ADVANCED ENTRY

A typical program of study includes at least 20 semester hours of coursework beyond a master's degree. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of (ME 7978) as part of their required coursework. An independent study must be approved by the research advisor.

PHD CANDIDACY

To qualify as a doctoral candidate, a doctoral student must successfully complete the doctoral qualifying requirements as well as all the required coursework.

Doctoral Qualifying Requirements

DOCTORAL QUALIFYING REQUIREMENTS FRAMEWORK

The goals of the Doctoral Qualifying Examination are to test a student's knowledge in fundamental topics; to gauge the student's potential to conduct independent research; and to provide opportunities for feedback to the student.

The Doctoral Qualifying Examination will be administered by a committee of at least three members, with a minimum of two who are full-time faculty members in the MIE department. The exam comprises both a written and an oral portion, with specifics determined by the faculty of each concentration. Complete details are provided to students in the PhD Qualifying Requirement Guidelines on the MIE department graduate website (https://mie.northeastern.edu/academics/graduate-studies/).

Upon successfully completing both the written and oral components in addition to all the necessary coursework, as specified by the student's concentration, the student will be designated as a PhD candidate.

APPEAL PROCEDURE

The doctoral qualifying requirements process provides means for reevaluation for students who fail one or more components to appeal the Graduate Affairs Committee decision. All communications related to these should be coordinated through the student's research advisor. Only the student's research advisor may request the MIE Graduate Affairs Committee to reevaluate the student's performance.

PhD Students Annual Review

All PhD students in the MIE department must complete the PhD Students Annual Review form with their research advisor(s) and submit any supporting documents. Annual reviews will be filed with the MIE Department of Graduate Affairs.

PhD Students Changing Their Program

PhD students who, for any reason, decide to change their degree program (i.e., from PhD in ME to PhD in IE or vice versa) must satisfy the doctoral qualifying requirements (based on the student's new major research area (i.e., industrial engineering, materials, mechanics, mechatronics, or thermofluids).

Interdisciplinary PhD Students with MIE as the Home Department

Students pursuing the College of Engineering interdisciplinary PhD program with the MIE department as their home department must satisfy the MIE doctoral qualifying requirements. Students dismissed from the ME or IE PhD programs in the MIE department cannot enroll in the PhD in Interdisciplinary Engineering program with MIE as the primary affiliation.

Dissertation Proposal Preparation and Presentation Timing

Students must present their dissertation proposal no more than 18 months after successfully completing the oral exam. In addition, the presentation of the dissertation proposal and the actual dissertation defense (see below) shall be no less than 6 months apart. The student's dissertation committee will invite any additional faculty deemed appropriate to that field; this dissertation committee will then conduct the dissertation proposal session. Each student's dissertation committee must be comprised of at least three members, including the research advisor. At least two of those three members must be full-time MIE faculty members. At least three committee members should hold a PhD and at least two shall be Northeastern University faculty. The chair of the dissertation committee shall be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD or an appropriate terminal degree for the discipline. Exceptions to this policy will be considered and, if appropriate, approved by the provost or their designee.

Dissertation Course Requirements

Upon successful completion of the doctoral qualifying requirements as well as all the required coursework, the doctoral candidate, in consultation with their research advisor, must register in two consecutive semesters (may include full summer term) for Dissertation Term 1 (ME 9990) and Dissertation Term 2 (ME 9991). Upon completion of this sequence, the student must then register for Dissertation Continuation (ME 9996) in every semester (in each fall and spring term and also in the summer term if summer is the student's last semester) until the dissertation is completed. Students may not register for Dissertation Continuation (ME 9996) until they fulfill the two-semester sequence of Dissertation Term 1 (ME 9990) and Dissertation Term 2 (ME 9991).

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Candidacy Preparation—Doctoral (ME 8960), in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Final Oral (Dissertation Defense) Examination

All doctoral candidates must pass a final oral exam. This exam will be scheduled once the dissertation committee agrees that the candidate's research is at a stage where it is appropriate for formal presentation and after completion of all other PhD requirements, including all the coursework approved in the final program of study. The objective of the exam is for the candidate to present and defend the results of the dissertation research and to demonstrate depth of knowledge and significant expertise in the area of that research under questioning from the dissertation committee and other attendees.

The exam shall be publicly advertised **at least one week in advance** and all faculty members may attend and participate. At the conclusion of the presentation and subsequent questions period, the dissertation committee will convene to determine the outcome. The committee may recommend that the candidate be awarded the PhD or may require additional research and/or modifications of the dissertation. In some cases, candidates may be asked to present an additional final oral dissertation defense.

Residency Requirement

After achieving PhD candidacy, the university residency requirement is satisfied by two semesters of full-time graduate registration or four semesters of part-time graduate registration. Students must be continually enrolled during the pursuit of dissertation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Recommended Courses		
Note: Semester hours can be counted toward coursework component with advisor approval.		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Coursework		
Requires 40 semester hours of coursework, including up to 4 semester hours of Independent Study (ME 7978). Students who apply to earn an MS degree along the way to a PhD must complete a total of 52 semester hours (32 semester hours toward the sought MS degree and 20 semester hours beyond the earned MS degree). The 32 semester hours applied toward the master's degree may include up to 8 semester hours of MS Thesis or 4 semester hours of MS Project or approved independent study coursework. Please consult your faculty advisor for acceptable courses.		40

Dissertation

Code	Title	Hours
Complete the following two courses (must register in two consecutive semesters, which may include full summer term):		
ME 9990	Dissertation Term 1	
ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Recommended Courses (semester hours can be counted toward coursework component with adviser approval)		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Course Work		
Requires 20 semester hours of coursework, including up to 4 semester hours of Independent Study (ME 7978). Please consult your faculty adviser for acceptable courses.		20

Dissertation

Code	Title	Hours
Complete the following two courses. Must register in two consecutive semesters (may include full summer term):		
ME 9990	Dissertation Term 1	
ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Advanced and Intelligent Manufacturing, MS

Overview

The Department of Mechanical and Industrial Engineering (MIE) offers the Master of Science in Advanced and Intelligent Manufacturing (MS in AIM) to meet the growing demand for engineers, researchers, and scientists trained in advanced manufacturing and Industry 4.0 technologies. This degree program offers students an opportunity to either train for industry jobs with coursework and co-op experience or prepare for a doctoral program through coursework and research experience. MIE department offers both core courses and elective courses required to complete the program. Students can take MS Project or MS Thesis under any MIE faculty. This program is designed for engineering and science students planning to pursue careers in advanced and smart manufacturing. The key sectors that require manufacturing professionals include automotive, aerospace, defense, appliances, computing machines, smartphones, and communication equipment. The MS in AIM program helps students acquire knowledge and skills to:

- Build digital (CAD) models of parts and products to support manual and computer-aided manufacturing
- Design, develop, and analyze traditional and advanced manufacturing processes
- Utilize additive manufacturing to produce complex parts with ease and efficiency
- Select manufacturing processes to fabricate parts and products for quality and cost
- Configure and analyze manufacturing systems for efficiency, responsiveness, and high throughput
- Understand the characteristics and challenges of nanomanufacturing processes
- Leverage Industry 4.0 technologies including internet of things, cloud computing, sensor analytics for advanced manufacturing
- Adopt condition-based maintenance strategies to achieve high resource utilization
- Apply automation, robotics, and artificial intelligence to make manufacturing smart and self-operational
- Use human-machine interaction tools such as augmented reality and virtual realty
- Analyze human performance in sociotechnical systems such as supply chains
- Apply data analytics methods to gain insights from design and manufacturing data

In the context of this program, the traditional manufacturing covers metal removal, forming, casting, and particulate processes. The additive manufacturing covers topics such as 3D-printed parts using different approaches. The nanomanufacturing covers fabrication as well as printing of micro and nano devices and design and creation of multifunctional materials. Intelligent manufacturing focuses on factory automation, prognostics and health management, dynamic scheduling, cloud-enabled manufacturing, and industrial internet of things for manufacturing performance assurance. It also leverages real-time data analytics and control systems, advanced high-fidelity models, networked data, and computation for seamless interoperation of cyber and physical assets in manufacturing facilities.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, statistics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Specific Degree Requirements

Core courses for the Master of Science in Advanced and Intelligent Manufacturing provide students with a foundation in traditional and advanced materials processing, additive manufacturing, intelligent manufacturing, and digital manufacturing. Students can select electives from a wide range of fields including mechanical engineering, industrial engineering, operations research, and engineering management. Alternatively, students can also take courses outside the MIE department by seeking a prior approval from their faculty advisor or MS thesis advisor. The course curriculum is designed to prepare students for industry jobs as well as for pursuing a doctoral program in manufacturing, mechanical engineering, and industrial engineering.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty in the MIE department. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (IE 7945) or Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute Independent Study (IE 7978) or (ME 7978) up to 4 semester hours. An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (IE 7990) or Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering are eligible to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6300	Manufacturing Methods and Processes	4
IE 7270	Intelligent Manufacturing	4
ME 5240	Computer Aided Design and Manufacturing	4
ME 5640	Additive Manufacturing	4

Restricted Elective Courses

Code	Title	Hours
Complete 4 semester hours from the following:		4
IE 6500	Human Performance	
ME 7374	Special Topics in Mechanical Engineering (Nano and Microscale Manufacturing)	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Elective Course List below.		12

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 8 semester hours from the Elective Course List below.		8

THESIS OPTION

Code	Title	Hours
IE 7990	Thesis	8
Complete 4 semester hours from the Elective Course List below.		4

Elective Course List

Code	Title	Hours
Industrial Engineering		
IE 5617	Lean Concepts and Applications	
IE 6200	Engineering Probability and Statistics	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7270	Intelligent Manufacturing	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
IE 7374	Special Topics in Industrial Engineering	
IE 7615	Neural Networks and Deep Learning	
IE 7945	Master's Project	
IE 7978	Independent Study	
IE 7990	Thesis	
IE 7996	Thesis Continuation - Half-Time	
Operations Research		
OR 7230	Probabilistic Operation Research	
OR 7235	Inventory Theory	
OR 7240	Integer and Nonlinear Optimization	
OR 7245	Network Analysis and Advanced Optimization	
OR 7310	Logistics, Warehousing, and Scheduling	
Materials Engineering		
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials	
MATL 7365	Properties and Processing of Electronic Materials	
Mechanical Engineering		
ME 5245	Mechatronic Systems	
ME 5250	Robot Mechanics and Control	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 5650	Advanced Mechanics of Materials	
ME 5659	Control Systems Engineering	
ME 7247	Advanced Control Engineering	
Engineering Management		
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] A thesis is required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship. The thesis topic should cover one or more of the areas from statistics, mathematics, optimization, data mining, machine learning, database design, big data, visualization tools, or forecasting methods. The thesis should train students for research in data and operations analytics and/or prepare them for a doctoral program.

Data Analytics Engineering, MS

For program contact information, please visit this website (https://mie.northeastern.edu/academics/graduate-studies/ms-daae/#_ga=2817169511782761919158431629 3-4047061391578954920).

The Department of Mechanical and Industrial Engineering offers the Master of Science in Data Analytics Engineering to meet the current and projected workforce demands. This degree program offers students an opportunity to train for industry jobs or to acquire rigorous analytical skills and research experience to prepare for a doctoral program in health, security, and sustainability at Northeastern University. While the core courses for this program are offered by the College of Engineering, students can choose elective courses from diverse disciplines spread across various colleges at Northeastern. The MS degree in data analytics engineering is designed to train students with engineering, science, mathematics, and statistics backgrounds as advanced data analytics professionals and researchers who can transform large streams of data into understandable and actionable information for the purpose of making decisions. The key sectors that require analytics professionals include healthcare, smart manufacturing, supply chain and logistics, national security, defense, banking, finance, marketing, human resources, and sports.

The Master of Science in Data Analytics Engineering program helps students acquire knowledge and skills to:

- Discover opportunities to improve products, processes, systems, and enterprises through data analytics
- Apply optimization, statistical, and machine-learning methods to solve complex problems involving large data from multiple sources
- Process and explore data from a variety of sources, including Internet of Things, an integrated network of devices and sensors, customer touch points, processes, social media, and people
- Work with technology teams to design and build large and complex SQL and NoSQL databases
- Use tools and methods for data mining, Big Data processing, and data visualization to generate reports for analysis and decision making
- Create integrated views of data collected from multiple sources of an enterprise
- Understand and explain results of data analytics to decision makers
- Design and develop data analytics projects

This degree program seeks to prepare students for a comprehensive list of tasks including collecting, storing, processing, and analyzing data; reporting descriptive statistics and patterns; performing diagnostic, predictive, and prescriptive analytics; drawing conclusions and insights; making actionable recommendations; and designing and managing data analytics projects.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, statistics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Specific Degree Requirements

Core courses for the Master of Science in Data Analytics Engineering provide students with a foundation in algorithms and optimization, statistics, data and knowledge engineering, data mining, and visualization. These courses are designed to provide students with a strong understanding of probability and statistics, statistical learning, optimization methods, data mining, database design, and visualization. Students can select electives from a wide range of fields including business, finance, engineering, healthcare, manufacturing, and urban communities/cities. Elective courses provide students with the knowledge and understanding of descriptive, prescriptive, diagnostic, and predictive analytics as applied to a specific field of interest such as business, healthcare, manufacturing, and urban communities/cities. Alternatively, students can select their electives so that they can prepare for a doctoral program by taking advanced courses in mathematics, statistics, machine learning, natural language processing, and pattern recognition.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty in the MIE department. However, if the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose the project option by taking Master's Project (IE 7945) . An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (IE 7978) . An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (Coursework Only, Project, or Thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of either Thesis (ME 7990) or Thesis (IE 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering are eligible to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567). Please note that students pursuing the Master of Science in Data Analytics Engineering are not eligible for the Graduate Certificate in Data Analytics Engineering.

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Data Analytics Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Data Analytics Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 semester hours of advisor-approved data analytics technical courses.

ENGINEERING BUSINESS

Master's Degree in Data Analytics Engineering with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Data Analytics Engineering in addition to earning a Graduate Certificate in Engineering Business (p. 529). Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the data analytics engineering core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business.

Experiential Option

The Master of Science in Data Analytics Engineering—One-Year Experiential program is designed to train students with engineering, science, mathematics, and statistics backgrounds as advanced data analytics professionals who can transform large streams of data into understandable and actionable information for the purpose of making decisions. This degree program offers students an opportunity to acquire rigorous data analytical skills through coursework and experiential learning components. Students in the accelerated program gain close connections with industry leaders and earn their degree in one year through a combination of credit-bearing experiential coursework, independent study, industry projects, and co-op.

The one-year program is designed for students and professionals who have the flexibility to engage in full-time study and an intensive three-semester curriculum. The program trains students for data-driven jobs in a wider variety of industries including smart manufacturing, healthcare, banking, finance, retail, and high-tech.

Admissions to the *experiential* option have been suspended.

Traditional Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6400	Foundations for Data Analytics Engineering	4
IE 6600	Computation and Visualization for Analytics	4
IE 6700	Data Management for Analytics	4
or DAMG 6210	Data Management and Database Design	
IE 7275	Data Mining in Engineering	4
OR 6205	Deterministic Operations Research	4
or CS 5800	Algorithms	

Options

Complete one of the following options:

COURSEWORK OPTION [1]

Code	Title	Hours
Complete 12 semester hours from the elective course list below.		12

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 8 semester hours from the elective course list below.		8

THESIS OPTION [2]

Code	Title	Hours
Complete 8 semester hours of thesis:		
IE 7990	Thesis	8
Complete 4 semester hours from the elective course list below.		4

Elective Course List

Any course in the following list will serve as an elective course, provided the course is offered and the student satisfied prerequisites and program requirements. Students can take electives outside this list with a prior approval from the faculty advisor.

Code	Title	Hours
Civil Engineering and Environmental Engineering		
CIVE 7100	Time Series and Geospatial Data Sciences	
Computer Science		
CS 5002	Discrete Structures	
CS 5004	Object-Oriented Design	
CS 5006	Algorithms	
CS 5100	Foundations of Artificial Intelligence	
CS 5150	Game Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5330	Pattern Recognition and Computer Vision	
CS 5335	Robotic Science and Systems	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6200	Information Retrieval	
Data Science		

DS 5010	Introduction to Programming for Data Science
DS 5110	Introduction to Data Management and Processing
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
Electrical and Computer Engineering	
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Engineering Management	
EMGT 5220	Engineering Project Management
EMGT 6225	Economic Decision Making
EMGT 6305	Financial Management for Engineers
Health Informatics	
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5102	Data Management in Healthcare
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5301	Evaluating Health Technologies
HINF 6202	Business of Healthcare Informatics
HINF 6240	Improving the Patient Experience through Informatics
HINF 6335	Management Issues in Healthcare Information Technology
HINF 6400	Introduction to Health Data Analytics
Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis
IE 6300	Manufacturing Methods and Processes
IE 6500	Human Performance
IE 7200	Supply Chain Engineering
IE 7215	Simulation Analysis
IE 7270	Intelligent Manufacturing
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7290	Reliability Analysis and Risk Assessment
IE 7295	Applied Reinforcement Learning in Engineering
IE 7300	Statistical Learning for Engineering
IE 7350	Sociotechnical Systems: Computational Models for Design and Policy
IE 7500	Applied Natural Language Processing in Engineering
IE 7615	Neural Networks and Deep Learning
Information Systems	
INFO 7390	Advances in Data Sciences and Architecture
Information Technology	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting
Mathematics	
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 7234	Optimization and Complexity
MATH 7243	Machine Learning and Statistical Learning Theory 1
MATH 7340	Statistics for Bioinformatics
MATH 7342	Mathematical Statistics
MATH 7343	Applied Statistics
MATH 7344	Regression, ANOVA, and Design
Network Science	
NETS 6116	Network Science 2
NETS 7341	Network Economics
NETS 7350	Bayesian and Network Statistics
Operations Research	
OR 6500	Metaheuristics and Applications
OR 7230	Probabilistic Operation Research

OR 7235	Inventory Theory
OR 7240	Integer and Nonlinear Optimization
OR 7245	Network Analysis and Advanced Optimization
OR 7270	Convex Optimization and Applications
OR 7310	Logistics, Warehousing, and Scheduling
Physics	
PHYS 5116	Network Science 1
PHYS 7332	Network Science Data 2
Public Policy and Urban Affairs	
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 7237	Advanced Spatial Analysis of Urban Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] The Project Option or Thesis Option may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

[2] A thesis is required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship. The thesis topic should cover one or more of the areas from statistics, mathematics, optimization, data mining, machine learning, database design, Big Data, visualization tools, or forecasting methods. The thesis should train students for research in data and operations analytics and/or prepare them for a doctoral program.

Experiential Program Requirements

Admissions to the Experiential MS Data Analytics Engineering program have been suspended.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 5374	Special Topics in Industrial Engineering	4
IE 6600	Computation and Visualization for Analytics	4
IE 6700	Data Management for Analytics	4
or DAMG 6210	Data Management and Database Design	
IE 7275	Data Mining in Engineering	4
IE 7280	Statistical Methods in Engineering	4
OR 6205	Deterministic Operations Research	4

Experiential Project Courses

Code	Title	Hours
Complete the following project courses in consultation with your Academic Advisor. IE 7978 must be taken during the final term.		
IE 7945	Master's Project	4
IE 7978	Independent Study	4

Co-op Experience

Code	Title	Hours
ENCP 6100	Introduction to Cooperative Education	1
ENCP 6964	Co-op Work Experience	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Human Factors, MS

Website (https://mie.northeastern.edu/academics/graduate-studies/ms-hf/)

This program addresses the growing need for engineering professionals trained in advanced human factors who can utilize human factors theories, procedures, and empirically derived knowledge into understandable and actionable information for use in the design and evaluation of a wide variety of products and systems. The key sectors demanding human factors professionals include transportation, healthcare, robotics, manufacturing, computer, consumer products, social, and organizational and military issues. The core courses of the Master of Science in Human Factors program are built on the foundations of human factors and ergonomics, probabilities and statistics, etc. Topics from these foundation areas are integrated to create human factors for engineering applications. Students can select their elective or breadth courses from a wide range of fields. The program seeks to prepare students for a comprehensive set of human-factors-related professional positions.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students may also petition to substitute a different course for a core course by demonstrating evidence of their having passed a similar approved IE or OR graduate course. In such situations, the students must first obtain approval from their academic advisor for the course(s) they are planning to substitute.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (IE 7945) . An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (IE 7978) . An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (IE 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by

the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Human Factors with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Human Factors in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved human factors technical courses.

ENGINEERING BUSINESS

Master's Degree in Human Factors with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Human Factors in addition to earning a Graduate Certificate in Engineering Business (p. 529). Students must apply and be admitted to the Galante Engineering Business Program (https://galante.sites.northeastern.edu/) in order to pursue this option. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the human factors core courses and 16 semester hours from the outlined business-skill curriculum.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6200	Engineering Probability and Statistics	4
IE 6500	Human Performance	4
IE 7280	Statistical Methods in Engineering	4
IE 7315	Human Factors Engineering	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 491)		16

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 491)		12

THESIS OPTION

Code	Title	Hours
IE 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 491)		8

Course List

Code	Title	Hours
College of Engineering		
CIVE 7388	Special Topics in Civil Engineering (Urban Informatics and Processing)	
EMGT 5300	Engineering/Organizational Psychology	

EMGT 6305	Financial Management for Engineers
EMGT 6600	Engineering Team Performance
GE 5010	Customer-Driven Technical Innovation for Engineers
GE 5020	Engineering Product Design Methodology
GE 5030	Iterative Product Prototyping for Engineers
GE 5100	Product Development for Engineers
IE 5137	Computational Modeling in Industrial Engineering
IE 5390	Structured Data Analytics for Industrial Engineering
IE 5617	Lean Concepts and Applications
IE 5630	Biosensor and Human Behavior Measurement
IE 5640	Data Mining for Engineering Applications
IE 6600	Computation and Visualization for Analytics
The following courses are available to students who concurrently enroll in the Graduate Certificate in Engineering Leadership. (p. 551)	
ENLR 5121	Engineering Leadership 1
ENLR 5122	Engineering Leadership 2
ENLR 5131	Scientific Foundations of Engineering 1
ENLR 5132	Scientific Foundations of Engineering 2
ENLR 7440	Engineering Leadership Challenge Project 1
ENLR 7442	Engineering Leadership Challenge Project 2
College of Social Sciences and Humanities	
ECON 7200	Topics in Applied Economics
ECON 7251	International Finance
College of Science	
PSYC 5180	Quantitative Methods 1
PSYC 5181	Quantitative Methods 2
PSYC 7300	Advanced Quantitative Analysis
PSYC 7301	Research Methodologies Psychology
Bouvé College of Health Sciences	
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing
EXSC 5220	Advanced Exercise Physiology
Khoury College of Computer Sciences	
CS 5340	Computer/Human Interaction
CS 6350	Empirical Research Methods
College of Arts, Media and Design	
ARTG 5150	Information Visualization Principles and Practices
ARTG 5310	Visual Cognition
ARTG 5330	Visualization Technologies 1: Fundamentals
ARTG 5600	Experience Design Studio 1: Principles
ARTG 5610	Design Systems
ARTG 5640	Prototyping for Experience Design
Design Research Methods	
ARTG 6310	Design for Behavior and Experience
GSND 6240	Exploratory Concept Design
GSND 6250	Spatial and Temporal Design
GSND 6330	Player Experience
GSND 6340	Biometrics for Design
D'Amore-McKim School of Business	
ENTR 6219	Financing Ventures from Early Stage to Exit

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Industrial Engineering, MSIE

Website (https://mie.northeastern.edu/academics/graduate-studies/ms-inde/#_ga=2.109915845178276191915843162 93-4047061391578954920)

The Department of Mechanical and Industrial Engineering (MIE) offers comprehensive research and educational programs for students pursuing the Master of Science (MS) in Industrial Engineering. Industrial engineering (IE) applies mathematical modeling and analytical tools to make better decisions for designing and managing efficient and effective systems. IE is applied in many areas, including healthcare systems, supply chains, logistics and transportation engineering, manufacturing, sustainability, resilient systems, energy systems, and human-in-the loop systems. We partner with organizations ranging from startups to well-established corporations, to government and nongovernment organizations. For example, our supply chain resilience research is trying to understand and mitigate persistent drug shortages in the United States. Our research in healthcare systems engineering uses methods from lean six-sigma tools to advanced mathematical models to improve system and product reliability and optimize healthcare process quality, delays, cost, efficiency, and effectiveness—national priorities. Recent healthcare applications include improvements in scheduling, readmissions, cost reductions, cancer care, and health services planning. We use stochastic and simulation modeling to study environmental issues related to green manufacturing, product recovery, and end-of-life management. We use data analytics for designing prognostics and preventive strategies for manufacturing operations. Our research and teaching together are designed to develop IE practitioners who can work, innovate, and excel in a variety of businesses. These extensive programs and course work allow for the selection of a degree that meets a wide variety of personal and professional goals.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: course work option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their course work but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students may also petition to waive a core course by demonstrating evidence of their having passed a similar approved IE or OR graduate course. In such situations, the students must first obtain approval from their academic advisor for the course(s) they are planning to substitute.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (IE 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing course work option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (IE 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (course work only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: course work only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research,

teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (IE 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.3 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Industrial Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Industrial Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved industrial engineering technical courses.

ENGINEERING BUSINESS

Master's Degree in Industrial Engineering with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Industrial Engineering in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the industrial engineering core courses and 16 semester hours from the outlined business-skill curriculum. The course work, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business (p. 529).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4
Complete 8 semester hours from the following:		8
IE 5400	Healthcare Systems Modeling and Analysis	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7275	Data Mining in Engineering	
IE 7315	Human Factors Engineering	

Options

Complete one of the following options:

COURSE WORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below.		16

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 12 semester hours from the course list below.		12

THESIS OPTION

Code	Title	Hours
IE 7990	Thesis (required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship)	8
Complete 8 semester hours from the course list below.		8

Course List

Code	Title	Hours
Computer Systems Engineering		
CSYE 7280	User Experience Design and Testing	
Data Analytics		
DA 5020	Collecting, Storing, and Retrieving Data	
Data Architecture Management		
DAMG 6210	Data Management and Database Design	
Engineering Management		
EMGT 5220	Engineering Project Management	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
General Engineering		
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
Industrial Engineering		
IE 5137	Computational Modeling in Industrial Engineering	
IE 5617	Lean Concepts and Applications	
IE 6300	Manufacturing Methods and Processes	
IE 6400	Foundations for Data Analytics Engineering	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7270	Intelligent Manufacturing	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7295	Applied Reinforcement Learning in Engineering	
IE 7300	Statistical Learning for Engineering	
IE 7315	Human Factors Engineering	
IE 7350	Sociotechnical Systems: Computational Models for Design and Policy	
Operations Research		
OR 6500	Metaheuristics and Applications	
OR 7230	Probabilistic Operation Research	
OR 7235	Inventory Theory	
OR 7240	Integer and Nonlinear Optimization	
OR 7245	Network Analysis and Advanced Optimization	
OR 7270	Convex Optimization and Applications	
OR 7310	Logistics, Warehousing, and Scheduling	
Supply Chain Management		
SCHM 6213	Global Supply Chain Strategy	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	

Or any IE or OR courses

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Engineering Management, MSEM

The Master of Science in Engineering Management (https://mie.northeastern.edu/academics/graduate-studies/ms-engm/#_ga=2864457841782761919158431629 3-4047061391578954920) offers graduate students an opportunity to develop both technical expertise and business competence that is in high demand among prospective technology-based employers. Industry leaders are seeking qualified and talented individuals who are not only able to guide research and design teams but also able to direct and supervise development and production processes. The combination of technical proficiency and business skills fostered in the engineering management program is designed to provide a competitive edge for graduates seeking a wide range of positions in technology-based product or service industries, as well as in comparable local, state, and federal agencies and programs.

The program was designed by experienced high-level managers and academic leaders as an option for engineers and scientists to broaden their skill sets to include management tools and techniques that are applicable to technology-based industries. Graduates of the engineering management program work as project managers or leaders of teams in technology-based industries. Upon completion of the program, students find that their acquired skills are applicable to a wide range of industries, primarily those focused upon the development of technical products and the management of technical projects.

Graduates may assist companies in bringing a product from an idea through its development phases to its introduction to the marketplace. They may also be involved in forming and managing teams for assessing cost-effectiveness, formulating strategies to improve production, or analyzing a company's supply chain. Most of these projects cannot be successfully completed without the skills of those possessing a background in management decision-making and engineering expertise; therefore, the engineering management graduate is often a technical liaison to all levels of management. As a result, many of the assignments held by engineering management graduates have actually proven to be a gateway to upper-level management positions.

The current program of study can be taken on a part-time or full-time basis on-ground or online. There are four core courses required of all students, which have been formulated to satisfy the foundation requirements of economic decision making, decision-making mathematics, and project management. In addition to these required courses, the curriculum consists of electives that allow students to choose either a broad-based program of study or one centered on a particular concentration. Some students may elect to refresh or enhance their technical skills in engineering-based subjects such as information systems, computer systems engineering, or graduate courses from the traditional engineering disciplines. Other students may prefer to broaden their knowledge base by selecting coursework in management subjects such as engineering organizational psychology, financial management, logistics and warehousing, supply chain engineering, or lean systems design. Additionally, students may also elect to complete the Gordon Engineering Leadership Program as part of their engineering management degree.

One recent graduate has observed that "Northeastern's MSEM is like an MBA for engineers, with high-quality, dedicated professors who are proficient in their field yet are able to convey information in a way that's easy to understand." This graduate also noted, "My courses in project management have been key to understanding the subtleties that affect Project Managers while technical courses provide a strong background in fundamentals as well as specialty topics. My experience with co-op has been outstanding and has truly helped me further my career."

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (EMGT 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (EMGT 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (Coursework Only, Project, or Thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (EMGT 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Engineering Management with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Engineering Management in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved engineering management technical courses.

ENGINEERING BUSINESS

Master's Degree in Engineering Management with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Engineering Management in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the engineering management core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business (p. 529).

Experiential Option

The Master of Science in Engineering Management—One-Year Experiential program provides an accelerated, hands-on curriculum for students that want to develop the technical expertise, leadership insights, and business competence that is in high demand with technology-based employers and related government programs. It can be viewed as a suitable alternative to an MBA for engineers because in addition to providing a strong leadership and management education, it places a stronger focus on quantitative and analytical skills. Students will learn the art and science of planning, organizing, allocating resources, systems thinking, and directing activities with technological components. The interdisciplinary program bridges the gaps between engineering, technology, and business.

Students in the accelerated program gain close connections with industry leaders and earn their degree in one year through a combination of credit-bearing experiential coursework, independent study, industry projects, and co-op.

The one-year program is designed for students and professionals who have the flexibility to engage in full-time study and an intensive three-semester curriculum. **Admissions to the Experiential MSEM Engineering Management program have been suspended.**

Admissions to the *experiential* option have been suspended.

Traditional Program Requirements

Core Requirements

Complete all courses and requirements listed below unless otherwise indicated. Students may not register for more than 9 semester hours in the fall, spring, and summer terms.

Code	Title	Hours
Required Courses		
EMGT 5220	Engineering Project Management	4
EMGT 6225	Economic Decision Making	4
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 499)		16

PROJECT OPTION

Code	Title	Hours
EMGT 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 499)		12

THESIS OPTION

Code	Title	Hours
EMGT 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 499)		8

ONLINE OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 499)		16
Courses offered online can be found on the online course list below. (p. 501)		

COURSE LIST

Code	Title	Hours
CSYE 7280	User Experience Design and Testing	
DAMG 6210	Data Management and Database Design	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
EMGT 6600	Engineering Team Performance	
EMGT 6700	Digital Product Design and Management	
EMGT 7978	Independent Study	
ENSY 5000	Fundamentals of Energy System Integration	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5020	Engineering Product Design Methodology	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
IE 5137	Computational Modeling in Industrial Engineering	
IE 5374	Special Topics in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5500	Systems Engineering in Public Programs	

IE 5617 and IE 5618	Lean Concepts and Applications and Recitation for IE 5617
IE 5640	Data Mining for Engineering Applications
IE 6300	Manufacturing Methods and Processes
IE 6500	Human Performance
IE 6600	Computation and Visualization for Analytics
IE 6962	Elective
IE 7200	Supply Chain Engineering
IE 7215	Simulation Analysis
IE 7270	Intelligent Manufacturing
IE 7275	Data Mining in Engineering
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7290	Reliability Analysis and Risk Assessment
IE 7315	Human Factors Engineering
IE 7374	Special Topics in Industrial Engineering
IE 7615	Neural Networks and Deep Learning
INFO 6215	Business Analysis and Information Engineering
INFO 7245	Agile Software Development
INFO 7285	Organizational Change and IT
INFO 7385	Managerial Communications for Engineers
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 6200	Mathematical Methods for Mechanical Engineers 1
OR 6500	Metaheuristics and Applications
OR 6962	Elective
OR 7230	Probabilistic Operation Research
OR 7240	Integer and Nonlinear Optimization
OR 7245	Network Analysis and Advanced Optimization
OR 7270	Convex Optimization and Applications
OR 7310	Logistics, Warehousing, and Scheduling
OR 7374	Special Topics in Operations Research
TELE 5330	Data Networking
or any EMGT, IE or OR courses	
Electives Outside the College of Engineering	
A maximum of 9 semester hours may be taken from the following toward the elective requirement:	
DA 5020	Collecting, Storing, and Retrieving Data
ENTR 6212	Business Planning for New Ventures
ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
INNO 6200	Enterprise Growth and Innovation
SCHM 6211	Logistics and Transportation Management
SCHM 6213	Global Supply Chain Strategy
SCHM 6214	Sourcing and Procurement
SCHM 6215	Supply Chain Analytics
SCHM 6221	Sustainability and Supply Chain Management
SCHM 6223	Managing Healthcare Supply Chain Operations
SCHM 6224	Demand Planning and Forecasting

Online Course List

Code	Title	Hours
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
ENSY 5000	Fundamentals of Energy System Integration	
IE 5640	Data Mining for Engineering Applications	
IE 6300	Manufacturing Methods and Processes	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
INFO 6215	Business Analysis and Information Engineering	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 6200	Mathematical Methods for Mechanical Engineers 1	
OR 7230	Probabilistic Operation Research	
OR 7240	Integer and Nonlinear Optimization	
OR 7310	Logistics, Warehousing, and Scheduling	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Experiential Program Requirements

Admissions to the Experiential MSEM Engineering Management program have been suspended.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
EMGT 5220	Engineering Project Management	4
EMGT 6225	Economic Decision Making	4
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Experiential Project Course

Code	Title	Hours
Complete the following project course in consultation with your Academic Advisor. EMGT 7978 must be taken during the final term.		
EMGT 7978	Independent Study	4

Co-op Experience

Code	Title	Hours
ENCP 6100	Introduction to Cooperative Education	1
ENCP 6964	Co-op Work Experience	

Electives

Code	Title	Hours
Complete 16 semester hours from the course list below.		16
CSYE 7280	User Experience Design and Testing	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
EMGT 7978	Independent Study	
ENSY 5000	Fundamentals of Energy System Integration	

GE 5010	Customer-Driven Technical Innovation for Engineers
GE 5020	Engineering Product Design Methodology
GE 5030	Iterative Product Prototyping for Engineers
GE 5100	Product Development for Engineers
IE 5137	Computational Modeling in Industrial Engineering
IE 5374	Special Topics in Industrial Engineering
IE 5390	Structured Data Analytics for Industrial Engineering
IE 5400	Healthcare Systems Modeling and Analysis
IE 5500	Systems Engineering in Public Programs
IE 5617	Lean Concepts and Applications
IE 5618	Recitation for IE 5617
IE 5640	Data Mining for Engineering Applications
IE 6300	Manufacturing Methods and Processes
IE 6500	Human Performance
IE 6600	Computation and Visualization for Analytics
IE 6962	Elective
IE 7200	Supply Chain Engineering
IE 7215	Simulation Analysis
IE 7270	Intelligent Manufacturing
IE 7275	Data Mining in Engineering
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7290	Reliability Analysis and Risk Assessment
IE 7315	Human Factors Engineering
IE 7374	Special Topics in Industrial Engineering
IE 7615	Neural Networks and Deep Learning
INFO 6215	Business Analysis and Information Engineering
INFO 7245	Agile Software Development
INFO 7285	Organizational Change and IT
INFO 7385	Managerial Communications for Engineers
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 6200	Mathematical Methods for Mechanical Engineers 1
OR 6500	Metaheuristics and Applications
OR 6962	Elective
OR 7230	Probabilistic Operation Research
OR 7235	Inventory Theory
OR 7240	Integer and Nonlinear Optimization
OR 7245	Network Analysis and Advanced Optimization
OR 7270	Convex Optimization and Applications
OR 7310	Logistics, Warehousing, and Scheduling
OR 7374	Special Topics in Operations Research
TELE 5330	Data Networking
or any EMGT, IE or OR courses	

Electives outside the College of Engineering

A maximum of 9 semester hours may be taken from the following list toward the elective requirement:

DA 5020	Collecting, Storing, and Retrieving Data
ENTR 6200	
ENTR 6212	Business Planning for New Ventures
ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
SCHM 6213	Global Supply Chain Strategy
SCHM 6214	Sourcing and Procurement
SCHM 6215	Supply Chain Analytics
SCHM 6221	Sustainability and Supply Chain Management

SCHM 6223	Managing Healthcare Supply Chain Operations
SCHM 6224	Demand Planning and Forecasting
TECE 6222	
TECE 6230	
TECE 6250	
TECE 6300	
TECE 6340	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Energy Systems, MSEneS

The Master of Science in Energy Systems (https://mie.northeastern.edu/academics/graduate-studies/ms-enes/) (MSEneS) integrates engineering, business, and policy into a high-level signature, multidisciplinary graduate program. Energy systems students have an opportunity to learn how to leverage business skills and public policy knowledge to accomplish their engineering goals. This program is ideal for the engineer or technical business major who is interested in pursuing an industrial or public-planning-based career.

The program's mission is to educate students in current and future energy systems technologies, to integrate energy-related technologies with the economics and financial considerations required to implement them, and to develop leadership and decision-making skills to implement energy systems in either the private or public sectors of the global market. The program will expose students to a combination of academic and corporate experience in energy systems.

The program curriculum features a multidisciplinary range of electives from five different academic colleges at Northeastern. The curriculum is flexibly designed with a set of four core courses in engineering knowledge and finance in addition to four electives. The core courses help relate these electives back to energy-related engineering concepts, including power strategies, energy renewal, sustainable energy solutions, energy storage, energy conversion, and energy efficiency. By integrating concepts across these disciplines, our students learn that implementing energy solutions requires an economic solution as well as an engineering one.

Students are exposed to business educators and practicing professionals and have the opportunity to participate in a six-month co-op experience. Practicing professionals with experience in the industry who have successfully implemented energy systems or devices and policies are actively involved in the program as adjunct professors and invited speakers. Through this curriculum and interaction with practitioners, students should be prepared to effectively integrate energy system development over a broad spectrum of technologies with the financial requirements to successfully implement them and to compete in the global energy market.

Successful graduates of the program will be involved in the decision making or policy planning that will deliver minimally polluting, energy-efficient systems to the global market. They will have the base training necessary to lead efforts within companies to plan and implement new energy-generation investments, realize energy-efficiency improvements specifically at the system level, and participate in energy and environmental markets such as cap-and-trade systems.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: course work option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their course work but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ENSY 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing course work option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (ENSY 7978). An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.3 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Energy Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Energy Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved energy systems technical courses.

Program Requirements

Core Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Required Courses		
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4
or FINA 6309	Foundations of Accounting and Finance	
ENSY 5000	Fundamentals of Energy System Integration	4
ME 6200	Mathematical Methods for Mechanical Engineers 1	4

Restricted Electives

Code	Title	Hours
Complete a minimum of 8 semester hours from the following:		8
CHME 5621	Electrochemical Engineering	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	

Other Electives

Code	Title	Hours
An additional 8 semester hours can either be taken from the list above or from the following list below or by approval of program director:		8
CHEM 5614	Electroanalytical Chemistry	
CHEM 5651	Materials Chemistry of Renewable Energy	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 5680	Electric Drives	
EECE 5682	Power Systems Analysis 1	
EECE 5684	Power Electronics	
EMGT 5220	Engineering Project Management	
ENSY 7374	Special Topics in Energy Systems	
ENSY 7945	Master's Project	
ENSY 7978	Independent Study	
ME 5690	Gas Turbine Combustion	
ME 7270	General Thermodynamics	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	

SBSY 5200	Sustainable Engineering Systems for Buildings
or any other ENSY course	

Online Course List

All required courses and many electives are offered as online courses.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Energy Systems, MSEneS—Academic Link Program

For program contact information, please visit the College of Engineering website (https://mie.northeastern.edu/academics/graduate-studies/ms-enes/).

Designing and implementing optimal methods to produce and utilize energy is one of the most pressing global issues today. Finding ways to implement these solutions that are sustainable and marketable is key. The energy systems Academic Link (AL) program is meant to provide engineering students who have not had any exposure to thermal sciences with the foundation skills necessary to create and implement energy solutions. Students begin the program by taking two core courses that cover topics across thermal sciences and math along with the general energy systems curriculum.

The AL core courses introduce students to the fundamentals that are necessary to be successful in the energy system program. AL courses are integrated with our multidisciplinary energy system curriculum that integrates engineering, business, and policy. Our curriculum is flexibly designed with a set of core courses in engineering and finance complemented by a range of electives across five different academic colleges. Our core and elective courses are designed to help to prepare students to lead the efforts to implement energy systems solutions that have a long-term positive effect on businesses and communities.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

Program Requirements

General Requirements

A minimum of 40 semester hours must be earned toward completion of the degree. A minimum grade-point average of 3.000 is required over all courses applied toward the degree.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 20 semester hours from the following:		20
EMGT 6225	Economic Decision Making	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5050	Fundamentals of Thermal Science 1	
ENSY 5060	Fundamentals of Thermal Science 2	
ME 6200	Mathematical Methods for Mechanical Engineers 1	
Complete 4 semester hours from the following:		4
EMGT 6305	Financial Management for Engineers	
FINA 6309	Foundations of Accounting and Finance	

Restricted Electives List

Code	Title	Hours
Complete a minimum of 8 semester hours from the following:		8
CHME 5621	Electrochemical Engineering	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	

Other Electives List

Code	Title	Hours
An additional 8 semester hours can either be taken from the list above or from the list below or by approval of the program director:		8
CHEM 5614	Electroanalytical Chemistry	

CHEM 5651	Materials Chemistry of Renewable Energy
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680	Electric Drives
EECE 5682	Power Systems Analysis 1
EECE 5684	Power Electronics
EMGT 5220	Engineering Project Management
ENSY 7374	Special Topics in Energy Systems
ENSY 7440	Energy Systems Engineering Leadership Challenge Project 1
ENSY 7442	Energy Systems Engineering Leadership Challenge Project 2
ENSY 7945	Master's Project
ENSY 7978	Independent Study
ME 5690	Gas Turbine Combustion
ME 7270	General Thermodynamics
ME 7300	Combustion and Air Pollution
ME 7305	Fundamentals of Combustion
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
SBSY 5200	Sustainable Engineering Systems for Buildings
or any other ENSY course	

Online Course List

All required courses and many electives are offered as online courses.

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Mechanical Engineering with Concentration in General Mechanical Engineering, MSME

Overview

While pursuing a Master of Science (MS) in Mechanical Engineering (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), students may choose the general mechanical engineering concentration.

GENERAL DEGREE REQUIREMENTS

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

ACADEMIC AND RESEARCH ADVISORS

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

PLAN OF STUDY AND COURSE SELECTION

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

OPTIONS FOR MS STUDENTS (COURSEWORK ONLY, PROJECT, OR THESIS)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

CHANGE OF PROGRAM/CONCENTRATION

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

GRADUATE CERTIFICATE OPTIONS

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with Concentration in General Mechanical Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with Concentration in General Mechanical Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved mechanical engineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mathematics Competency		
ME 6200	Mathematical Methods for Mechanical Engineers 1	4
Thermofluids Competency		
Complete 4 semester hours from the following:		4
ME 5685	Solar Thermal Engineering	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	
ME 7295	Multiscale Flow and Transport Phenomena	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
ME 7310	Computational Fluid Dynamics with Heat Transfer	
Mechanics/Mechatronics Combined Competency		
Complete 4 semester hours from the following:		4
EECE 5610	Digital Control Systems	
EECE 5666	Digital Signal Processing	
ME 5245	Mechatronic Systems	
ME 5250	Robot Mechanics and Control	
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5659	Control Systems Engineering	
ME 7238	Finite Element Method 2	
Materials Competency		
Complete 4 semester hours from the following:		4
ME 5600	Materials Processing and Process Selection	
ME 5620	Fundamentals of Advanced Materials	
MATL 5380	Particulate Materials Processing	
MATL 6250	Soft Matter	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials	
or any MATL courses		

OPTIONS

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours in the following subject areas:		16
ME, MATL		

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project	4
Electives		
Complete 12 semester hours in the following subject areas:		12
ME, MATL		

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis (required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship)	8
Electives		
Complete 8 semester hours in the following subject areas:		8
ME, MATL		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Mechanical Engineering with Concentration in Materials Science, MSME

For program contact information, please visit this website (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/).

Overview

While pursuing a Master of Science (MS) in Mechanical Engineering, students may choose materials science as a concentration. Materials science has been the key enabler in virtually all engineering breakthroughs that have occurred from early metal ages to the present nano age. In step with the scientific development and discovery of materials, members of the mechanical and industrial engineering (MIE) faculty are involved in interdisciplinary research to further materials processing, synthesis, and design. Research areas are aligned with Northeastern University's broad initiatives of sustainability, security, and health, as well as national initiatives in manufacturing and nanotechnology. Investigations in the areas of metals/alloys, polymers, biomaterials (including biomimetics), and composites incorporating nanoscale materials make use of experimental, theoretical, and computational techniques to tailor structure-processing-property relationships in materials for specific applications. Current areas of research include controlling synthesis and assembly processes to produce well-defined atomic structures; defect engineering; manipulating atomic/microstructures and the chemistry of materials to optimize properties for next-generation structural, electronic, and energy applications; solidification and deformation processing, nanomanufacturing; and life-cycle assessments for nanocomposites/materials. Northeastern faculty and students are committed to creative thinking and engineering innovation to propel materials development to the forefront of scientific research.

GENERAL DEGREE REQUIREMENTS

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

ACADEMIC AND RESEARCH ADVISORS

All nonthesis students are advised by the academic advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

PLAN OF STUDY AND COURSE SELECTION

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

OPTIONS FOR MS STUDENTS (COURSEWORK ONLY, PROJECT, OR THESIS)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by

the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

CHANGE OF PROGRAM/CONCENTRATION

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

GRADUATE CERTIFICATE OPTIONS

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with Concentration in Materials Science with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with Concentration in Materials Science in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved materials science technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 16 semester hours from the following:		16
MATL 6250	Soft Matter	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials	
MATL 7355	Thermodynamics of Materials	
ME 5600	Materials Processing and Process Selection	
ME 5620	Fundamentals of Advanced Materials	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Electives		
Complete 16 semester hours in the following subject areas:		16
ME, MATL		

PROJECT OPTION

Code	Title	Hours
MATL 7945	Master's Project	4
Electives		
Complete 12 semester hours in the following subject areas:		12
ME, MATL		

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [1]	8
Electives		
Complete 8 semester hours in the following subject areas:		8
ME, MATL		

Program Credit/GPA Requirements

32 total semester hours required

[1] Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Mechanical Engineering with Concentration in Mechanics and Design, MSME

Overview

While pursuing a Master of Science (MS) in Mechanical Engineering with Concentration in Mechanics and Design (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), the students will study the motion, deformation, and failure of solid materials in response to the action of direct forces and external fields. The students will also get a chance to conduct research with faculty and observe how these studies will lead to key engineering innovations and designs. Using complementary analytical, computational, experimental, and design tools, the M&D faculty members conduct research in the design and analysis of engineered functional materials/structures, in mechanics of adhesion and contact, and in biomechanics and mechanobiology. For example, in our biomechanics research, we strive to close the gap between function, form, and disease in the bone by using experimental and computational techniques; also, we explore the mechanics of lipid-based drug delivery vesicles. At the small length scales, we are creating a new understanding of nanomechanics, contact mechanics, tribology, MEMS, and the application of nanomaterials for energy storage systems. Our research and teaching together are designed to prepare students to understand and exploit mechanics to enable their future engineering innovations.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with a Concentration in Mechanics and Design with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with a Concentration in Mechanics and Design in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved mechanics and design technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mathematics Competency		
Complete the following course:		
ME 6200	Mathematical Methods for Mechanical Engineers 1	4
Mechanics Competency		
Complete 12 semester hours from the following:		12
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5659	Control Systems Engineering	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list.		16

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project	4
Complete 12 semester hours from the course list.		12

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [1]	8
Complete 8 semester hours from the course list.		8

Course List

Code	Title	Hours
ME 5240	Computer Aided Design and Manufacturing	
ME 5374	Special Topics in Mechanical Engineering (Fracture Mechanics and Adhesion in Biological Science)	
ME 5374	Special Topics in Mechanical Engineering (Inelasticity)	
ME 5658	Continuum Mechanics	
ME 5665	Musculoskeletal Biomechanics	

ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7232	Theory of Plates and Shells
ME 7238	Finite Element Method 2
ME 7374	Special Topics in Mechanical Engineering
Any other ME or MATL course	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Mechanical Engineering with Concentration in Mechatronics, MSME

While pursuing a Master of Science (MS) in Mechanical Engineering (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), students may choose mechatronics as a concentration. The term mechatronics is a combination of the words mechanics and electronics. Mechatronics is a multidisciplinary approach to product design and development, merging the principles of electrical, mechanical, computer, material, chemical, and industrial engineering. The mechatronics and systems research cluster in the MIE department is concerned with systems that are typically composed of traditional mechanical and electrical components but are rendered "intelligent" by the incorporation of sensors, actuators, and computer control systems. Our primary focus in mechatronics and systems is on intelligent and integrated systems and machines along with their practical applications ranging from manufacturing systems and robotic platforms to biological systems. Our research and teaching together are designed to prepare students to understand and exploit mechatronics to enable their future engineering innovations.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All non-thesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research adviser must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate

Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with a Concentration in Mechatronics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with a Concentration in Mechatronics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved mechatronics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mathematics Competency		
Complete 4 semester hours from the following:		4
ME 6200	Mathematical Methods for Mechanical Engineers 1	
or IE 6200	Engineering Probability and Statistics	
Mechanics Competency		
Complete 4 semester hours from the following:		4
ME 5250	Robot Mechanics and Control	
ME 5650	Advanced Mechanics of Materials	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
Mechatronics Concentration		
ME 5245	Mechatronic Systems	4
ME 5659	Control Systems Engineering [1]	4
Electrical Competency		
Complete 4 semester hours from the following:		4
EECE 5610	Digital Control Systems	
EECE 5666	Digital Signal Processing	
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680	
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684	
ME 6260	Introduction to Microelectromechanical Systems (MEMS)	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the course list.		12

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project [2]	4
Complete 8 semester hours from the course list.		8

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [2, 3]	8
Complete 4 semester hours from the course list.		4

Course List

Code	Title	Hours
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5810	Design of Biomedical Instrumentation	
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5699	Special Topics in Civil Engineering (Vibration-Based Structural Health Monitoring)	
CIVE 7342	System Identification	
CS 5335	Robotic Science and Systems	
CS 5340	Computer/Human Interaction	
CS 7150	Deep Learning	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5576	Wireless Communication Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	
IE 7300	Statistical Learning for Engineering	
IE 7315	Human Factors Engineering	
IE 7615	Neural Networks and Deep Learning	
ME 5240	Computer Aided Design and Manufacturing	
ME 5250	Robot Mechanics and Control	
ME 5665	Musculoskeletal Biomechanics	
ME 7247	Advanced Control Engineering	
Or any other ME or MATL course		
Or other advisor-approved courses		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

1 PlusOne students who have already successfully completed ME 4555 may substitute ME 5250 for ME 5659. In such cases a different course must be taken to satisfy the Mechanics competency.
2 It is the student's responsibility to identify a project/thesis advisor before registering for this course.
3 Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Mechanical Engineering with Concentration in Thermofluids, MSME

While pursuing a Master of Science (MS) in Mechanical Engineering (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), students may choose thermofluids as a concentration. Some of the representative research areas under this concentration may include thermodynamics, fluid dynamics, kinetic theory of gases, and thermophoresis of aerosols; microscale heat transfer phenomena and its effects on laser beam propagation; fundamentals of combustion such as burning speed and onset of auto-ignition measurement and flame stability analysis; development of chemistry reduction such as rate-controlled constrained-equilibrium method; formation and control of combustion-generated pollutants and greenhouse gases; chemistry, transport, and abatement of air pollution; alternative energy sources; combustion-based synthesis of materials; fire propagation, containment, and extinction; nonequilibrium thermodynamics; energy and gas turbine cooling technology; turbine blade cooling; and energy-related and calorimeter studies related to pharmaceutical developments. Our research and teaching together seek to prepare students to understand and exploit thermofluids to enable their future engineering innovations.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: course work option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their course work but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing course work option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (course work only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: course work only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.3 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with a Concentration in Thermofluids with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with a Concentration in Thermofluids in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved thermofluids technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

General Requirements

Code	Title	Hours
Required Core Courses		
ME 6200	Mathematical Methods for Mechanical Engineers 1	4
ME 7270	General Thermodynamics	4
ME 7275	Essentials of Fluid Dynamics	4
ME 7285	Heat Conduction and Thermal Radiation	4
or ME 7290	Convective Heat Transfer	
Thermofluids Concentration Course		
Complete 4 semester hours from the following:		4
ME 5685	Solar Thermal Engineering	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	
ME 7295	Multiscale Flow and Transport Phenomena	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
ME 7310	Computational Fluid Dynamics with Heat Transfer	

Options

Complete one of the following options:

COURSE WORK OPTION

Code	Title	Hours
Complete 12 semester hours from the course list.		12

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project	4
Complete 8 semester hours from the course list.		8

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [1]	8
Complete 4 semester hours from the course list.		4

COURSE LIST

Code	Title	Hours
ME 5685	Solar Thermal Engineering	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	
ME 7295	Multiscale Flow and Transport Phenomena	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
ME 7310	Computational Fluid Dynamics with Heat Transfer	

PROGRAM CREDIT/GPA REQUIREMENTS

32 total semester hours required
Minimum 3.000 GPA required

[1] Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Operations Research, MSOR

Website (https://mie.northeastern.edu/academics/graduate-studies/ms-opre/)

The Department of Mechanical and Industrial Engineering (MIE) offers comprehensive research and educational programs for students pursuing the Master of Science (MS) in Operations Research (OR). OR deals with the application of scientific method to decision making. Its practitioners develop and solve mathematical and computer models of systems using optimization and statistical methods. OR methodologies are being used to improve efficiency, reduce costs, and increase profitability in all organizations whether in manufacturing, transportation, logistics and supply chains, healthcare, or financial institutions. Upon graduation, students who pursue this program may work in industry or may continue their studies by pursuing the PhD in Industrial Engineering. These extensive programs and coursework allow for the selection of a degree that meets a wide range of personal and professional goals.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students may also petition to waive a core course by demonstrating evidence of their having passed a similar approved IE or OR graduate course. In such situations, the students must first obtain approval from their academic advisor for the course(s) they are planning to substitute.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (OR 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (OR 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of Thesis (ME 7990). Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance, and all faculty members and students may attend and participate. If deemed appropriate by

the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Operations Research with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Operations Research in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved operations research technical courses.

ENGINEERING BUSINESS

Master's Degree in Operations Research with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Operations Research in addition to earning a Graduate Certificate in Engineering Business (p. 529). Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the operations research core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in co-curricular professional development elements, earn the Graduate Certificate in Engineering Business.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6200	Engineering Probability and Statistics	4
or MATH 7241	Probability 1	
OR 6205	Deterministic Operations Research	4
OR 7245	Network Analysis and Advanced Optimization	4
or MATH 7234	Optimization and Complexity	
OR 7230	Probabilistic Operation Research	4
or MATH 7341	Probability 2	

Options

Select one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below.		16

PROJECT OPTION

Code	Title	Hours
OR 7945	Master's Project	4
Complete 12 semester hours from the course list below.		12

THESIS OPTION

Code	Title	Hours
OR 7990	Thesis (required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship)	8
Complete 8 semester hours from the course list below.		8

Course List

Code	Title	Hours
Civil Engineering and Environmental Engineering		
CIVE 7100	Time Series and Geospatial Data Sciences	
Computer Science		
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 7805	Complexity Theory	
Computer Systems Engineering		
CSYE 7280	User Experience Design and Testing	
Data Science		
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
General Engineering		
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
Electrical and Computer Engineering		
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
Engineering Management		
EMGT 5220	Engineering Project Management	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
Industrial Engineering		
IE 5374	Special Topics in Industrial Engineering (Data Visualization Engineering)	
IE 5374	Special Topics in Industrial Engineering (Human Performance in Sociotechnical Systems)	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5500	Systems Engineering in Public Programs	
IE 5617	Lean Concepts and Applications	
IE 6300	Manufacturing Methods and Processes	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
Mathematics		
MATH 7233	Graph Theory	
MATH 7342	Mathematical Statistics	
MATH 7349	Stochastic Calculus and Introduction to No-Arbitrage Finance	
Operations Research		
OR 6500	Metaheuristics and Applications	
OR 7235	Inventory Theory	
OR 7240	Integer and Nonlinear Optimization	
OR 7270	Convex Optimization and Applications	
OR 7310	Logistics, Warehousing, and Scheduling	
Or any other IE, OR, MATH, CS, and graduate engineering courses		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Analytics Engineering, Graduate Certificate

The Data Analytics Engineering Graduate Certificate program focuses on fundamental concepts, tools and techniques to extract information from large data sets in order to support effective decision making. This program is designed to provide opportunities for students to master high-demand data intelligence skills through hands-on experience on data storage, data retrieval, data visualization and prediction.

This four-course graduate certificate enables the students to apply the fundamentals of engineering knowledge and skills to database design, data pre- and post-processing for further analysis, data visualization for impactful infographics, statistical concepts for quantitative analysis and data mining techniques and algorithms for knowledge discovery.

Note: MS in Data Analytics students are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
DAMG 6210	Data Management and Database Design	4
IE 6600	Computation and Visualization for Analytics	4
IE 7275	Data Mining in Engineering	4
IE 7280	Statistical Methods in Engineering	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Energy Systems, Graduate Certificate

The Graduate Certificate in Energy Systems focuses on the combination of analysis and integration of energy systems engineering technology with financial planning and attention to business aspects and effective implementation.

This four-course graduate certificate seeks to offer students opportunities to apply the fundamentals of engineering knowledge and skills to analyze energy systems to propose effective and efficient technology solutions based on data-driven and economic-based decisions.

Note: Students enrolled in the master's in energy systems program are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4
ENSY 5000	Fundamentals of Energy System Integration	4

Elective

Code	Title	Hours
Complete one of the following:		4
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 5685	Solar Thermal Engineering	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Energy Systems Management, Graduate Certificate

The Graduate Certificate in Energy Systems Management focuses on the combination of analysis and integration of energy systems engineering technology with a focus on the art and the science of planning, organizing, allocating, directing, and controlling the activities and resources of organizations engaged in engineering activities and technology development.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills in a management setting to analyze energy systems and to propose effective and efficient technology solutions based on data-driven and economic-based decisions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENSY 5000	Fundamentals of Energy System Integration	4
EMGT 5220	Engineering Project Management	4

Electives

Code	Title	Hours
Complete one of the following:		4
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
Complete one of the following:		4
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ME 5685	Solar Thermal Engineering	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Engineering Business, Graduate Certificate

The Graduate Certificate in Engineering Business is part of the Galante Engineering Business Program. The Galante Engineering Business Program offers a progressive opportunity for engineering students to complement their technical engineering education with business skills. Galante is founded on the values of student engagement and leadership to strengthen interpersonal and professional skills.

The certificate seeks to provide students opportunities to apply the technical aspects of an engineering skill foundation in corporate settings through both academic and programmatic elements. Programmatic elements include workshops, speaker series, site visits, seminars, and other related personal and professional development activities as a connected cohort. These activities equip students to manage projects, lead people, make data-driven and market-based decisions, and advance economically sound initiatives.

The Galante Engineering Business Program can be completed alongside a Master of Science in Engineering Management, Industrial Engineering, Operations Research, Data Analytics Engineering, Civil Engineering with a Concentration in Construction Management, and Chemical Engineering. There are two possible paths to earning the Graduate Certificate in Engineering Business. The first option is to begin an eligible PlusOne program and then apply for the Galante Engineering Business Program. The second option is for those who have completed their BS in engineering in good standing and have been admitted to a master's program listed above. Please note that the BS in engineering needs to be completed at Northeastern.

The Graduate Certificate in Engineering Business involves 15 semester hours from four courses across three categories. These four courses count as the electives required for each of the master's programs above. Students need to ensure that these four courses are cross-listed with the master's program.

Refer to the Galante Engineering Business Program webpage (http://www.coe.neu.edu/galante/) for additional details and description.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete four courses from at least three of the following categories. Students can only take one course from outside the College of Engineering.		15
Business Innovation Development		
ENTR 6212	Business Planning for New Ventures	
ENTR 6218	Business Model Design and Innovation	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5020	Engineering Product Design Methodology	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
Organizational Excellence		
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6600	Engineering Team Performance	
IE 5617	Lean Concepts and Applications	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
Financial Analysis		
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ENTR 6219	Financing Ventures from Early Stage to Exit	
Information and Business Analysis		
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
DA 5030	Introduction to Data Mining/Machine Learning	
DAMG 6210	Data Management and Database Design	
DAMG 7290	Data Warehousing and Business Intelligence	
DS 5110	Introduction to Data Management and Processing	
IE 5640	Data Mining for Engineering Applications	

IE 6600	Computation and Visualization for Analytics
INFO 6215	Business Analysis and Information Engineering

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Engineering Economic Decision Making, Graduate Certificate

The Graduate Certificate in Engineering Economic Decision Making focuses on developing economic decision-making skills in the context of engineering operations and projects with attention to decision-making models, causes of risk and uncertainty, decisions under uncertainty, and ways to change and influence the degree of risk and uncertainty.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills in a management setting to build decision-making models and to make data-driven, financial-based, and economic-based decisions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Engineering Management, Graduate Certificate

The Graduate Certificate in Engineering Management focuses on bridging the gaps between the fields of engineering, technology, and business with a focus on the art and the science of planning, organizing, allocating, directing, and controlling the activities and resources of organizations engaged in engineering activities and technology development.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills in a management setting to build decision-making models and make data-driven and/or economic-based decisions.

Note: Students enrolled in the master's in engineering management program are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
EMGT 5220	Engineering Project Management	4
EMGT 6225	Economic Decision Making	4
IE 6200	Engineering Probability and Statistics	4

Elective

Code	Title	Hours
Complete one of the following:		4
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
OR 6205	Deterministic Operations Research	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Lean Six Sigma, Graduate Certificate

The Graduate Certificate in Lean Six Sigma focuses on enhancing engineering knowledge and skills with the fundamentals of lean manufacturing thinking and six sigma concepts to improve business processes through optimizing flow, eliminating waste, and emphasizing quality.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of lean six sigma concepts across an enterprise to contribute to an organization's continuous improvement initiatives by identifying and employing lean and quality tools and techniques, along with utilizing statistical methods to achieve quality control.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 5617	Lean Concepts and Applications	4
IE 6200	Engineering Probability and Statistics	4
IE 7280	Statistical Methods in Engineering	4
IE 7285	Statistical Quality Control	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Renewable Energy, Graduate Certificate

The Graduate Certificate in Renewable Energy focuses on the combination of analysis and integration of energy systems engineering technology with key renewable engineering technology, including solar and wind generation, with environmental protection and manufacturing considerations.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to analyze energy systems with a specific focus on renewable energy technologies along with EPA regulatory structure, including the LEED certification program, as well as industrial ecology, including life-cycle analysis and technical cost modeling.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENSY 5000	Fundamentals of Energy System Integration	4
ENSY 5585	Wind Energy Systems	4
ME 5685	Solar Thermal Engineering	4

Elective

Code	Title	Hours
Complete one of the following:		4
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Sustainable Energy Systems, Graduate Certificate

The Graduate Certificate in Sustainable Energy Systems focuses on the integration of energy systems engineering technology with sustainable building systems, including the design and operation of buildings with minimal energy and environmental impact.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to analyze energy systems as they relate to sustainable engineering building design with a focus on renewable energy with LEED certification or with a focus on industrial ecology, including life-cycle analysis and technical cost modeling.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
SBSY 5200	Sustainable Engineering Systems for Buildings	4
ENSY 5000	Fundamentals of Energy System Integration	4

Electives

Code	Title	Hours
Complete two of the following:		8
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5585	Wind Energy Systems	
ME 5685	Solar Thermal Engineering	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Supply Chain Engineering Management, Graduate Certificate

The Graduate Certificate in Supply Chain focuses on acquiring and applying the knowledge and skills associated with designing, analyzing, managing, and improving supply chains within technology companies with attention on optimizing parts of a supply chain for effective and efficient functioning.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to supply chains using deterministic and probabilistic decision-making models, lean concepts, mass customization principles, and methods of manufacturing including logistics, warehousing, and scheduling.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 5617	Lean Concepts and Applications	4
IE 7200	Supply Chain Engineering	4

Electives

Code	Title	Hours
Complete two of the following:		8
EMGT 5300	Engineering/Organizational Psychology	
IE 6200	Engineering Probability and Statistics	
IE 6300	Manufacturing Methods and Processes	
OR 7310	Logistics, Warehousing, and Scheduling	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Technology Systems Management, Graduate Certificate

The Graduate Certificate in Technology Systems Management focuses on bridging the fields of technology, engineering, and business with a focus on the art and the science of managing organizational activities, including project and human resources engaged in engineering and technology development.

This four-course graduate certificate seeks to provide students with opportunities to apply technological knowledge and skills in a management setting to make data-driven, financial-based, and economic-based decisions.

Note: This certificate is for graduate engineering students as well as non-engineers and non-graduate engineering students.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
EMGT 5220	Engineering Project Management	4
EMGT 5300	Engineering/Organizational Psychology	4
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Multidisciplinary Programs

Website (http://www.coe.neu.edu/graduate-school/multidisciplinary/)

Dana Research Center, 5th Floor

617.373.5424

The multidisciplinary graduate engineering Master of Science programs integrate engineering solutions from the fields of technology and business by developing technical and engineering skills through advanced coursework and complex technical projects. Each program focuses on the application of knowledge and skills to business and industrial settings. The software, data, and network systems programs blend academic and corporate experience to enable students to enhance their professional capabilities, thereby facilitating career transformation. Given an applied focus, each program provides learning opportunities to develop the skills needed to create innovative, practical, and effective solutions that can be easily applied to current professional challenges.

The multidisciplinary graduate engineering programs are designed to prepare students for direct entry into the workforce. Students who are seeking preparation for entry into PhD programs should consider specific department MS programs (p. 334) aligned with their research interests.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the MS degree.

Programs

Master of Science in Information Systems (MSIS)

- Information Systems (p. 539)
- Information Systems—Bridge (p. 541)

Master of Science (MS)

- Cyber-Physical Systems (p. 542)
- Data Architecture and Management (p. 544)
- Software Engineering Systems (p. 545)
- Telecommunication Networks (p. 547)

Graduate Certificates

- Blockchain and Smart Contract Engineering (p. 549)
- Broadband Wireless Systems (p. 550)
- Engineering Leadership (p. 551)
- IP Telephony Systems (p. 553)
- Software Engineering Systems (p. 554)

Information Systems, MSIS

We offer cutting-edge expertise in a variety of courses that combine technological advances and business practices. We stress creative and inventive approaches to problem solving, which necessitates empowering students so that they can take charge of their own software projects to become originally productive. Our information systems program (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-insy/) is as much an art as a science. It bypasses mechanical learning and highlights the value and excitement of engineering thinking that gets things done efficiently as well as imaginatively. We balance theory and practice, on the premise that they are always intertwined and interdependent.

We seek to provide a basic foundation for our students and then seek to push them to new heights to advance their information technology skills in a way that keeps up and, better yet, exceeds the necessarily fast pace of this progressive field. It is not for us just a question of not being left behind; we strive to be at the forefront of software innovation in an effort to transform contemporary society even more radically than technology has already done—to take gigantic strides in business, medicine, education, and security.

The program offers a wide range of courses that reflect current and future industry trends:

- Cryptocurrency and Smart Contract Engineering
- Engineering of Big-Data Systems
- Business Intelligence and Data Analytics
- Cyber-Security Engineering and Development
- Digital Business
- Full-Stack Software Engineering
- User Experience Design
- Data Science and Machine Learning Systems Engineering

Gordon Institute of Engineering Leadership

MASTER'S DEGREE IN INFORMATION SYSTEMS WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a master's degree in Information Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved information systems technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INFO 5100 and INFO 5101	Application Engineering and Development and Lab for INFO 5100	4

General Information Systems Concentration

Code	Title	Hours
Complete 16 semester hours from the following subject code:		16
INFO		

Electives

Code	Title	Hours
Complete 12 semester hours from the following subject codes: [1]		12
CSYE (except CSYE 6220)		
DAMG		
INFO		
TELE		

[1] Specific electives may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Information Systems, MSIS—Bridge

The Master of Science in Information Systems—Bridge (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-insy-bridge/) (MSIS-Bridge) addresses the needs of the digital revolution by preparing students with non—STEM, nontechnical bachelor's degrees to become information systems professionals. MSIS-Bridge students are the link between business users and technologists. As industries launch into a digitized future, professionals with a clear understanding of how technology can be used to address significant societal challenges are in demand. The MSIS-Bridge program closes the gaps between business management, software engineering, and information technology to help students solve complex real-world issues in business and society. It also upskills and reskills to help individuals or businesses identify organizational skills gaps and create a tactical training plan to fill them with new skills and knowledge. Through specially created and selected core courses, students gain the engineering foundation needed to excel in the classroom and in the IT sector.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INFO 5001	Application Modeling and Design	4
INFO 5002	Introduction to Python for Information Systems	4
INFO 5100 and INFO 5101	Application Engineering and Development and Lab for INFO 5100	4

Restricted Electives

Code	Title	Hours
Complete 12 semester hours from the following:		12
INFO 6150	Web Design and User Experience Engineering	
INFO 6205	Program Structure and Algorithms	
INFO 6215	Business Analysis and Information Engineering	
INFO 6245	Planning and Managing Information Systems Development	
INFO 7245	Agile Software Development	
INFO 7385	Managerial Communications for Engineers	

Electives

Code	Title	Hours
Complete 16 semester hours from the following subject codes: [1]		16
CSYE (except CSYE 6220)		
DAMG		
INFO		
TELE		

[1] Specific electives may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Cyber-Physical Systems, MS

The Master of Science in Cyber-Physical Systems with a concentration in the Internet of Things (IoT) (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-cyps/) prepares our graduates for a world of connected devices. This innovative multidisciplinary program is designed to meet the demand for a new kind of specialist, one who can engineer and develop new interactive services; acquire, fuse, and process the data collected from sensors, actuators, controllers, and other devices; and develop architectures to interconnect these elements as part of larger, more diverse systems. It is expected that careers in this rapidly evolving area will encompass industry sectors ranging from energy, healthcare, transportation, infrastructure, to manufacturing.

This concentration integrates the study of wireless networking, protocols, sensor networks, security, software development, embedded systems, data analytics, and big data to provide students with the knowledge and tools to develop IoT applications, to analyze and design IoT architectures for different application domains, and to develop data analytic tools to analyze the large amounts of data generated by the massive deployment of IoT devices.

Degree Requirements

The program requires that a mix of core required courses and elective courses be taken—16 semester hours of core course work and a minimum of 16 semester hours of elective course work. Although there are some dependencies among the core courses, the program may be started in either the fall or spring semester.

Special topics courses, as well as other courses not in the list of electives, may be used as electives with prior approval of the program director. A maximum of two courses from the Khoury College of Computer Sciences may be used as electives. Before taking any course from Khoury, prior approval is required from the program director.

Independent Study (TELE 5978), usually 1 or 2 semester hours, or a Master's Project in Cyber Physical Systems (TELE 7945) must be carried out under the supervision of a professor and must have prior approval of the program director. Proposals for independent study or a master's project need to be submitted at least one month before the start of the semester.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. Students may not register for more than 9 semester hours in the fall and spring terms and 4 semester hours in each of the three summer terms. Any exceptions must be approved by the program director.

Core Requirements

Code	Title	Hours
TELE 6510	Fundamentals of the Internet of Things	4
TELE 6530	Connected Devices	4
Choose two of the following three courses:		8
CSYE 6200	Concepts of Object-Oriented Design	
INFO 6105	Data Science Engineering Methods and Tools	
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	

Electives

Code	Title	Hours
Any core course not used to meet the required core course requirement may be taken as an elective. Otherwise, complete four of the following. A maximum of 8 semester hours of nontechnical electives may be taken. Students may take elective coursework outside these lists only with the prior approval of the program director. A maximum of 9 semester hours may be taken outside of the College of Engineering.		16
Technical Electives		
CSYE 6205	Concepts of Object-Oriented Design with C++	
CSYE 6225	Network Structures and Cloud Computing	
CSYE 6230	Operating Systems	
CSYE 7215	Foundations of Parallel, Concurrent, and Multithreaded Programming	
CSYE 7370	Deep Learning and Reinforcement Learning in Game Engineering	
DAMG 6210	Data Management and Database Design	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5155	Wireless Sensor Networks and the Internet of Things	

EECE 7352	Computer Architecture
EECE 7390	Computer Hardware Security
EECE 7397	Advanced Machine Learning
IE 7275	Data Mining in Engineering
INFO 6150	Web Design and User Experience Engineering
INFO 6205	Program Structure and Algorithms
TELE 5360	Internet Protocols and Architecture
TELE 6550	IoT Embedded System Design
TELE 7374	Special Topics in the Internet of Things
Nontechnical Electives	
EMGT 5220	Engineering Project Management
INFO 6660	Business Ethics and Intellectual Property for Engineers

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Architecture and Management, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-daam/).

Many MS programs in the data area deal with data collection and analysis but do not, however, address a crucial activity that data scientists, data analysts, business analysts, and many software engineers need to perform to make that data valuable, namely, data integration. That activity may also be referred to as data preparation, data curation, application integration, and data engineering based on the integration of use cases and integration persona. The Master of Science in Data Architecture and Management focuses on these activities.

Data systems engineering occurs because data is fragmented and usually scattered across many data sources. However, even if all the data one needed were in one place, there is still an intensive need for integration. Information is data in context and the context of data as collected is different than the many ways it needs to be transformed so as to generate useful information.

The data engineering field could be thought of as a superset of business intelligence and data warehousing that brings in more elements from software engineering. This discipline also integrates specialization around the operation of so called Big Data distributed systems, along with concepts around the extended Hadoop ecosystem, stream processing, and in computation at scale.

The Master of Science in Data Architecture and Management offers a multitude of courses in data engineering in addition to supplementary courses that are required to deliver the data results in a meaningful way to management. We plan to cover data management, advanced data management, data warehousing and business intelligence, column databases, data science engineering, and Big Data engineering. On the software engineering side, we offer advanced Big Data programming using the powerful Scala language and a course on advanced data science as well as cloud computing. Multithread concurrent computing is also offered as it is important for synchronizing a huge set of servers working in parallel to do large-scale analytics to make things run faster by hundredfold increases in speed. Due to the high-level mathematical operations required to make these programs run, only software engineers can make the necessary mathematical algorithms execute quickly enough to work in these complicated areas and get the finest results.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DAMG 6105	Data Science Engineering with Python	4
DAMG 6210	Data Management and Database Design	4
DAMG 7250	Big Data Architecture and Governance	4
DAMG 7370	Designing Advanced Data Architectures for Business Intelligence	4

Electives

Code	Title	Hours
Complete 16 semester hours from the following subject codes:		16
CSYE		
DAMG		
INFO		
TELE		

Program Credit/GPA Requirements

32 total semester hours required

Minimum 3.000 GPA required

Software Engineering Systems, MS

Website (http://www.coe.neu.edu/degrees/ms-cse/)

The Software Engineering Systems program takes a sociotechnical, engineering approach to software. This engineering foundation is designed to enable students to embrace real-world complexity as a golden opportunity, especially for the more technically advanced student. We are committed to shaping our students to be intuitive problem solvers, experienced engineering architects, and result leaders who will have a great impact at the exciting three-way intersection of computer science, engineering, and ethics.

Our program offers a multitude of courses in big-data engineering and analytics in addition to supplementary courses that are required to deliver the data-analytics results in a meaningful way to management. We cover data management, advanced data management, business intelligence, column databases, data science, and big-data engineering. We offer advanced functional programming using the powerful Scala language and a course on advanced data science as well as cloud computing. Multi-thread concurrent computing is also offered as it is important for synchronizing a huge set of servers working in parallel to do large-scale analytics to make things run faster by a hundredfold increase in speed. Due to the high-level mathematical operations required to run these programs, only software engineers have the capacity to work in such complicated areas. Only they can make the necessary mathematical algorithms execute quickly enough to get the finest results.

Our engineers become fluent in data science for the sake of building the actual system. They study how to write machine-learning algorithms on top of statistical packages.

- Students study the fundamentals of logical computing formulation and program construction as well as the mathematical modeling and analysis of algorithms—an essential aspect of data science analytics.
- Students study clustering techniques, along with topic modeling and classification and logical regression techniques, as well as Bayesian statistics.
- Students study how to configure and operate a Hadoop environment (large clusters of commodity hardware) and in the process how to integrate data from diverse sources, to move and manage data through big-data platforms (in-house or in the cloud). Data ingestion, the filtering and firing of millions of operations to run over large clusters of commodity hardware, is a software-engineering technique that we teach our students how to perform through Scala, multi-threading, Spark programming, and “map-reduce” techniques.
- We show students how to make the business case for analytics projects and how to follow an execution road map that involves understanding the architectures underpinning such gigantic platforms as well as the resourcing and cost issues.

Graduate Certificate Options

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Software Engineering Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Software Engineering Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved software design engineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CSYE 6200	Concepts of Object-Oriented Design	4
INFO 6205	Program Structure and Algorithms	4

Electives

Code	Title	Hours
Complete 12 semester hours from the CSYE subject code:		12
CSYE		
Complete 12 semester hours from any of the following subject codes:		12
CSYE		
DAMG		
INFO (INFO 6250 excluded)		
TELE		

PROGRAM CREDIT/GPA REQUIREMENTS

32 total semester hours required

Minimum 3.000 GPA required

Telecommunication Networks, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-tnet/).

The Master of Science in Telecommunication Networks is designed for professionals currently in the telecommunications or networking field who either wish to enhance their technical skills and credentials or who wish to make a transition to the business side of telecommunications or networking. We also welcome applications from prospective students with limited industry experience. This program, which may be pursued on a full- or part-time basis, is one of only a very few master's programs in telecommunications and networking in the United States that is truly multidisciplinary, giving students the flexibility to tailor the curriculum to their specific interests, backgrounds, and career goals.

Degree Requirements

The program requires that a mix of core required courses and elective courses be taken—16 semester hours of core course work and a minimum of 16 semester hours of elective course work. Although there are some dependencies among the core courses, the program may be started in either the fall or spring semester. The four core courses each carry 4 semester hours of credit.

The technical electives include courses on network and communications technology and on the development of software systems and applications. The business electives are focused on engineering management and entrepreneurship. Electives come from approved lists of courses supplied by the colleges of engineering, business, and computer sciences. Students may take elective course work outside these lists only with the prior approval of the program director.

It is expected that students beginning this program will have an adequate background in the following areas: C, C++, or Java programming languages; probability and statistics; and differential and integral calculus.

Special topics courses, as well as other courses from outside the program, may be used as electives with prior approval of the program director.

Independent Study, usually 1 or 2 semester hours, or a Master's Project must be carried out under the supervision of a professor and must have prior approval of the program director. Proposals for Independent Study or a Master's Project need to be submitted at least one month before the start of the semester.

Directed Study, also for 1 or 2 semester hours, is sometimes available for students. For directed study projects, a student follows a prescribed curriculum, usually with some form of an exam at the end of the semester.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Telecommunication Networks with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Telecommunications Networks in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate require 12 hours of technical core courses from the telecommunication networks program and 4 hours from the technical course list provided for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. Students may not register for more than 10 semester hours in the fall and spring terms and 4 semester hours in each of the three summer terms. Any exceptions must be approved by the program director.

Core Requirements

Code	Title	Hours
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	4
TELE 5340	Telecommunications Public Policy and Business Management	4
TELE 5350	Telecom and Network Infrastructure	4
TELE 5360	Internet Protocols and Architecture	4

Electives

Code	Title	Hours
Complete a minimum of 16 semester hours from the course lists below. At least one elective course must be taken from the technical course list. (p. 548)		16

BUSINESS COURSE LIST

Code	Title	Hours
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ENTR 6212	Business Planning for New Ventures	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
HRMG 6200	Managing People and Organizations	
INFO 6245	Planning and Managing Information Systems Development	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6214	Negotiations	
MKTG 6200	Creating and Sustaining Customer Markets	

TECHNICAL COURSE LIST

Code	Title	Hours
CS 5520	Mobile Application Development	
CS 6710	Wireless Network	
CY 5150	Network Security Practices	
CY 6740	Network Security	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6225	Network Structures and Cloud Computing	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
INFO 6205	Program Structure and Algorithms	
INFO 6350	Smartphones-Based Web Development	
TELE 5600	Linux/UNIX Systems Management for Network Engineers	
TELE 6350	Unified Communications and Collaboration	
TELE 6400	Software-Defined Networking	
TELE 6420	Infrastructure Automation Design and Tools	
TELE 6510	Fundamentals of the Internet of Things	
TELE 6603	Special Topics—Networking	

Program Credit/GPA Requirements

Minimum of 32 total semester hours required
Minimum 3.000 GPA required

Blockchain and Smart Contract Engineering, Graduate Certificate

The Graduate Certificate in Blockchain and Smart Contract Engineering addresses the rapidly growing and revolutionary field of distributed ledger (blockchain) technology. Companies from different industries are preparing to enhance their business practices through cryptocurrency, decentralized computing, digital security, smart contracts, and more. The certificate program covers blockchain platforms such as Ethereum that bring about transparency and trust to all participants in complex multiparty relationships. The implication is tremendous—from new currency and incentive systems to faster, less expensive, and more efficient transactions of all kinds, from banking to healthcare. Students have an opportunity to learn how blockchain platforms and their underlying trust models will impact the future of legally binding multiparty contracts. In addition, students also have an opportunity to learn how crypto-engineering techniques can be used to create digital trust fabrics that could safely facilitate the movement of any kind of transactions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
INFO 7500	Cryptocurrency and Smart Contract Engineering	4
INFO 7510	Smart Contract Application Engineering and Development	4
INFO 7520	Engineering of Advanced Cryptocurrency Systems	4
INFO 7525	Regulatory Aspects of Smart Contract Automation	2
INFO 7535	Digital Smart Contracts Product Innovations	2

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Broadband Wireless Systems, Graduate Certificate

The broadband wireless systems graduate certificate program focuses on the fundamentals of wireless communications, IP networks and protocols, and telecommunications infrastructure as preparation for developing expertise in ongoing developments in mobile networking, broadband wireless communications, and mobile apps.

The four-course graduate certificate requires that two TNET core technical courses be taken along with two other specified courses. With the approval of the certificate director, one of the core courses may be waived with another technical course taken in its place. Mobile Wireless Communications and Networking (TELE 6100) may not be waived under any circumstances.

Note: Master of Science in Telecommunication Networks students are eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	4
TELE 5350	Telecom and Network Infrastructure	4
TELE 6100	Mobile Wireless Communications and Networking	4
EECE 5576	Wireless Communication Systems	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Engineering Leadership, Graduate Certificate

The Gordon Engineering Leadership Program is a transformational, technical, and challenging graduate-level learning experience targeted for engineering professionals.

The Gordon Engineering Leadership Program directed by the Gordon Institute of Engineering Leadership offers a graduate certificate that pairs with over 20 master's degrees in the College of Engineering, College of Science, and Khoury College of Computer Sciences. The Gordon Program is a transformational graduate program designed to build a future corps of engineering leadership professionals.

Pursuing the graduate certificate allows participants to:

- Take part in a hands-on curriculum taught by industry-experienced professors
- Work with peers from across engineering fields on leadership skills development
- Receive one-on-one mentoring from industry experts and faculty

The Gordon Engineering Leadership Program anchors around an intense, market-worthy challenge project based on your organization's strategic needs. This is a unique opportunity to apply your classroom experience in a professional setting, potentially further accelerating your career.

How to Earn a Graduate Certificate in Engineering Leadership

If you already have a Master of Science, then you can complete the one-year program to earn a Graduate Certificate in Engineering Leadership.

If you do not have a Master of Science, then you can still be considered for the Graduate Certificate in Engineering Leadership if you have at least three years of engineering work experience.

Additional information can be found on the Gordon Engineering Leadership Program website. (http://www.northeastern.edu/gordonleadership/)

Beyond a Graduate Certificate

Most candidates pursue the Gordon Engineering Leadership Program as part of a Master of Science degree in the engineering discipline of their choice. Upon completion, they earn both a Master of Science degree and a Graduate Certificate in Engineering Leadership.

Students can enroll in the Engineering Leadership Graduate Certificate while pursuing the following degrees:

- MS Advanced and Intelligent Manufacturing (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/advanced-and-intelligent-manufacturing/)
- MS Biotechnology (http://www.northeastern.edu/gordonleadership/degree/ms-in-biotechnology/)
- MS Computer Science (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/computer-science/)
- MS Cybersecurity (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/ms-in-information-assurance-and-cyber-security/)
- MS Data Analytics Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-data-analytics-engineering/)
- MS Engineering and Public Policy (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-and-public-policy/)
- MS Human Factors (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/human-factors/)
- MS Robotics (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/robotics/)
- MS Telecommunication Networks (http://www.northeastern.edu/gordonleadership/degree/ms-in-telecommunication-networks/)
- MSBioE Bioengineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-bioengineering/)
- MSChE Chemical Engineering (http://www.northeastern.edu/gordonleadership/degree/chemical-engineering/)
- MSCivE Civil Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-civil-engineering/)
- MSCSE Software Engineering Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-computer-systems-engineering/)
- MSECE Electrical and Computer Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering/)
- MSECEL Electrical and Computer Engineering Leadership (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering-leadership/)
- MSEM Engineering Management (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-management/)
- MSENE Energy Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-energy-systems/)
- MSEnvE Environmental Engineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-environmental-engineering/)

- MSIE Industrial Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-industrial-engineering/)
- MSIS Information Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-information-systems/)
- MSME Mechanical Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-mechanical-engineering/)
- MSOR Operations Research (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-operations-research/)
- MSSBS Sustainable Building Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-sustainable-building-systems/)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENLR 5121	Engineering Leadership 1	2
ENLR 5122	Engineering Leadership 2	2
ENLR 5131	Scientific Foundations of Engineering 1	2
ENLR 5132	Scientific Foundations of Engineering 2	2
Complete the following two courses based on the discipline of your master's program:		
ENLR 7440	Engineering Leadership Challenge Project 1	4
or EECE 7440	Electrical and Computer Engineering Leadership Challenge Project 1	
or ENSY 7440	Energy Systems Engineering Leadership Challenge Project 1	
or IE 7440	Industrial Engineering Leadership Challenge Project 1	
or ME 7440	Mechanical Engineering Leadership Challenge Project 1	
or TELR 7440	Technology Leadership Challenge Project 1	
ENLR 7442	Engineering Leadership Challenge Project 2	4
or EECE 7442	Electrical and Computer Engineering Leadership Challenge Project 2	
or ENSY 7442	Energy Systems Engineering Leadership Challenge Project 2	
or IE 7442	Industrial Engineering Leadership Challenge Project 2	
or ME 7442	Mechanical Engineering Leadership Challenge Project 2	
or TELR 7442	Technology Leadership Challenge Project 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

IP Telephony Systems, Graduate Certificate

The Graduate Certificate in IP Telephony Systems focuses on the fundamental knowledge in communications, IP networks and protocols, media transport, and signaling as preparation to developing expertise into ongoing developments in VoIP networks and services, the IP Multimedia Subsystem (IMS), unified communications, and video networks.

The four-course graduate certificate requires that three TNET core technical courses be taken along with a specified fourth course. With the approval of the certificate director, one of the core courses may be waived with another technical course taken in its place. Unified Communications and Collaboration (TELE 6350) may not be waived under any circumstance.

Note: Master of Science in Telecommunication Systems Management/Telecommunication Networks students are not eligible for this graduate certificate.

Program Requirements

Core Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	4
TELE 5350	Telecom and Network Infrastructure	4
TELE 5360	Internet Protocols and Architecture	4
TELE 6350	Unified Communications and Collaboration	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Software Engineering Systems, Graduate Certificate

The Graduate Certificate in Software Engineering Systems focuses on the sociotechnical approach to software engineering with attention on using engineering tools and considering real-world complexities to design and construct practical and viable software solutions.

This four-course graduate certificate is designed to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to software development with attention on enterprise design and integration, secure systems design and creation, and data integration and architecture.

Note: Master of Science in Software Engineering Systems students are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
CSYE 6200	Concepts of Object-Oriented Design	4
INFO 6205	Program Structure and Algorithms	4

Electives

Code	Title	Hours
Complete two of the following:		8
CSYE 6225	Network Structures and Cloud Computing	
CSYE 7215	Foundations of Parallel, Concurrent, and Multithreaded Programming	
CSYE 7280	User Experience Design and Testing	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Interdisciplinary Graduate Programs

Doctor of Philosophy (PhD)

- Cybersecurity (p. 302)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Climate Science and Engineering (p. 385)
- Product Development (p. 565)

Cybersecurity, PhD

A research-based, interdisciplinary Doctor of Philosophy (PhD) in Cybersecurity combines a strong security technical foundation with a security policy and social sciences perspective. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Students who choose the PhD in Cybersecurity program have a strong desire to pursue academic research solving critical cybersecurity challenges facing today's society. The PhD program is a natural path for students in the college's Master of Science in Cybersecurity (http://www.ccs.neu.edu/graduate/degree-programs/m-s-in-information-assurance/)program who want to pursue research and students with bachelor's degrees and an interest in research-focused careers. Students who pursue careers in advancing the state of the art of cybersecurity have an opportunity to gain:

- A strong technical foundation in cybersecurity and an interdisciplinary perspective based on policy and social science
- A path to a research-focused career coupled with depth in information assurance research at a leading institution, one of the earliest designees by NSA/DHS as a National Center of Academic Excellence in Information Assurance Research, Information Assurance/Cyber Defense, and Cyber Operations
- The opportunity to work with and learn from faculty who are recognized internationally for their expertise and contributions in information assurance from Northeastern University's Khoury College of Computer Sciences, the Department of Electrical and Computer Engineering, and the College of Social Sciences and Humanities
- Access to research projects at Northeastern's research centers focused on security:
  - The Cybersecurity and Privacy Institute (https://cyber.ccis.northeastern.edu/about/): The mission of Northeastern's Cybersecurity and Privacy Institute is to safeguard critical technology. Forging partnerships with experts in industry, government, and academia worldwide, the Institute's faculty and students develop, protect, and enhance technologies on which the world relies—from mobile devices and "smart" IoT applications to tomorrow's self-driving cars and delivery drones. Their expertise spans algorithm auditing; cloud security; cryptography; differential privacy; embedded device security; internet-scale security measurements; machine learning; big data; security, malware, and advanced threats; network protocols and security; web and mobile security; and wireless network security.
  - The International Secure Systems Lab (http://www.iseclab.org/), affiliated with Northeastern, a collaborative effort of European and U.S. researchers focused on web security, malware, and vulnerability analysis; intrusion detection; and other computer security issues.
  - The ALERT Center (http://www.northeastern.edu/alert/), where Northeastern is the lead institution, a multiuniversity Department of Homeland Security Center of Excellence involved in research, education, and technology related to threats from explosives.

The benefits of the Boston area:

- World-renowned for academic and research excellence, the Boston area is also home to some of the nation's largest Department of Defense contractors and government and independent labs such as MIT Lincoln Lab, MITRE, and Draper Lab.

Degree Requirements

The PhD in Cybersecurity degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need four to five years to complete the program, and they will be awarded a master's degree en route to the PhD.

Doctoral Degree Candidacy

A student is considered a PhD degree candidate after completing the core courses with at least a 3.500 GPA, with no grades lower than a B in the core courses, and either publishing a paper in a strong conference or journal or passing an oral exam that is conducted by a committee of three cybersecurity faculty members and based on paper(s) written by the student.

RESIDENCY

One year of continuous full-time study is required after admission to the PhD candidacy. During this period, the student will be expected to make substantial progress in preparing for the comprehensive examination.

TEACHING REQUIREMENT

All cybersecurity PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment or quiz or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
The doctoral dissertation advising team for each student consists of two cybersecurity faculty members, one in a technical area. When appropriate, the second faculty advisor will be from the policy/social science area.

DISSERTATION COMMITTEE
With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD cybersecurity curriculum committee. The four members must include the advisor, two internal members, and an external member.

COMPREHENSIVE EXAMINATION
A PhD student must submit a written dissertation proposal and present it to the dissertation committee. The proposal should identify the research problem, the research plan, and the potential impact of the research on the field. The presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee after the public presentation.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in cybersecurity.

AWARDING OF MASTER'S DEGREES
Students who enter the PhD in Cybersecurity program with a bachelor's degree have the option of obtaining a master's degree from one of the departments participating in the program. To do so, they must meet all of the department's degree requirements.

Program Requirements
Bachelor's Degree Entrance
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each core course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	
EECE 7390	Computer Hardware Security	
Machine Learning		
CS 6140	Machine Learning	
CS 7150	Deep Learning	
CY 6720	Machine Learning in Cybersecurity and Privacy	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	

EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Degree Requirements

Incoming PhD in cybersecurity students who have already completed a Master of Science in an adjacent field may petition to the graduate program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that

advanced entry does not waive by itself any part of the PhD coursework requirements. As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Doctoral Degree Candidacy

Refer to the PhD Cybersecurity overview (p. 302) for admission to candidacy requirements.

Residency

Refer to the PhD Cybersecurity overview (p. 302) for residency requirements.

Teaching Requirement

Refer to the PhD Cybersecurity overview (p. 302) for teaching requirements.

Dissertation Advising

Refer to the PhD Cybersecurity overview (p. 302) for dissertation advising requirements.

Dissertation Committee

Refer to the PhD Cybersecurity overview (p. 302) for dissertation committee requirements.

Comprehensive Examination

Refer to the PhD Cybersecurity overview (p. 302) for comprehensive examination requirements.

Dissertation Defense

Refer to the PhD Cybersecurity overview (p. 302) for dissertation defense and completion requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirement

Students are required to take all core courses unless otherwise determined by the program. Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each core course.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Students are required to take all courses unless otherwise determined by the program.

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	

EECE 7390	Computer Hardware Security
Machine Learning	
CS 6140	Machine Learning
CS 7150	Deep Learning
CY 6720	Machine Learning in Cybersecurity and Privacy
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

Minimum 16 semester hours required
Minimum 3.000 GPA required

Interdisciplinary Engineering, PhD

130 Snell Engineering Center
617.373.2711

The College of Engineering offers an interdisciplinary engineering Doctor of Philosophy degree involving substantial work in two or more academic departments or disciplines. This is an individually designed program for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. In such cases, that student may design, in consultation with their faculty advisor(s), an interdisciplinary program. The program will correspond in scope and depth to Northeastern University's established degree standards but need not agree exactly with the regulations of individual units. Individually designed interdisciplinary degree programs must be approved by the appropriate graduate office(s).

The interdisciplinary engineering program admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements as well as all the required coursework.

Program Requirements

In order to pursue an individually designed interdisciplinary engineering graduate program, a student must have been accepted into an approved graduate program that will serve as the administrative home unit for the interdisciplinary engineering program:

- Department of Bioengineering (p. 348)
- Department of Chemical Engineering (p. 364)
- Department of Civil and Environmental Engineering (p. 380)
- Department of Electrical and Computer Engineering (p. 409)
- Department of Mechanical and Industrial Engineering (p. 473)

Students who have been dismissed from any of the COE departments will not be able to enroll into the interdisciplinary engineering PhD program with the department from which they were dismissed as either home or participating department. Successful application for admission to an individually designed interdisciplinary program consists of a written proposal describing the areas of proposed study and research. Part of this proposal will be a list of courses to be taken, a description of the qualifying and comprehensive examination process to be used, a timeline, and any other requirements of the program.

The interdisciplinary engineering PhD requires the commitment by a faculty member at Northeastern to be the advisor of the student and chair of the interdisciplinary committee for the student. This faculty member may or may not be a member of the administrative home unit. The committee must be assembled within the first semester of the program and must include faculty members from all of the participating units. At least two units must be represented on the committee. This committee will be responsible for overseeing the completion of the degree requirements. It will also be responsible for the administrative elements of the program, such as the monitoring of satisfactory progress; the design and grading of the preliminary and comprehensive exams, if applicable; graduation clearance; etc. This interdisciplinary committee is also responsible for an annual review of the progress of the student and for reporting this progress to the administrative home unit on an annual basis.

Qualifying Examination and Degree Candidacy

Interdisciplinary engineering PhD students must register for and pass the doctoral qualifying examination of their home department. In some cases, if deemed necessary by the interdisciplinary committee, students may be required to take some part of the doctoral qualifying examinations of the other department(s) involved with the student's program of study. To qualify as an interdisciplinary engineering doctoral candidate, students must successfully complete the doctoral qualifying examinations in addition to all their required coursework.

Dissertation

Students must present their dissertation proposal no more than 12 months after successfully completing their doctoral qualifying examinations. In addition, the presentation of the dissertation proposal and the actual dissertation defense shall be no less than six months apart. Interdisciplinary engineering PhD students must follow the dissertation guidelines of their home department.

Residency Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residency. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Direct Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 48 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		48

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	
or CHME 9991	Dissertation Term 2	
or CIVE 9991	Dissertation Term 2	
or EECE 9991	Dissertation Term 2	
or IE 9991	Dissertation Term 2	
or ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 20 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		20

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

or CHME 9991	Dissertation Term 2
or CIVE 9991	Dissertation Term 2
or EECE 9991	Dissertation Term 2
or IE 9991	Dissertation Term 2
or ME 9991	Dissertation Term 2

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Product Development, MS

Product development is in demand across many technology industries and is widely thought to be the engine of innovation. The Sherman Center for Entrepreneurial Engineering Education is uniquely positioned to offer students a combination of product process and technical skills. The mission of the center is to enable interdisciplinary student entrepreneurship in the broadest sense by providing education about tools, concepts, and resources to foster creativity and the ability to develop commercially viable ideas.

Products ranging from smart devices, to the Internet of Things, to software as a service all require people with product development skills. These positions guide product innovation and lead in crafting products for users. A look at any careers page for any technology firm currently hiring shows many positions open for individuals that have a mix of technical and product development knowledge.

The Master of Science in Product Development program contains a core of courses that span the product development cycle and then allows students to customize the rest of their degree to fit their chosen industry or path. The core courses cover topics such as customer acquisition, technical market analysis, product life cycle, intellectual property, prototyping, iterative development, product design, user testing, and manufacturing.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
GE 5010	Customer-Driven Technical Innovation for Engineers	4
GE 5020	Engineering Product Design Methodology	4
GE 5030	Iterative Product Prototyping for Engineers	4
GE 5100	Product Development for Engineers	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 565)		16

PROJECT OPTION

Code	Title	Hours
GE 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 565)		12

THESIS OPTION

Code	Title	Hours
GE 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 565)		8

COURSE LIST

Code	Title	Hours
College of Engineering		
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5810	Design of Biomedical Instrumentation	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6205	Concepts of Object-Oriented Design with C++	
CSYE 7280	User Experience Design and Testing	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5580	Classical Control Systems	
EECE 5639	Computer Vision	
EECE 5666	Digital Signal Processing	
IE 5617	Lean Concepts and Applications	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6200	Engineering Probability and Statistics	

IE 6500	Human Performance
IE 7200	Supply Chain Engineering
IE 7270	Intelligent Manufacturing
INFO 6660	Business Ethics and Intellectual Property for Engineers
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 5650	Advanced Mechanics of Materials
ME 5659	Control Systems Engineering
TELE 6510	Fundamentals of the Internet of Things
TELE 6530	Connected Devices
D'Amore McKim School of Business	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6250	Lean Design and Development
INNO 6200	Enterprise Growth and Innovation
INNO 6230	Platform Innovation
MKTG 6200	Creating and Sustaining Customer Markets
College of Arts, Media and Design	
ARTG 5120	Research Methods for Design
ARTG 5310	Visual Cognition
ARTG 5610	Design Systems
ARTG 5640	Prototyping for Experience Design
ARTG 6310	Design for Behavior and Experience
GSND 5110	Game Design and Analysis
GSND 5122	Business Models in the Game Industry
GSND 5130	Mixed Research Methods for Games
GSND 6320	Psychology of Play
GSND 6340	Biometrics for Design
Bouvé College of Health Sciences	
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Graduate Certificate Programs

The College of Engineering offers numerous graduate engineering certificates for professionals at every career stage. These certificates may be completed as stand-alone credentials or in combination with a graduate degree. They typically consist of 16 to 20 semester hours and allow the learner to quickly gain a credential to advance their skills and knowledge, meet an emerging career market need, or add to their professional preparation. In many cases, graduate coursework completed as part of a certificate program may be applied toward a graduate degree in the College of Engineering. Whether you are a working professional seeking new career opportunities, or a full-time graduate student looking to enhance your credentials, our broad and continuously expanding range of certificates are ready to help move your preparation forward.

Programs

The College of Engineering offers numerous graduate certificates that may be completed alone or in combination with an MS degree. Please see for Certificate Policies and Procedures (https://coe.northeastern.edu/wp-content/uploads/pdfs/coe/gse/policies/CertPolicy.pdf) for detailed information regarding College of Engineering graduate certificates.

Chemical Engineering

- Process Safety Engineering (p. 379)

Civil and Environmental Engineering

- Climate and Engineering (p. 407)
- Sustainability Engineering (p. 408)

Mechanical and Industrial Engineering

- Data Analytics Engineering (p. 526)
- Energy Systems (p. 527)
- Energy Systems Management (p. 528)
- Renewable Energy (p. 534)
- Sustainable Energy Systems (p. 535)

Engineering Business

- Engineering Business (p. 529)

Engineering Management

- Engineering Economic Decision Making (p. 531)
- Engineering Management (p. 532)
- Lean Six Sigma (p. 533)
- Supply Chain Engineering Management (p. 536)
- Technology Systems Management (p. 537)

Gordon Institute of Engineering Leadership

- Engineering Leadership (p. 551)

Multidisciplinary

- Blockchain and Smart Contract Engineering (p. 549)
- Software Engineering Systems (p. 554)

Telecommunication Networks

- Broadband Wireless Systems (p. 550)
- IP Telephony Systems (p. 553)

Bouvé College of Health Sciences

Website (https://bouve.northeastern.edu/)

Carmen C. Sceppa, MD, PhD, FGSA, Dean

Jennifer Kirwin, PharmD, BCPS, FNAP, Associate Dean for Academic Affairs
Clinical Professor—Department of Pharmacy and Health Systems Sciences, School of Pharmacy

215 Behrakis Health Sciences Center
617.373.3323
Bouve_College_of_Health_Sciences@northeastern.edu

The Bouvé College of Health Sciences strongly supports the mission of Northeastern University as a practice-oriented, student-centered, experiential research institution. The college is committed to the goals of the university, which include excellence in education, research, scholarship, clinical practice, experiential learning, access to educational opportunities, and a strong professional orientation.

Bouvé offers students an education in health, health profession fields, and public health that features a curriculum of highly relevant, closely integrated, basic and applied courses in the physical, biological, behavioral, social, environmental, and health systems sciences. Students engage in interprofessional patient care, interdisciplinary translational research, and experiential learning opportunities through service-learning, research, and global experiences.

Bouvé leverages interdisciplinary and interprofessional collaboration to tackle the world's most pressing health challenges. The college seeks to prepare students to become clinicians, researchers, and leaders in healthcare and in the promotion of health of individuals and populations.

Students are provided a broad range of services and programs to ensure their academic success and professional development. Faculty are deeply committed to student success, as students interact with world-class healthcare and educational institutions nationally and globally, to advance health for all.

Academic Policies and Procedures

I. General Information and Overview

- Academic and Professional Conduct
- Scientific or Research Misconduct
- Accommodations for Students with Disabilities

II. Experiential Education

- Background Checks
- Health Requirements (p. 571)
- Liability Insurance
- Experiential PhD Opportunities (https://phd.northeastern.edu/experientialphd/)
- Requirements for Clinical, Internships, and Practicum Courses

III. Financial Awards

- Financial Awards
- PhD Funding

IV. Advising

- Academic Advising and Student Advisement Responsibilities

V. Courses and Grades

- Grading Policies (see Academic Progression)
- Course Substitution
- Transfer of Credit

VI. Program Status and Progression

- Academic Affairs Appeals Process
- Academic Dismissal
- Academic Probation Policy
- Academic Progression
- Academic Standing (p. 584)
- Graduation Policies
- Leave of Absence (see Academic Progression)
- Program Extension Procedures (p. 583) (see Academic Progression)
- Conditional Acceptances (see Academic Progression)
- Withdrawal Procedures (p. 583) (see Academic Progression)

VII. Current Student Resources

- BCHS Student Forms
- BCHS Student Handbooks (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Handbooks.aspx)

Background Checks

Clinical education sites require background checks and/or drug screenings for employees, as well as for students who come to their facilities. All Northeastern University students will need to have background checks/drug screenings completed if their assigned clinical placement requires it. The college contracts with third-party vendors (such as Universal Background Screening, American DataBank, etc.) to perform these checks and screenings. These companies charge fees to conduct background checks/screenings, depending on the type of background check/screening needed. Students are responsible for any fees charged by companies conducting background checks/screenings.

All background check information is confidential. Results are posted to the company website in a secure, protected environment. A student may view their results online using a password. A student will be contacted by their program director, chair, or assistant dean if there is a question about the results. Neither a student nor the company is required to reveal the actual results of the background check to the clinical site. However, a student may be unable to be placed at that clinical site based on the site's requirements.

If an assigned clinical site requires a student to have a background check/screening, the on-campus clinical coordinator/clinical placement office will post the requirements and provide instructions and a deadline for completing the check. To ensure adequate processing time prior to the start of the clinical experience, it is crucial that the check be completed in advance of the deadline given. Failure to complete the check in a timely manner could jeopardize progression in the academic program.

These policies and/or procedures apply to Bouvé's undergraduate and graduate students.

Health Requirements

Students must comply with any university-wide health requirements (https://catalog.northeastern.edu/undergraduate/information-entering-students/health-requirements-uhcs/).

As a condition of matriculation at Northeastern University, all students are required to submit the completed University Health Report form. Consult the UHCS website (https://www.northeastern.edu/uhcs/forms/university-health-report/) for instructions and deadlines to submit the University Health Report form. UHCS may block the registration of those students who do not file the required form(s).

Clinical Clearance

Based on clinical education site requirements and associated clinical affiliation agreements, some programs in the Bouvé College of Health Sciences will require additional medical documentation and health certification. Additional requirements may include, but are not limited to, exam or statement of good health prior to registration, annual proof of physical examination, and/or proof of additional immunities. This "clinical clearance" may be required by some programs prior to engaging in clinical, internship, or fieldwork. Students should review the UHCS website (https://www.northeastern.edu/uhcs/forms/clinical-clearance/) for general information about clinical clearance as well as consult their major/program handbook and/or consult their program's director or clinical placement coordinator for more information.

These policies and/or procedures apply to Bouvé's undergraduate and graduate students.

Liability Insurance

Students on clinicals, clinical practicum, or clinical internships, under a clinical agreement with the university, are covered by Northeastern University's liability insurance program for claims arising out of the student performing assigned duties in the scope of their studies. Students should consult their clinical placement office, program director, and program policies for more information about liability insurance. If students have questions about their placement and the insurance provided, they may contact Risk Services (http://www.northeastern.edu/risk_services/).

Requirements for Clinical, Internships, and Practicum Courses

- Some Bouvé programs require courses with clinical, internship, or fieldwork components. Such components are offered at affiliated hospitals, clinics, schools, medical facilities, or other institutions and involve contractual agreements with these institutions or sites.
- Some Bouvé programs have cooperative education requirements. Students secure co-ops through a job search process and are employees of an institution while on co-op. Co-op students are subject to the policies, procedures, and requirements of their employers.
- The university is affiliated with numerous clinical sites across the country and around the world. Depending on the program, students may be required to travel outside of Massachusetts to complete clinical courses. Students are responsible for any costs associated with transportation and/or housing.
- Evaluation for clinical courses will be based on established guidelines and policies that students will receive prior to and/or during the clinical component. Periodic performance evaluations will take place during the course of the academic term. See specific program clinical policies and procedures, handbooks, or course syllabi for details.
- In order to enroll students in university-sponsored accidental injury insurance, elements of students' demographic information (including date of birth, address, and phone number) will be communicated via a university-contracted third-party clinical database to Risk Services and to the company providing the coverage. In addition, programs may use elements of a student's demographic information in the process of site onboarding. Students may refer to the university privacy policy (https://www.northeastern.edu/privacy-information/) and contact their program director or clinical placement office for more details.

Student Conduct

- Students assigned to an institution or site for instruction are expected to adhere to the rules and regulations of that institution. Failure to adhere to these rules may result in dismissal from that institution or site.
- Students should be aware that, while participating in any form of clinical practice, they continue to be under the jurisdiction of the university. Any breaches of conduct committed by a student in a clinical setting that would be a violation of the university Code of Student Conduct (http://www.northeastern.edu/osccr/code-of-student-conduct/) or relevant unit-specific Professional Code of Conduct shall also be considered a cause for disciplinary action against the student.
- All students are required by federal and state law to respect the confidentiality of the patients' and/or students' records under the Health Insurance Portability and Accountability Act and/or Family Educational Rights and Privacy Act, respectively, to which they may be privy. This includes, but is not limited to, patient/student identity and identifiers, diagnostic tests performed, medical history, special needs, and medications prescribed. For more information, students should contact their on-campus clinical education coordinator and/or clinical education site coordinator.

Health Clearance, Background Check, and Training Requirements

- Evidence of health clearance is required for experiential courses (including clinicals, internships, and practicums) in their field of study. All students, regardless of age, must have a current physical exam, tuberculin test, and documentation of immunity on file at University Health and Counseling Services (https://www.northeastern.edu/uhcs/) and provide such documentation to their on-campus clinical coordinator/clinical placement office as requested.
- Students must meet the health clearance requirements of their academic program and any site-specific requirements prior to entering the clinical setting. This means that students must make arrangements for their physical exams and immunizations months before they are scheduled for a clinical course or rotation. Students who do not present the appropriate health certification will be prohibited from attending a clinical course or rotation until satisfactory evidence is provided. Students who do not meet site-specific requirements may not be able to pass a clinical course and risk their ability to complete the degree program.
- Some programs use clinical clearance software packages (such as Exxat, Complio, or CastleBranch) to ensure compliance with health clearance requirements. In these cases, students are responsible for software account fees. Fees will be paid by the student directly to the software company.
- More specific guidelines are available from UHCS in 135 Forsyth, online at UHCS (https://www.northeastern.edu/uhcs/forms/clinical-clearance/), or from the individual program's clinical placement office. Guidelines are updated periodically, and students must meet the most current guidelines or they will not be allowed into a clinical area.
- School of Nursing students must provide evidence of health documentation utilizing an immunization tracker in order to ensure that documents are updated on a yearly basis. All fees required for the immunization tracking will be paid by the student directly to the tracking service.
- In preparation for clinical education experiences, all students will complete on-site training in universal precautions and safe practices offered by the Office of Academic and Research Safety (https://oars.northeastern.edu/) or training vetted and approved by the Office of Environmental Health and Safety and offered by their program. Students must also complete an annual online refresher course in blood-borne pathogens exposure.
- Students may be required to complete background checks/drug screening prior to engaging in clinical, internship, or fieldwork courses as outlined in this catalog (p. 570).

POLICIES FOR INTERNATIONAL STUDENTS

- Students in F-1 visa status must consult with the university's Office of Global Services (https://international.northeastern.edu/ogs/) before enrolling in clinical, internship, practicum, off-campus directed study, or capstone courses in order to discuss proper documentation for these

curriculum requirements (see also F-1 Curricular Practical Training (https://international.northeastern.edu/ogs/employment/curricular-practical-training-cpt-f1/)).

- Graduate international nursing students must have a current U.S. nursing license.

Academic, Professional, or Research Misconduct

The healthcare professions represented by the programs in Bouvé College require more of their members than simple mastery of technical knowledge and skills. Equally important is the ability to earn the respect and confidence of those who seek medical care. The nearly universal existence of codes of conduct and standards of professional ethics and behavior in these disciplines is evidence that certain types of conduct are expected in order to promote this respect and confidence. Fundamental to most of these codes is an understanding that healthcare professions require individuals who conduct their activities in a manner that reflects a total concern for the well-being of the patient. Violations of ethical conduct may be grounds for dismissal from the program. Students are expected to learn and practice the conduct that is appropriate to their professions and promotes the physical and mental well-being of the patient.

Bouvé students are expected to adhere to the highest academic and professional standards. The university Code of Student Conduct (http://www.northeastern.edu/osccr/code-of-student-conduct/) sets forth the university's expectations of behavior that promotes the safety and welfare of the Northeastern University community. The university Code of Student Conduct defines various aspects of academic misconduct, such as cheating and plagiarism. Lack of knowledge of these definitions does not negate the student's responsibility for upholding them. Academic misconduct is regarded as a serious violation of ethical standards and may result in the student's immediate dismissal from the program.

Failure to meet these standards, including misconduct in academic, professional, or research activities, will result in disciplinary action. Such actions may include a lowered or failing grade in the course, probation, suspension, or immediate dismissal from the program. **Students found responsible for academic, professional, or research misconduct will have a letter placed in their permanent file stating the pertinent findings of their case.** No student may withdraw from a course in which they have been notified that they will fail for a specific finding of academic dishonesty.

In addition to maintaining complete honesty in all academic work, students admitted to clinical or professional programs in the Bouvé College of Health Sciences are expected to familiarize themselves with the code of ethical conduct of the professional discipline they are entering and to agree to uphold these principles.

Similarly, students who participate in research programs are expected to familiarize themselves with the code of ethics in research. Such a code is outlined in Guidelines for the Conduct of *(*https://oir.nih.gov/sourcebook/ethical-conduct/research-ethics/nih-guidelines/*)Research.* Ethical codes of conduct for researchers are also presented in the National Academy of Sciences' (https://www.nap.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in/) On Being a Scientist, A Guide to Responsible Conduct in Research *(*https://www.nap.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in/*).* Violations of research ethics can include, but are not limited to, falsification or fabrication of data, plagiarism, malicious allegations of misconduct in science, covering up or failing to report misconduct, obstructing due process in investigations of misconduct, and reprisals against those revealing misconduct.

See also the *Scientific or Research Misconduct* section of the Academic Appeals Policies and Procedures (p. 70) page in this catalog.

These policies and/or procedures apply to Bouvé's undergraduate and graduate students, unless specifically indicated otherwise in this section of the catalog.

Financial Awards

Northeastern University and the Bouvé College of Health Sciences offer a variety of financial awards to graduate students. For further information about awards, please refer to the Financial Aid Assistance (p. 36) section of this catalog and the Student Financial Services (https://studentfinance.northeastern.edu/applying-for-aid/graduate/) website.

If a student is offered other grant aid from the university, they will only receive the scholarship of higher value.

Advising

The unit director or another faculty member will be appointed by the program director to serve as the student's academic advisor throughout their course of study at the Bouvé graduate school.

The advisor will assist the student in understanding program requirements and in defining career goals and objectives of graduate work. The advisor will also monitor the student's progress toward successful completion of the degree.

Student Advisement Responsibilities

Students share responsibility with their advisor for successful matriculation and progression in their graduate program. In many programs, students are required to make appointments for academic advisement at least twice a year and must regularly update their curriculum plan with their advisor. The curriculum plan is kept on file in the respective program's office. Both student and advisor retain a copy of the curriculum plan. Students must contact their academic advisor prior to making changes to their curriculum plan and must seek assistance regarding academic issues in a timely manner.

Course Substitution

A student must obtain approval from the student's academic advisor and the Bouvé Office of Student Services to substitute a graduate course completed for a prior degree for the student's program requirement. The student must provide official transcripts of completed coursework, accompanied by the respective course syllabi, to the advisor in order to verify its equivalency to the proposed course substitution. The student then must submit the signed Course Substitution (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form and the official transcript to the Bouvé Office of Student Services. If the Course Substitution (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form is approved, the student must still complete a course of equivalent number of credits as a replacement for the substituted course to fulfill the program's academic requirements. The course must be listed in this catalog as either a core or elective course for the program.

Transfer of Credit

For general regulations concerning transfer credit in Northeastern's graduate degree programs, please visit Regulations and Requirements for All Degree Programs (p. 91).

Students who wish to take a course for transfer at another institution while enrolled at Bouvé should first receive preapproval from their academic advisor and the Bouvé Office of Student Services. The Graduate Petition to Transfer Credit form can be found at the Office of the University Registrar (https://registrar.northeastern.edu/article/transfer-credit/).

A Bouvé student may not complete coursework at another institution during the last term of the student's program intending to transfer back to Northeastern to complete the student's program.

Academic Affairs Appeals Process

Purpose of the Bouvé College Academic Affairs Committee

- The college Academic Affairs Committee acts on matters relating to the academic and professional standing of all Bouvé students in the college who have already appeared before the unit's Academic Standing Committee and school dean, department chair, or designee.
- Issues pertaining to academic and co-op status and professional behaviors violations, including but not limited to warning, probation, permission to resume studies, changes in requirements, and repeating courses, fall within the jurisdiction of the AAC. The AAC also considers student appeals relative to academic or cooperative education judgments by faculty, coordinators, or others acting on behalf of the university, when such appeals arise from a violation, misinterpretation, or inequitable application of the academic provisions outlined in the University Catalog, Cooperative Education Handbook, or student handbooks.
- Appeals arising from allegations of discrimination or harassment on the basis of a protected category should be referred to the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/). The Disability Resource Center (http://www.northeastern.edu/drc/) provides an appeal process for students with disabilities who believe their accommodation requests were unduly denied. If other allegations remain at the conclusion of those inquiries, then the student may refer them to the dean for review by the AAC of the college.

Graduate Student Academic Appeals Procedures

The university policy on graduate student appeals of academic standing or other academic decisions may be found in the graduate sections of this catalog. Academic, professional, scientific, and research misconduct is addressed in the Academic Appeals Policies and Procedures (p. 70) page as well as on the Requirements for Clinical, Internships, and Practicum Courses page in this catalog.

LEVELS OF THE APPEAL PROCESS

Please see the Academic Appeals Policies and Pro (http://catalog.northeastern.edu/graduate/academic-policies-procedures/appeals/)cedures (http://catalog.northeastern.edu/graduate/academic-policies-procedures/appeals/) page in the graduate catalog for the process steps involved in graduate student appeals.

Step 1:
Discuss concerns with instructor and/or administrator.

Step 2:
If the concern remains unresolved after discussions in step 1, prepare and submit an appeal statement. Students are encouraged to contact their academic advisor for guidance.

Step 3A: BCHS Unit-Level Appeal

The first step in an appeal in the Bouvé College of Health Sciences is to the unit-level Academic Standing Committee of the unit offering the course. Such appeals should be submitted within 28 calendar days of the day when the student learns of the academic determination. The unit's ASC must provide the student and involved faculty member with a written report of the finding(s) and decision within 10 business days.

Step 3B: Department Chair- or School Dean-Level Appeal
If the student believes they have been erroneously, capriciously, or otherwise unfairly treated with the unit-level committee's decision, they may pursue a secondary appeal to the next level as specified below:

School of Clinical and Rehabilitation Sciences: department chair of the unit offering the course or program

School of Community Health and Behavioral Sciences: department chair of the unit offering the course or program

School of Nursing: school dean

School of Pharmacy: school dean

The student must request the appeal by contacting the specified office in writing via email within 10 business days of receiving the report from the previous step. After consideration, the department chair or school dean, or their representative, shall provide the student and involved faculty member with a written report of their finding(s) and decision within 10 business days of receiving the appeal request.

Step 3C: College-Level Appeal
If the student is not satisfied with the disposition of the matter at the previous step, they may proceed with the appeal through the BCHS AAC. The BCHS AAC hears cases that have been unsatisfactorily resolved at the prior school and unit levels for "students who believe that they have been erroneously, capriciously, or otherwise unfairly treated" or may directly hear appeals concerning final course grades or when a unit does not have a unit-level committee.

The student must request an appeal hearing in writing (via email) within 10 business days of receiving the report from the previous step. After consideration, the college dean or their representative shall provide the student and involved faculty member with a written report of their finding(s) and decision within 10 business days of receiving the appeal request.

Processes for College-Level Appeals to the BCHS AAC

- Students wishing to bring an appeal before the college AAC should first consult with their appointed academic advisor, or when the appeal involves the academic advisor, with the assistant dean of student services.
- The chair of the college AAC will convene the college appeals panel from among the regular members of the BCHS AAC. The appeals panel will include three voting members of the BCHS AAC that appropriately represent the breadth and depth of programs within the college. At minimum, two schools will be represented on the panel and at least one member who teaches within a similar degree-level program. Members of the panel shall have no known conflicts of interest with the student. The assistant dean of student services and the chair of the AAC will attend the appeal panel hearing as nonvoting members.
- The chair for the appeal panel shall be selected from among the panel members and is responsible for producing a formal recommendation of the committee for communication to the college dean.
- The chair of the AAC will be responsible for scheduling the meeting, notifying the student and other participants in a timely manner so they may attend, and keeping and archiving records of the proceedings according to committee procedures.
- The chair of the appeal panel will notify the college dean of the findings and recommended decision. The college dean will have the final decision.
- The college dean will notify the student and other relevant parties of the decision in writing no later than 10 business days after the decision.

Step 4: University Level

If the student is not satisfied with the college's disposition of the matter or if the appeal is not resolved within the timeline outlined in the Academic Appeals Policies and Procedures, the student may appeal to the university level, as outlined in this catalog.

Academic Dismissal

A student may be dismissed from a graduate program when they have failed to maintain academic requirements or have violated a policy that specifies immediate dismissal. All students shall have an opportunity to correct academic deficiencies during an appropriate probationary period before dismissal is instituted, except when the policy specifies "immediate dismissal."

Students may be subject to dismissal from a program under the following conditions. *(Note:* Additional requirements that are not included in this list, but are specific to the student's major, may also apply.)

- The student exhibits unethical behavior or misconduct in their academic program, practicum, internship, or research.
- The faculty instructor and/or the clinical supervisor determines that the student has demonstrated unsafe or inappropriate behavior in a clinical setting.
- The student does not register for at least one class for two consecutive semesters and does not have an approved leave of absence.
- The student has a cumulative grade-point average below 3.000 at the end of the probationary period specified by the action plan.
- The student does not demonstrate satisfactory performance in achieving the objectives of a clinical course.
- The student fails to meet all the requirements of the program within the specified time limit mandated by the program and has not been approved for a formal extension.
- The student in a PhD program fails to successfully complete the PhD qualifying/comprehensive exams as stipulated by the program.
- The student fails to progress satisfactorily in research or fails to identify a committee for their thesis or dissertation within the time specified by the policies of the specific program.
- The student has failed to file an action plan within one month of notification of probation.
- The student has failed to meet the requirements of the action plan, including requirements that are specific to the student's major.
- The student has failed three courses or has failed the same course twice.

Dismissal Procedures

Dismissal of a student from a program is initiated by the program director once the basis for the dismissal is provided to and reviewed by the Bouvé Office of Student Services. The program director will then notify the student of the dismissal. Students may then appeal the dismissal via the Bouvé College Academic Affairs Appeals Process (p. 579). *Note:* Students dismissed from their major/program but who are otherwise in good standing with the university are allowed to remain at Northeastern University for up to two semesters as a provisional Bouvé student, by the end of which, the student is expected to move into a new major. If not moved into a new major by the end of two semesters, the student will be blocked from further registration.

When a student is dismissed from the university, they are not permitted to remain registered for courses in the immediate next academic term. If the university dismissal is successfully appealed, a student may register for classes in the following academic term.

Academic Probation Policy

Academic probation is a period of time when a student must address and remediate academic deficiencies.

A Bouvé graduate student may repeat a course only once to achieve a passing grade and may repeat only two courses during the entire program of study. A student may be on probation for only two semesters, or until the course is offered again, unless the advisor approves an action plan that specifies a longer (but definite) period. A student may only be placed on probation twice during enrollment in Bouvé and must correct all deficiencies, as specified, in each respective action plan during the applicable probationary period. Failure to remediate the deficiency within the agreed time may result in dismissal from the program. During the period of probation, the student must earn a GPA of 3.000 or better each semester, or the student is subject to dismissal from Bouvé. Note that individual graduate programs may have additional requirements that must be included in the probation action plan.

A student will be removed from academic probation after the student has attained a cumulative GPA of 3.000, earned a passing grade in a repeated course, and/or demonstrated satisfactory performance in a clinical course.

Academic Probation Procedure

Academic standing is determined at the conclusion of every term and students on academic probation are notified via email. Students on probation are required to meet with their advisor before the end of week two of their probationary semester to complete an Academic Probation Contract (https://bouve.northeastern.edu/student-services/webforms/). Once the contract is completed and signed, students are required to submit it to both their program and their Student Services designee, no later than the end of week three of the probationary term. Failure to submit an Academic Probation Contract in a timely manner may result in dismissal from the college.

The program will review the student's contract and provide any additional feedback or recommendations for the student and return a signed copy to the student. Advisors or a Student Services representative will meet with students on academic probation throughout the semester to benchmark progress and assess compliance with the contract during weeks four, 10, and 12.

A review of the student's progress will occur at the end of the term.

- If a student returns to good standing, they will no longer be on academic probation.
- If a student does not return to good academic standing, their compliance with their contract will be reviewed:

    1. If a student was compliant with the contract, they will be required to submit a second Academic Probation Contract to the unit.
    2. If a student did not comply with the contract, they may be dismissed from Bouvé with an option to appeal.

Academic Progression

Program Status and Progression

All degree requirements must be completed within seven years of matriculation, although individual academic programs may require completion in a shorter time frame. Each student is responsible for reviewing the requirements for the student's particular program. A student's failure or inability to register does not extend the amount of time allowed to complete the program. Students should be registered by the first week of each semester (fall, spring, and, where indicated, summer). Course credits earned in programs of graduate study are valid for a maximum of seven years. A student may request an extension of these time frames from the program director and the Bouvé associate dean for academic affairs.

After reaching candidacy, students must register for Dissertation for a minimum of two semesters. Continuation status enrollment is for students who are postcandidacy, have completed all coursework and their residency requirement, and are actively engaged in completing a dissertation.

In order to progress in clinical courses that are sequenced, a student must receive a passing grade in all prior courses in the sequence. In the event that a student fails a clinical course that is not part of a sequence, progression is at the discretion of the student's academic advisor and/or the program director. When a student fails a clinical course that is part of a sequence of courses, the course instructor must notify the Bouvé Office of Student Services. Course material related to the student's failure (e.g., examination reports, clinical reports) must be made available to the student for review.

ANNUAL REVIEW FOR PHD STUDENTS

The academic progress of each PhD student will be evaluated through an annual review. A copy of each review shall be submitted to the student and the Graduate Office. If the annual academic review reports that a student is not making sufficient academic progress due to research performance, the PhD student will be placed on academic probation. After two consecutive semesters on academic probation, the student may be dismissed from the program.

CONDITIONAL ACCEPTANCES

A student who is accepted *conditionally* to a graduate program at Bouvé College of Health Sciences must meet the conditions set in the acceptance letter *before* the student matriculates into the program and prove that they have fulfilled the stated condition(s). Examples of conditions include receipt of official verification of previous degree completion, completion of missing prerequisite courses, receipt of a missing recommendation, receipt of standardized test scores, and translation of international documents.

Students who fail to meet the conditions of their acceptance may be subject to dismissal from the program.

PROGRAM EXTENSION PROCEDURES

Students may seek an extension to complete their program of study only under documented extenuating circumstances. The student must complete the Graduate Program Status Change (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form and an action plan to complete the degree requirements. The form and the proposed action plan must be submitted to the program director and to the Bouvé Office of Student Services for approval. After the form is reviewed, a program extension may be granted.

LEAVE OF ABSENCE

Students planning on taking a leave of absence should first meet with their academic advisor to discuss their intention to submit a request for a leave of absence one month prior to the start of the semester during which they plan to take the leave. After meeting with their academic advisor, the student should then submit the leave of absence petition through the Student Hub. Students returning from a leave of absence should notify the Bouvé Office of Student Services of their intent to return at least one month prior to the start of the semester. Students with an approved leave of absence who do not return at the end of the leave of absence period will be withdrawn by the university. Please refer to the Leaves of Absence and University Withdrawal (p. 57) in this catalog for more information and policies on leaves of absence. Individual programs may have additional procedures related to leaves of absence. Consult the program's overview and requirements page in this catalog in addition to the information above.

WITHDRAWAL PROCEDURES

Students can withdraw from the university only through the Student Hub. *Students are responsible for dropping any courses in which they are currently registered and should have an exit interview with their financial aid advisor.* Faculty members are not responsible to notify the university of a student's withdrawal. For more information on withdrawal procedures, please refer to the Graduate Academic Policies and Procedures (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/) page. For information concerning refund policies, please refer to the Student Financial Services website (http://www.northeastern.edu/financialaid/policies/).

GRADING POLICIES

Requirements for fulfillment of a degree in the Bouvé College of Health Sciences graduate school vary by program. Students must consult their individual academic program's requirements page in this catalog, as well as program directors *(if applicable),* for specific credit and noncredit requirements necessary to earn a specific degree. See also Graduate Academic Policies and Procedures (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/) for more information.

Academic Standing

Academic standing in Bouvé is determined by the student's cumulative grade-point average and performance in academic and clinical courses that are required by the student's program. All Bouvé students are expected to maintain a cumulative GPA of 3.000 each semester to remain in good academic standing and to progress toward graduation. Students who do not maintain a cumulative GPA of 3.000 each semester will be placed on academic probation (p. 582).

Each program has its own minimum grade requirements. Please review the program's requirements page in this catalog for details.

Academic Standing Petitions

Students must submit petitions to their program's academic standing committee, graduate committee, or program director (as applicable) to request:

- A leave of absence (https://registrar.northeastern.edu/article/leaves-of-absence/)
- A waiver of policy
- A change in probationary status (see webform here (https://bouve.northeastern.edu/student-services/webforms/))
- A change in program (see Graduate Program Status Change form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx))
- A change of status in program (e.g., full-time to part-time or vice versa; see Graduate Program Status Change form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx))
- A different course of action regarding their academic standing, progression, probation, or dismissal (see webform here (https://bouve.northeastern.edu/student-services/webforms/))
- An extension of degree completion time (see Graduate Program Status Change form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx))
- A transfer or waiver of credits or preapproval for course to be taken for transfer (see Graduate Petition to Transfer Credit (https://registrar.northeastern.edu/article/transfer-credit/))
- Directed study (see Individual Instruction Registration (https://registrar.northeastern.edu/article/individual-instruction-registration/))

The petition must include all relevant information. Students may be required to provide extra documentation such as official transcripts and/or course descriptions. A copy of this action is filed in the student's permanent record in the Bouvé College of Health Sciences Office of Student Services.

Graduation Policies

Eligibility to Graduate

Students are eligible for graduation under the following conditions:

- The student is in good academic standing with a cumulative grade-point average of 3.000 or above.
- The student has earned at least the minimum number of credits required to complete the student's program of study.
- The student has fulfilled other program requirements and any outstanding issues.

Apply to Graduate

Students must apply to graduate through the Student Hub, review their degree audit for accuracy, and may choose to meet with their academic advisor for academic clearance.

Issuance of Diplomas and Certificates

Diplomas and certificates are issued three times a year (December, May, and August), but there is only a spring Commencement ceremony. Please visit the Commencement Office website (https://www.northeastern.edu/commencement/) to confirm eligibility to participate in the spring Commencement ceremony.

Completing a Thesis for a Master's Program

Students completing a thesis as part of the program's academic requirements are required to complete the following **at least five business days before the final grade submission deadline for the academic term:**

- Upon successful defense of the thesis, the student must have the Thesis Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form signed by the members of the thesis committee.
- The student must submit an electronic copy of the thesis to ProQuest, following the directions outlined at the University Library (https://library.northeastern.edu/archives/archives-special-collections/use-our-collections/theses-dissertations/) website.
- The student must have the Thesis Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form approved by a representative from the Bouvé Office of Student Services.

PhD Program Completion

PhD degree completion has additional requirements.

- The PhD hooding and degree conferral ceremony is only held during the spring semester. PhD students may not be hooded until they have successfully defended their dissertations and completed all academic requirements.
- Students completing a dissertation must complete the following **at least five business days before the final grade submission deadline for the academic term:**
    - Upon successful defense of the dissertation, the student must have the Dissertation Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form signed by the dissertation committee members.
    - The student must submit an electronic copy of the dissertation to ProQuest, following the directions outlined in the University Library (https://library.northeastern.edu/archives/archives-special-collections/use-our-collections/theses-dissertations/) website.
    - The student must complete an exit survey, at which time the Dissertation Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form will be approved.
    - Students must submit a copy of the Survey of Earned Doctorates Certification of Completion (https://sed-ncses.org/login.aspx) to the Bouvé Office of Student Services before graduation. Instructions for submission of the survey will be sent to the student prior to the end of the student's last term.

Interdisciplinary Programs

Doctor of Medical Science (DMSc)

- Healthcare Leadership (p. 587)

Doctor of Philosophy (PhD)

- Network Science (p. 273)
- Personal Health Informatics (p. 314)

Master of Science (MS)

- Health Informatics (p. 314)
- Pharmaceutical Engineering (p. 374)
- Real-World Evidence in Healthcare and Life Sciences (p. 599)

Dual Degree

- Health Informatics, MS/Physician Assistant Studies, MS (https://catalog.northeastern.edu/graduate/health-sciences/medical-sciences/physician-assistant-studies-ms-health-informatics-ms/)
- Law, JD/Public Health, MPH (p. 602)
- Pharmacy, PharmD (p. 603)—Direct Entry/Public Health, MPH (p. 603)
- Physician Assistant Studies, MS/Public Health, MPH (https://catalog.northeastern.edu/graduate/health-sciences/medical-sciences/physician-assistant-studies-ms-public-health-mph/)
- Public Health, MPH/Health Informatics, MS (p. 605)

Graduate Certificate

- Early Intervention (p. 606)
- Health Informatics Management and Exchange (p. 607)
- Health Informatics Privacy and Security (p. 607)
- Health Informatics Software Engineering (p. 667)
- Patient Safety (p. 607)

Healthcare Leadership, DMSc

Northeastern University's Doctor of Medical Science (DMSc) is an interdisciplinary degree designed for medical professionals to advance their education and expand their career opportunities in the areas of healthcare leadership, administration, informatics, law, safety, and advocacy. Students from diverse healthcare backgrounds share the common goal of developing facility with healthcare systems and becoming leaders within the greater healthcare community.

In addition to taking core courses in healthcare leadership, administration, and research methods, students will have the opportunity to obtain additional education in one of several areas of specialization. These concentrations are designed to empower graduates from diverse backgrounds with the technical and analytical expertise that is both relevant and in high demand in today's healthcare environment. Students will have the opportunity to collaborate with faculty not only from the Department of Medical Sciences but also with world-renowned faculty from a variety of interdisciplinary fields within Northeastern University and the greater Boston community. This collaboration will allow students to access expertise and knowledge across disciplines that will culminate in the creation of an original thesis study.

Admission to the program requires a master's degree in a healthcare-related field or a bachelor's degree plus at least three years of full-time clinical experience.

This degree will take between 12 and 18 months to complete and can be fully completed online.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
Healthcare Leadership		
MSCI 6001	Principles of Healthcare Advocacy	3
MSCI 6002	Workforce Metrics: Measuring, Comparing, and Privileging the Interprofessional Healthcare Team	3
MSCI 6003	Healthcare Leadership Seminar	3
PHTH 6204	Society, Behavior, and Health	3
Research		
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	3
MSCI 6900	Research Methods and Design	3
MSCI 7990	Thesis	3
MSCI 7996	Thesis Continuation - Half-Time	0

Concentrations

Completing a concentration is required to complete this program. A minimum of 12 semester hours is required.

- Business Management (p. 588)
- Health Informatics (p. 588)
- Health Informatics Research (p. 588)
- Health Law (p. 588)
- Interdisciplinary Healthcare Leadership (p. 588)
- Patient Safety (p. 589)
- Pharmacy and Health Systems Science (p. 589)
- Public Health (p. 589)

Program Credit/GPA Requirements

Minimum of 33 total semester hours required

Minimum 3.000 GPA required

CONCENTRATION IN BUSINESS MANAGEMENT

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	

CONCENTRATION IN HEALTH INFORMATICS

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 3 semester hours from the following:		3
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	

CONCENTRATION IN HEALTH INFORMATICS RESEARCH

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 4 semester hours from the following:		4
CS 6350	Empirical Research Methods	
HINF 5300	Personal Health Interface Design and Development	

CONCENTRATION IN HEALTH LAW

Code	Title	Hours
Concentration Required		
LW 6102	Introduction to Legal Studies 2	3
Selective		
LW 6102 is a prerequisite for the LW courses listed below. Complete 9 semester hours from the following:		9
LW 6110	Law of Information and Records	
LW 6150	Law and Organizational Management	
LW 6180	Health Law Survey	
LW 6181	Healthcare Regulation and Compliance	
LW 6182	Patient Records, Privacy, and Security	

CONCENTRATION IN INTERDISCIPLINARY HEALTHCARE LEADERSHIP

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
Business Management for Healthcare		
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	
Health Informatics		
CS 6350	Empirical Research Methods	
HINF 5101	Introduction to Health Informatics and Health Information Systems	

HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5407	Business Application of Decision Support in Healthcare
HINF 6205	Creation and Application of Medical Knowledge
HINF 6220	Database Design, Access, Modeling, and Security
HINF 6400	Introduction to Health Data Analytics
Health Law	
HRM 6030	The Employment Contract
LW 6102	Introduction to Legal Studies 2
LW 6102 is a prerequisite for the following LW courses:	
LW 6110	Law of Information and Records
LW 6150	Law and Organizational Management
LW 6180	Health Law Survey
LW 6181	Healthcare Regulation and Compliance
LW 6182	Patient Records, Privacy, and Security
Pharmacy and Health Systems Science	
PHMD 5223	Evidence-Based Medicine
PHMD 5575	Pharmaceutical Industry
Public Health	
PHTH 5120	Race, Ethnicity, and Health in the United States
PHTH 5212	Public Health Administration and Policy
PHTH 6200	Principles and History of Urban Health
PHTH 6208	Urban Community Health Assessment

CONCENTRATION IN PATIENT SAFETY

Code	Title	Hours
Concentration Required		
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

CONCENTRATION IN PHARMACY AND HEALTH SYSTEMS SCIENCE

Code	Title	Hours
PHMD 5223	Evidence-Based Medicine	2
PHMD 5250	Pharmacy Care Management	4
PHMD 5270	Economic Evaluation of Pharmaceuticals and Pharmacy Practice	2
PHMD 5560	Applied Drug Information	2
PHMD 5575	Pharmaceutical Industry	2

CONCENTRATION IN PUBLIC HEALTH

Code	Title	Hours
Concentration Required		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Health Informatics, MS

Northeastern University's interdisciplinary Master of Science in Health Informatics was the first MS in the field and is now one of the few that is fully interdisciplinary between health science and computer science.

The program seeks to prepare students to address the combined clinical, technical, and business needs of health-related professionals. Students may opt to select a concentration to deepen their knowledge in a particular area. Successful students graduate with the knowledge of how technology, people, health, and the healthcare system interrelate; the ability to use technology and information management to improve healthcare delivery and outcomes; and the skills to communicate effectively among healthcare practitioners, administrators, information technology professionals, and patients.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B– or higher is required in each course.

Core Requirements

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5105	The American Healthcare System	3

Program Options

Choose one of the following options:

- Health Informatics (Without Concentration) (p. 314)
- Health Informatics with Health Informatics Analytics Concentration (p. 315)
- Health Informatics with Personal Health Informatics Concentration (p. 316)

Program Credit/GPA Requirements

Minimum 33 total semester hours required
Minimum 3.000 GPA required

HEALTH INFORMATICS (WITHOUT CONCENTRATION)

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	

HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
Complete two of the following:		6
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
HINF 6400	Introduction to Health Data Analytics	
PHTH 5202	Introduction to Epidemiology	
PHTH 5210	Biostatistics in Public Health	
PHTH 6210	Applied Regression Analysis	
PHTH 6400	Principles of Population Health 1	
PHTH 6440	Advanced Methods in Biostatistics	
One course from the following may count toward the technical core requirement:		
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
Capstone		
HINF 7701	Health Informatics Capstone Project	3
Electives		
Complete two of the following:		6
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
HINF 6345	Design for Usability in Healthcare	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

HEALTH INFORMATICS ANALYTICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	
HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Capstone		
HINF 7701	Health Informatics Capstone Project	3
Elective		
Complete one of the following:		4
IE 5137	Computational Modeling in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	

PERSONAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Health Informatics		
HINF 6205	Creation and Application of Medical Knowledge	3
Technical		
CS 5340	Computer/Human Interaction	4
Complete one of the following. Students must petition to take electives outside the approved list.		4
CS 5010	Programming Design Paradigm	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 6200	Information Retrieval	
Complete one of the following:		3
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
Theory and Evaluation		
PHTH 5210	Biostatistics in Public Health [1]	3
Complete one of the following:		4
CS 6350	Empirical Research Methods (On campus only)	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Culminating Experience		
Complete one of the two options below.		6
Thesis Option		
Students must enroll in HINF 7990 for two semesters for a total of 6 semester hours with director approval only and under supervision of Personal Health Informatics faculty.		
HINF 7990	Thesis	
Capstone Option		
HINF 7701	Health Informatics Capstone Project	
Complete any course for a minumum of 3 semester from the Health Informatics (without concentration) curriculum, that has not been used in previous requirements.		

[1] Student may petition director to take a more advanced stats course, such as Applied Regression Analysis (PHTH 6210).

Pharmaceutical Engineering, MS

The Master of Science in Pharmaceutical Engineering is offered jointly by Northeastern University's College of Engineering and Bouvé College of Health Sciences. The program prepares students with a fundamental understanding of pharmaceutical sciences and principles of engineering to develop the depth needed for advanced study of pharmaceutical engineering.

This program is generally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields in engineering, sciences, or mathematics. The program was designed in collaboration with the Department of Pharmaceutical Sciences to develop the depth needed for advanced study of pharmaceutical engineering. Students wishing to pursue the master's degree with undergraduate educational backgrounds other than engineering are required to demonstrate completion of mathematics coursework through differential equations or the equivalent to be admitted. Students are advised to work closely with their advisors and instructors to determine the electives that would meet their career goals.

Part-Time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit.

Master of Science students wishing to change their status from part time to full time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7600	Pharmaceutical Engineering I	4
CHME 7601	Pharmaceutical Engineering II	4
CHME 7602	Pharmaceutical Engineering Laboratory	2
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 7010	Pharmaceutical Sciences Laboratory	4

Restricted Elective Courses

Code	Title	Hours
At least 3 semester hours of total elective courses are required from pharmaceutical sciences (PHSC, PMST) and from chemical engineering (CHME). These semester hours could come from any elective group, as appropriate.		
Regulatory		
Complete 3 semester hours from the following:		3
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5500	Concepts in Regulatory Science	
BIOT 6320	Quality Management Systems and Validation	
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6002	Introduction to Regulatory Compliance and Practice	
Quality/Statistics		
Complete 4 semester hours from the following:		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
PHSC 6214	Experimental Design and Biostatistics	
Depth Electives		
Complete 7 semester hours from the following:		7
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6340	Sterile Manufacturing Operations	
BIOT 7250	Advanced Biotechnology Applications Laboratory	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5160	Drug Delivery: Engineering Analysis	

CHME 5179	Complex Fluids and Everyday Materials
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 7330	Chemical Engineering Thermodynamics
CHME 7350	Transport Phenomena
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5310	Cellular Physiology
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5555	Pharmaceutical Toxicology
PHSC 5560	Nanotoxicity
PHSC 5619	Mass Spectrometry in Drug Development
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Real-World Evidence in Healthcare and Life Sciences, MS

Overview

The Master of Science in Real-World Evidence (RWE) is an interdisciplinary, flexible, and contemporary degree that focuses on best practices for the appropriate acquisition and analysis of observational health data. Housed in the Department of Health Sciences and the Roux Institute, learners explore how observational research produces a comprehensive understanding of disease, including experience with appropriate methods and software to conduct this research.

RWE#is the clinical evidence regarding the usage and potential benefits, or risks, of a medical product derived from analysis of real-world data (RWD). RWE can be generated by different study designs or analyses, including but not limited to randomized trials, pragmatic trials, and observational studies. RWDare the data relating to patient health status and/or the delivery of healthcare routinely collected from a variety of sources, for example, electronic health records, claims, and billing activities.

RWD and RWE are playing an increasing role in healthcare decisions. The FDA uses RWD and RWE to monitor postmarket safety and to make regulatory decisions. The healthcare community uses these data to support coverage decisions and to develop guidelines and decision support tools for clinical practice. Medical product developers use RWD and RWE to support clinical trial designs and observational studies to generate innovative, new treatment approaches.

This program is based on open, reproducible science—including the use of common data models and open-source analytics software to codify these practices into consistent, transparent, reproducible solutions—and applies these tools and practices to answer clinical questions by generating evidence to guide healthcare policy and improve patient outcomes.

The program seeks to educate two key professionals: analysts and researchers.

An analyst is a technician (e.g., solution architect, epidemiologist, data scientist, etc.) who is engaging in RWE studies by utilizing statistical tools and epidemiologic methods to operationalize and analyze RWD. Technicians may be carrying out activities on behalf of an institution or may be working as individuals interested in the technology that RWD offers. They may be involved in any stage of the RWD/RWE continuum (extract-transform-load [ETL]/data quality processes, tool enablement and self-service analytics, visualization, communication) and are often interested in extending these resources to serve additional use cases or new functionality.

A researcher is one who originates from any number of backgrounds (statistics, clinical training, public health, biological sciences, data science, etc.) who engages in the RWD community for the sake of designing and conducting a research study. Researchers want to know how to run their own observational research studies. In their day, researchers were often responsible for translating the science into better decisions and better care.

The intent of this program is to curate interdisciplinary expertise to support the evidence-generation process in the pharmacoepidemiology research community. The curriculum aims to ensure that learners can obtain in-demand skills that are immediately deployable in roles at pharmaceutical companies, regulatory authorities, health systems, technology companies, and consulting groups specializing in life sciences and healthcare.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
HSCI 5130	Introduction to Real-World Evidence	2
HSCI 5140	Foundations of Data Models	2
HSCI 5150	Methods for Observational Research 1	3
HSCI 5151	Methods for Observational Research 2	3
HSCI 5160	Standardization of Real-World Data	2
HSCI 5170	Data Model Transformation	2
PHSC 5212	Research Skills and Ethics	2
Capstone Requirement		
HSCI 6980	Real-World Evidence Capstone	3

Selectives

Code	Title	Hours
Complete a minimum of 6 semester hours from the following:		6-12
HSCI 5180	Phenotyping	
HSCI 5190	Cohort Building	

HSCI 6110	Advanced Population Characterization
HSCI 6120	Advanced Population Estimation
HSCI 6130	Advanced Patient Prediction

Electives

Code	Title	Hours
Complete up to 6 semester hours from the following (electives are selected in consultation with the program director):		6
HINF 5300	Personal Health Interface Design and Development	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Health Informatics, MS / Physician Assistant, MS

The Northeastern University health informatics and physician assistant dual degree program allows qualified and interested students to achieve their goal of obtaining a more robust understanding of healthcare technology while also completing robust clinical training in the physician assistant program. This prepares a select group of exceptionally qualified clinicians to become leaders in healthcare technology application and development and fosters interdisciplinary collaboration in order to address problems in the healthcare and health information environments both locally and across the globe. The dual degree program is designed to provide students a greater understanding of technological issues in clinical practice, quantitative methods, and the use of scientific evidence and cutting-edge technology to optimize clinical workflows and improve patient outcomes.

This dual degree takes 34 months to complete (as opposed to 48 months, if each degree were pursued separately), and a total number of 8 semester hours are shared between both degrees.

Law, JD / Public Health, MPH

Northeastern University's School of Law and Bouvé College of Health Sciences offer a JD/MPH dual degree. Given the worldwide trend toward urbanization, the Master of Public Health (MPH) recognizes the growing need for professionals trained to respond to unique public health challenges and opportunities facing urban populations. The MPH program brings together interdisciplinary faculty (from the School of Law, D'Amore-McKim School of Business, College of Social Sciences and Humanities, Khoury College of Computer Sciences, and the Bouvé College of Health Sciences) with expertise in collaborating with diverse urban populations to offer students an opportunity to obtain practice-based knowledge, skills, and experience needed to address public health problems.

Up to 9 credit hours of coursework in the JD program may count toward the MPH, while up to 12 credit hours of coursework in the MPH program may count toward the JD. See the JD/MPH program page (https://law.northeastern.edu/academics/programs/jd/dual-degrees/public-health-bouve/) for more information.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Pharmacy, PharmD—Direct Entry / Public Health, MPH

The School of Pharmacy and Pharmaceutical Sciences and the Department of Health Sciences offer a combined Doctor of Pharmacy (PharmD) and Master of Public Health (MPH) program.

The combined PharmD/MPH program recognizes and reinforces the importance of public health in pharmacy practice. Central to addressing public health concerns, and in particular those associated with racial and ethnic health disparities, the program is committed to building a strong, diverse, and activist public health workforce. The goal of the program is to graduate professionals who are well educated in the complex issues associated with disparate health status and healthcare access. The combined PharmD/MPH program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree while also completing their PharmD.

Refer to the School of Pharmacy and Pharmaceutical Sciences PharmD—Direct Entry (p. 720) and Department of Health Sciences Master of Public Health (p. 650) pages of this catalog for program requirements and technical standards. Students must adhere to all PharmD and MPH program standards, policies, and requirements as listed in the catalog, unless otherwise specified.

The Northeastern University Master of Public Health Program is accredited by the Council of Education for Public Health. CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Physician Assistant, MS / Public Health, MPH

The Northeastern University physician assistant program and Department of Health Sciences offer a dual degree program: Master of Science in Physician Assistant/Master of Public Health. The dual MS and MPH degree program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree, while also completing their Master of Science degree in the PA program.

The Northeastern Master of Public Health program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health. The MPH program has a strong commitment to providing a flexible course of study for working professionals. This flexibility allows for easy incorporation into a dual degree program.

The dual degree program is designed to help diversify the public health workforce and improve graduates' ability to approach clinical situations with cultural sensitivity and awareness. Graduates of the program benefit from having a greater understanding of public health issues in clinical practice, including the racial and ethnic health disparities prevalent in the U.S. healthcare system, as well as a strong grounding in epidemiology, quantitative and qualitative research methods, and the use of scientific evidence, skills critical to many fields of healthcare practice.

This dual degree takes less than three years to complete (as opposed to four years, if each degree were pursued separately), and a total of 12 semester hours are shared between both degrees.

For more information, including the application and admissions process, please visit the dual degree program website (https://bouve.northeastern.edu/health-sciences/programs/pa-mph/).

Public Health, MPH / Health Informatics, MS

Website (https://bouve.northeastern.edu/health-sciences/programs/ms-hinf-mph/)

The Master of Public Health and Master of Science in Health Informatics dual degree allows qualified and interested students to prepare to lead healthcare at the nexus between public health and health informatics. Graduates of this program will be well-educated in the complex issues associated with improvements in information technology, as well as changes to the public health and healthcare delivery systems. Recognizing the increasing overlap between health informatics and public health, this program incorporates course work from both the MPH and MSHI curricula for both degrees, reducing tuition costs and saving one year of study compared to obtaining both degrees individually.

The Northeastern University Master of Public Health program is accredited by the Council on Education for Public Health (CEPH). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Up to 15 credits of coursework in the dual-degree program can be counted toward both the MPH and MS degrees.

Early Intervention, Graduate Certificate

Northeastern University's Certificate Program in Early Intervention is an interdisciplinary, preservice training program that is designed to fulfill requirements for certification as an early intervention specialist, at the advanced provisional level, as set forth by the Massachusetts Department of Public Health (DPH).

The interdisciplinary nature of the program is facilitated by the interaction of graduate students from several disciplines (including school psychology, counseling psychology, and speech-language pathology); undergraduate students from majors such as speech-language pathology and audiology and psychology; and working professionals in the field. Personnel working in the field may use their work sites for field training.

The program is delivered in a hybrid format. Classes meet on campus one day each month, and additional course content is delivered online.

This graduate certificate program can be completed by non-degree-seeking students or integrated with master's or clinical doctoral degree programs. Application of course work from certain degree programs will be approved to apply to requirements of this graduate certificate; students are encouraged to speak with their academic advisors early in their programs to explore these options.

The goals for the early intervention certificate program are:

- To prepare personnel to provide services to infants and toddlers with disabilities and their families, from linguistically and culturally diverse backgrounds in urban environments
- To prepare personnel who have attained all competencies relative to early intervention, specified by the Massachusetts DPH, and that are consistent with best practice and research
- To prepare personnel in an interdisciplinary manner, drawing from Northeastern University's multidisciplinary resources
- To prepare personnel to function effectively across teams (individualized family service plan teams, community teams, interagency teams) and to understand the roles of their interdisciplinary teammates

Upon graduation, students are eligible for employment in an early intervention service delivery setting.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all courses.

Code	Title	Hours
Required Core		
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
SLPA 5152	Early Intervention: Planning and Evaluating Services	3
CAEP 5153	Early Intervention: Assessment and Intervention	3
Practicum		
SLPA 5154	Early Intervention Practicum 1	2
SLPA 5155	Early Intervention Practicum 2	2

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Patient Safety, Graduate Certificate

Overview

The Graduate Certificate in Patient Safety informs and empowers the next generations of innovative patient safety experts by providing the knowledge and practical skills to promote a culture of safety and design safer systems of care. Future leaders incorporate clinician wellness strategies in care delivery models that are accountable, honest, and transparent. The purpose of this certificate is to support healthcare clinicians and leaders in advancing patient safety and the safety of healthcare providers by expanding their fundamental skills and knowledge in patient safety science principles, workforce wellness, and quality improvement strategies.

This is a four-course, interdisciplinary graduate certificate, tailored to accommodate a busy healthcare professional's schedule. Courses are delivered in an online format, structured to enhance the curriculum with peer-to-peer discussions and experience developing tools, protocols, and process improvement strategies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

A grade of B or higher is required in each course.

Code	Title	Hours
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.00 GPA required

School of Clinical and Rehabilitation Sciences

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The School of Clinical and Rehabilitation Sciences within the Bouvé College of Health Sciences at Northeastern University brings together the clinical fields of physical therapy (https://bouve.northeastern.edu/physical-therapy/), speech-language pathology and audiology (https://bouve.northeastern.edu/csd/), medical sciences, and physician assistant studies (https://bouve.northeastern.edu/physician-assistant/).#Students and fellows in the school are prepared for clinical and research excellence, training with interdisciplinary experts in habilitation and rehabilitation sciences, epidemiology, neuroscience, engineering, physiology, exercise science, clinical medicine, design, diagnostic and therapeutic imaging, and communication. Working at the intersection of rehabilitation, clinical practice, data, and engineering, students and fellows engage in transformative research and experiential learning that is designed to prepare them to improve the quality of life and self-care for patients and communities, while promoting and developing innovative approaches to the future of healthcare.

Communication Sciences and Disorders

Our mission is to advance the science of human communication and its disorders, understand the science of human communication untethered from traditional limitations of the field, and make a direct impact on the world through targeted learning experiences and research opportunities, while creating an inclusive community. Our faculty are researchers, practicing clinicians, and scientists who bring real-world experience into the classroom to facilitate bench-to-bedside application. They develop, use, and address technology that improves communication and health beyond traditional boundaries.

The Department of Communication Sciences and Disorders offers a five-year PlusOne advanced degree pathway (BS-MS in Speech-Language Pathology) and a two-year Master of Science in Speech-Language Pathology degree. Our goal is to educate students to the highest levels of professionalism, consistent with the American Speech-Language-Hearing Association and the Council on Academic Accreditation, Northeastern University accreditation standards, and Massachusetts licensure requirements. We provide an interprofessional and practice-oriented

education in our urban university environment, which affords students clinical experiences with clients, patients, and families from a diverse population base. Students are prepared with academic coursework informed by the most current scientific knowledge and evidence-based clinical practice.

Master of Science (MS)

- Speech-Language Pathology (p. 611)

Medical Sciences

The mission of the Department of Medical Sciences is to educate and inspire diverse and interdisciplinary professionals to be leaders and innovators in medical science. We offer an interdisciplinary doctoral degree in healthcare leadership, a Master of Science in Physician Assistant Studies, two interdisciplinary dual master's degree programs, and a graduate certificate in extreme medicine.

Our flagship program in PA studies was established in 1971 and has a long-standing history of, and expertise in, the education and training of PAs. The PA program is located in close proximity to Boston's major academic medical centers and was the first generalist PA training program in the nation to offer a master's degree in 1985. This rigorous, highly integrated curriculum offers our students the opportunity to obtain broad generalist training that is designed to prepare them for successful employment in all fields of clinical practice.

The Doctor of Medical Science (DMSc) in Healthcare Leadership is an interdisciplinary online degree for healthcare professionals from diverse backgrounds to advance their education and expand their career opportunities in the areas of healthcare leadership, entrepreneurship, medical education, and community engagement and advocacy.

The Graduate Certificate in Extreme Medicine is an online interprofessional program offered in collaboration with World Extreme Medicine. The program is designed to prepare healthcare professionals to provide medical services in austere conditions. The core didactic courses provide foundational instruction in human factors, crisis resource management, efficiency of highly skilled teams, and theory and ethics of care in humanitarian crises.

Our faculty members are practicing clinicians, researchers, and healthcare leaders who bring real-world experience to the classroom. Northeastern University's graduates are in high demand and are employed in positions across the United States and internationally. In addition to clinical practice, our graduates are employed in research, administration, education, and leadership.

Doctor of Medical Science (DMSc)

- Healthcare Leadership (p. 587)

Master of Science (MS)

- Physician Assistant (p. 616)

Dual Degree

- Health Informatics, MS / Physician Assistant, MS (p. 601)
- Physician Assistant, MS / Public Health, MPH (p. 604)

Graduate Certificate

- Extreme Medicine (p. 631)

Physical Therapy, Movement, and Rehabilitation Sciences

The mission of the Department of Physical Therapy, Movement, and Rehabilitation Sciences is to impact the health and well-being of the global community by developing leaders in our fields through interprofessional experiential education, translational research, and excellence in clinical practice. This aligns well with the mission and academic plans of Bouvé College of Health Sciences and Northeastern University. That is, the programs within the department enhance and extend students' learning through experiential education, interdisciplinary collaborations, interprofessional education, and research opportunities, making an impact across our global campus and beyond. Our faculty members are leaders in education, research, and practice. Students have the opportunity to work with faculty to conduct ongoing research in one of the many diverse Department of Physical Therapy, Movement, and Rehabilitation Sciences' research groups and laboratories, including Neuromotor Systems Laboratory, Laboratory for Locomotion Research, ReGame-XR Laboratory, Movement Neuroscience Laboratory, Musculoskeletal Epidemiology and Biomechanics Laboratory, Neurophysiology Laboratory, Occupational Biomechanics and Ergonomics Laboratory, Teaching and Learning with Innovation Laboratory, the Programmable and Reconfigurable Soft Engineered Systems Lab, and the Center for Cognitive and Brain Health.

Our flagship program is the Doctor of Physical Therapy. It is one of the oldest programs within Bouvé with the first graduates in 1915. The 37-month program provides comprehensive and rigorous graduate-level courses with a unique and valuable cooperative education experience, a six-month paid work opportunity in a physical therapy setting. In addition, concentrations are available in sports performance and pediatric physical therapy.

The PhD in Human Movement and Rehabilitation Sciences prepares its graduates to conduct independent (original) basic, translational, and applied research to restore and maximize human functional capacity and well-being across the life span. The interdisciplinary program and its faculty emphasize core competencies in motor control and motor learning, movement measurement and analysis, knowledge translation theory, and the use of traditional and emerging technologies.

The new Master of Science in Human Movement and Rehabilitation Sciences at Northeastern University prepares students through revolutionary breakthroughs about how our bodies can work better. This 12-month program focuses on innovative rehabilitation solutions through enhanced research and education on topics including, but not limited to. biomechanics, musculoskeletal disorders, control of movement, motor learning, health and well-being through movement and design, human-cybernetic system interactions, and neurorehabilitation of movement and function. We offer this master's as a PlusOne option with several other Northeastern departments, especially within the College of Engineering.

The Department of Physical Therapy, Movement, and Rehabilitation Sciences has partnered with Massachusetts General Hospital Sports Physical Therapy to offer a 13-month full-time clinical residency program for physical therapists interested in pursuing a career in sports physical therapy. This program advances the knowledge and clinical competency of sports physical therapists, as well as to foster a culture of continued learning and scientific inquiry while demonstrating a commitment to patients, students, and athletes at all levels.

Doctor of Philosophy (PhD)

- Human Movement and Rehabilitation Sciences (p. 620)

Doctor of Physical Therapy (DPT)

- Doctor of Physical Therapy—Postbaccalaureate Entry (p. 623)
- Transitional Doctor of Physical Therapy—Direct Entry (p. 814) (with the College of Professional Studies)

Master of Science (MS)

- Human Movement and Rehabilitation Sciences (p. 629)

Speech-Language Pathology, MS

Adhering to the highest professional standards, the speech-language pathology graduate program seeks to prepare future speech-language pathologists for the rigors of clinical practice in educational and healthcare settings. Graduates of the program will influence society in profound ways—for example, enabling children with autism to communicate effectively, relieving adolescents' fears of speaking dysfluently in the classroom, and helping stroke survivors resume activities in which they had previously participated. The comprehensive program of study emphasizes teamwork and interdisciplinary approaches to complex service delivery issues. SLP graduate students acquire the knowledge and skills needed for a lifetime of professional achievement and social contribution.

Prerequisite or Equivalent Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework with content equivalent in the following courses with a minimum grade of C.

Code	Title	Hours
SLPA 1102	Language Development	
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	
SLPA 1200	Phonetics	
SLPA 1203	Introduction to Audiology	
SLPA 1205	Speech and Hearing Science	

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Disorders		
SLPA 5201	Diagnostic Testing in Speech-Language Pathology	2
SLPA 6219	Aural Rehabilitation (or elective) [1]	3
SLPA 6303	Stuttering	3
SLPA 6304	Augmentative and Alternative Communication	3
SLPA 6305	Articulation and Phonology	3
SLPA 6307	Voice Disorders	3
SLPA 6308	Dysphagia	3
SLPA 6313	Counseling in Speech-Language Pathology	2
SLPA 6321	Motor Speech Disorders	3
SLPA 6339	Language Literacy in Practice	1
SLPA 6340	Language Disorders in Children 1	3
SLPA 6341	Language Disorders in Children 2	3
SLPA 6342	Speech-Language Disorders In Adults 1	3
SLPA 6343	Speech-Language Disorders in Adults 2	3
Science		
SLPA 5109	Neurology of Communication	3
SLPA 6300	Speech Science	2
Research		
SLPA 6211	Research and Evidence-Based Practice	3
SLPA 6420	Practical Statistics for Speech-Language Pathology and Audiology	3
Diversity, Equity, and Inclusion		
SLPA 6329	Diversity, Equity, and Inclusion in Speech-Language Pathology	2
Practicum		
SLPA 6415	Speech-Language Pathology Advanced Clinical Practicum 1	3
SLPA 6416	Speech-Language Pathology Advanced Clinical Practicum 2	2

SLPA 6417	Speech-Language Pathology Advanced Clinical Practicum 3	2
SLPA 6418	Speech-Language Pathology Advanced Clinical Practicum 4	2

[1] Students with previous coursework in aural rehabilitation may replace SLPA 6219 with 3 semester hours from the elective course list.

Electives

Code	Title	Hours
Students with previous aural rehabilitation coursework may complete 3 semester hours from the elective course list or select other course options in consultation with a faculty advisor.		
SLPA 6310	Speech-Language Pathology in Medical Settings	
SLPA 6320	Autism	
SLPA 6325	Accent Modification for Speech-Language Pathology	
SLPA 6332	Seminar in Communication Disorders	

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.000 GPA required

Healthcare Leadership, DMSc

Northeastern University's Doctor of Medical Science (DMSc) is an interdisciplinary degree designed for medical professionals to advance their education and expand their career opportunities in the areas of healthcare leadership, administration, informatics, law, safety, and advocacy. Students from diverse healthcare backgrounds share the common goal of developing facility with healthcare systems and becoming leaders within the greater healthcare community.

In addition to taking core courses in healthcare leadership, administration, and research methods, students will have the opportunity to obtain additional education in one of several areas of specialization. These concentrations are designed to empower graduates from diverse backgrounds with the technical and analytical expertise that is both relevant and in high demand in today's healthcare environment. Students will have the opportunity to collaborate with faculty not only from the Department of Medical Sciences but also with world-renowned faculty from a variety of interdisciplinary fields within Northeastern University and the greater Boston community. This collaboration will allow students to access expertise and knowledge across disciplines that will culminate in the creation of an original thesis study.

Admission to the program requires a master's degree in a healthcare-related field or a bachelor's degree plus at least three years of full-time clinical experience.

This degree will take between 12 and 18 months to complete and can be fully completed online.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
Healthcare Leadership		
MSCI 6001	Principles of Healthcare Advocacy	3
MSCI 6002	Workforce Metrics: Measuring, Comparing, and Privileging the Interprofessional Healthcare Team	3
MSCI 6003	Healthcare Leadership Seminar	3
PHTH 6204	Society, Behavior, and Health	3
Research		
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	3
MSCI 6900	Research Methods and Design	3
MSCI 7990	Thesis	3
MSCI 7996	Thesis Continuation - Half-Time	0

Concentrations

Completing a concentration is required to complete this program. A minimum of 12 semester hours is required.

- Business Management (p. 588)
- Health Informatics (p. 588)
- Health Informatics Research (p. 588)
- Health Law (p. 588)
- Interdisciplinary Healthcare Leadership (p. 588)
- Patient Safety (p. 589)
- Pharmacy and Health Systems Science (p. 589)
- Public Health (p. 589)

Program Credit/GPA Requirements

Minimum of 33 total semester hours required

Minimum 3.000 GPA required

CONCENTRATION IN BUSINESS MANAGEMENT

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	

CONCENTRATION IN HEALTH INFORMATICS

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 3 semester hours from the following:		3
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	

CONCENTRATION IN HEALTH INFORMATICS RESEARCH

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 4 semester hours from the following:		4
CS 6350	Empirical Research Methods	
HINF 5300	Personal Health Interface Design and Development	

CONCENTRATION IN HEALTH LAW

Code	Title	Hours
Concentration Required		
LW 6102	Introduction to Legal Studies 2	3
Selective		
LW 6102 is a prerequisite for the LW courses listed below. Complete 9 semester hours from the following:		9
LW 6110	Law of Information and Records	
LW 6150	Law and Organizational Management	
LW 6180	Health Law Survey	
LW 6181	Healthcare Regulation and Compliance	
LW 6182	Patient Records, Privacy, and Security	

CONCENTRATION IN INTERDISCIPLINARY HEALTHCARE LEADERSHIP

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
Business Management for Healthcare		
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	
Health Informatics		
CS 6350	Empirical Research Methods	
HINF 5101	Introduction to Health Informatics and Health Information Systems	

HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5407	Business Application of Decision Support in Healthcare
HINF 6205	Creation and Application of Medical Knowledge
HINF 6220	Database Design, Access, Modeling, and Security
HINF 6400	Introduction to Health Data Analytics
Health Law	
HRM 6030	The Employment Contract
LW 6102	Introduction to Legal Studies 2
LW 6102 is a prerequisite for the following LW courses:	
LW 6110	Law of Information and Records
LW 6150	Law and Organizational Management
LW 6180	Health Law Survey
LW 6181	Healthcare Regulation and Compliance
LW 6182	Patient Records, Privacy, and Security
Pharmacy and Health Systems Science	
PHMD 5223	Evidence-Based Medicine
PHMD 5575	Pharmaceutical Industry
Public Health	
PHTH 5120	Race, Ethnicity, and Health in the United States
PHTH 5212	Public Health Administration and Policy
PHTH 6200	Principles and History of Urban Health
PHTH 6208	Urban Community Health Assessment

CONCENTRATION IN PATIENT SAFETY

Code	Title	Hours
Concentration Required		
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

CONCENTRATION IN PHARMACY AND HEALTH SYSTEMS SCIENCE

Code	Title	Hours
PHMD 5223	Evidence-Based Medicine	2
PHMD 5250	Pharmacy Care Management	4
PHMD 5270	Economic Evaluation of Pharmaceuticals and Pharmacy Practice	2
PHMD 5560	Applied Drug Information	2
PHMD 5575	Pharmaceutical Industry	2

CONCENTRATION IN PUBLIC HEALTH

Code	Title	Hours
Concentration Required		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3

Physician Assistant, MS

Physician assistants are healthcare providers who practice medicine with physician supervision. They are highly sought after members of the healthcare team who provide diagnostic and therapeutic patient care. The physician assistant studies program is a full-time, two-year graduate program that provides an opportunity to earn a Master of Science degree.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C or higher is required in each course.

Code	Title	Hours
Required Core		
PA 6208	Professional Issues for Physician Assistants	2
PA 6326	Aspects of Primary Care	4
PA 6327	Emergency Medicine and Critical Care	2
PA 6328	Aging and Rehabilitation Medicine	2
PA 6329	Healthcare Delivery	2
PA 6330	Research Design	2
Anatomy and Physiology		
PA 6200	Anatomy and Physiology 1	3
PA 6201	Anatomy and Physiology 2	3
Diagnosis and Evaluation		
PA 6203	Physical Diagnosis and Patient Evaluation 1	3
PA 6204	Physical Diagnosis and Patient Evaluation 2	3
PA 6209	Clinical Laboratory and Diagnostic Methods 1	3
PA 6210	Clinical Laboratory and Diagnostic Methods 2	1
Pharmacology		
PA 6205	Pharmacology 1	2
PA 6206	Pharmacology 2	2
Principles		
PA 6311	Principles of Medicine 1	4
PA 6312	Principles of Medicine 2	4
PA 6313	Principles of Medicine 3	4
PA 6320	Principles of Obstetrics and Gynecology	2
PA 6321	Principles of Surgery	2
PA 6322	Principles of Orthopedics	2
PA 6323	Clinical Neurology	2
PA 6324	Principles of Pediatrics	2
PA 6325	Principles of Psychiatry	2
Clinical		
PA 6400	Applied Clinical Study in Medicine	5
PA 6401	Applied Clinical Study in Ambulatory Medicine	5
PA 6402	Applied Clinical Study in Family Practice	5
PA 6403	Applied Clinical Study in Emergency Medicine	5
PA 6404	Applied Clinical Study in Women's Health	5
PA 6405	Applied Clinical Study in Pediatrics	5
PA 6406	Applied Clinical Study in Surgery	5
PA 6407	Applied Clinical Study in Mental Health	5
PA 6408	Applied Clinical Study Elective	5

Program Credit/GPA Requirements

103 total semester hours required

Minimum 3.000 GPA required

Health Informatics, MS / Physician Assistant, MS

The Northeastern University health informatics and physician assistant dual degree program allows qualified and interested students to achieve their goal of obtaining a more robust understanding of healthcare technology while also completing robust clinical training in the physician assistant program. This prepares a select group of exceptionally qualified clinicians to become leaders in healthcare technology application and development and fosters interdisciplinary collaboration in order to address problems in the healthcare and health information environments both locally and across the globe. The dual degree program is designed to provide students a greater understanding of technological issues in clinical practice, quantitative methods, and the use of scientific evidence and cutting-edge technology to optimize clinical workflows and improve patient outcomes.

This dual degree takes 34 months to complete (as opposed to 48 months, if each degree were pursued separately), and a total number of 8 semester hours are shared between both degrees.

Physician Assistant, MS / Public Health, MPH

The Northeastern University physician assistant program and Department of Health Sciences offer a dual degree program: Master of Science in Physician Assistant/Master of Public Health. The dual MS and MPH degree program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree, while also completing their Master of Science degree in the PA program.

The Northeastern Master of Public Health program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health. The MPH program has a strong commitment to providing a flexible course of study for working professionals. This flexibility allows for easy incorporation into a dual degree program.

The dual degree program is designed to help diversify the public health workforce and improve graduates' ability to approach clinical situations with cultural sensitivity and awareness. Graduates of the program benefit from having a greater understanding of public health issues in clinical practice, including the racial and ethnic health disparities prevalent in the U.S. healthcare system, as well as a strong grounding in epidemiology, quantitative and qualitative research methods, and the use of scientific evidence, skills critical to many fields of healthcare practice.

This dual degree takes less than three years to complete (as opposed to four years, if each degree were pursued separately), and a total of 12 semester hours are shared between both degrees.

For more information, including the application and admissions process, please visit the dual degree program website (https://bouve.northeastern.edu/health-sciences/programs/pa-mph/).

Human Movement and Rehabilitation Sciences, PhD

The Department of Physical Therapy, Movement, and Rehabilitation Sciences offers a PhD program in human movement and rehabilitation sciences. The PhD program seeks to prepare graduates to conduct independent (original) basic, translational, and applied research with the goal of creating new knowledge about neuromotor mechanisms and methods of restoring and maximizing human functional capacity and well-being across the life span. The program emphasizes core competencies in motor control and motor learning, movement measurement and analysis, knowledge translation theory, and the use of traditional and emerging technologies. The program is based on the integration of core skills and concepts across the multiple disciplines that are associated with human movement and rehabilitation sciences, coupled with the acquisition of research methodology, analyses, and skills, as well as specialization within specific areas of human movement and rehabilitation research.

The program showcases the unique faculty and research laboratories in human movement and rehabilitation sciences, as well as highly ranked programs in Bouvé College of Health Sciences, the College of Science, and the College of Engineering. Northeastern is dedicated to advancing the field of human movement and rehabilitation sciences and translating research from bench to clinic. Students benefit from our new research laboratories utilizing state-of-the-art movement and rehabilitation methods including virtual reality, ultrasound, neuroscience, neurophysiology, robotics, and movement measurement technologies.

Advanced Entry

Based on a student's background in their preceding master's or clinical doctorate degree, core coursework and total hours for the advanced entry program may vary. The graduate program director will consider all the program requirements and applicants' previous experience when advising students on a plan of study. All students, whether entering from traditional or advanced PhD pathways, will complete the milestones as documented in the curriculum.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Milestones

All students, whether entering from traditional or advanced PhD pathways, will complete the following milestones:

- Annual review
- Qualifying exam
- Dissertation committee
- Dissertation proposal
- Dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
Students must enroll in the following course every semester until start of the dissertation phase of the program (the course is repeatable two times for 1 semester hour and four times for 0 semester hours):		2
PT 7030	Interdisciplinary Seminar in Rehabilitation Science	
Rehabilitation Science and Human Movement		
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
PT 7020	Technologies in Movement and Rehabilitation Science	4

Electives

Code	Title	Hours
Complete 19 semester hours from the list below chosen in consultation with a faculty advisor.		19
Some courses may require prerequisite coursework.		
BIOE 5235	Biomedical Imaging	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CAEP 6326	Behavioral Concepts and Principles	
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing	
HLTH 5450	Healthcare Research	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6500	Human Performance	

IE 7315	Human Factors Engineering
ME 5250	Robot Mechanics and Control
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 7247	Advanced Control Engineering
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6202	Intermediate Epidemiology
PHTH 6210	Applied Regression Analysis
PHTH 6440	Advanced Methods in Biostatistics
PT 5133	Kinesiology
PT 5138	Neuroscience
PT 5150	Motor Control, Development, and Learning
PT 5209	Neurological Rehabilitation 1
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 6221	Neurological Rehabilitation 2
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Dissertation

Code	Title	Hours
PT 9990	Dissertation Term 1	
PT 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Based on a student's background in their preceding master's degree, core coursework and total hours for the advanced entry program may vary. The graduate program director will consider the following program requirements when advising students on a plan of study.

Code	Title	Hours
Seminar		
Students must enroll in the following course every semester until the start of the dissertation phase of the program:		2
PT 7030	Interdisciplinary Seminar in Rehabilitation Science (Repeatable 2 times for 1 semester hour and 4 times for 0 semester hours)	
Rehabilitation Science and Human Movement		
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
PT 7020	Technologies in Movement and Rehabilitation Science	4

Electives

Code	Title	Hours
Some courses may require a prerequisite course.		
BIOE 5235	Biomedical Imaging	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CAEP 6326	Behavioral Concepts and Principles	

EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing
HLTH 5450	Healthcare Research
IE 5630	Biosensor and Human Behavior Measurement
IE 6500	Human Performance
IE 7315	Human Factors Engineering
ME 5250	Robot Mechanics and Control
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 7247	Advanced Control Engineering
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6202	Intermediate Epidemiology
PHTH 6210	Applied Regression Analysis
PHTH 6440	Advanced Methods in Biostatistics
PT 5133	Kinesiology
PT 5138	Neuroscience
PT 5150	Motor Control, Development, and Learning
PT 5209	Neurological Rehabilitation 1
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 6221	Neurological Rehabilitation 2
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Dissertation

Code	Title	Hours
PT 9990	Dissertation Term 1	
PT 9991	Dissertation Term 2	

GPA Requirement

A minimum 3.000 GPA required

Physical Therapy, DPT—Postbaccalaureate Entry

Pamela Donlan, PT, DPT, EdD, CLT-LANA
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Our Postbaccalaureate Doctor of Physical Therapy (DPT) (http://www.northeastern.edu/bouve/pt/programs/pbdpt.html) program is designed for individuals who hold a minimum of a baccalaureate degree in any major other than physical therapy and have satisfied the prerequisite requirements. Over the course of three years, this rigorous curriculum provides didactic and experiential learning experiences, the cornerstone of our program. These experiences include cooperative education, simulated patient interactions, interprofessional education, human cadaver lab, engagement with consumer clients, service-learning, clinical research, and integrated and full-time clinical education experiences.

The DPT program recognizes that becoming a physical therapist is a developmental process that allows students the opportunity to take risks, reflect, learn from mistakes, and continue to grow to promote lifelong learning. We are committed to a process of actively engaged learning that occurs in the classroom, the research laboratory, the community, and clinical settings regionally and internationally. We strive to provide challenging and leading-edge academic content in an environment supportive of professional development. Our educational philosophy is based upon a strong foundation of biological, psychological, social, and clinical sciences; experiential learning; evidence-based practice; cultural agility and humanistic values; and ethical and professional expectations. This is supported by a commitment of promoting and improving the health of clients and society locally, nationally, and globally. Academic content is student-centered and delivered using both traditional and innovative teaching methods including, but not limited to, lectures, small group projects and discussions, multimedia presentations, expert panel discussions, human cadaver lab, problem-based approaches, case studies, faculty-led research, patient simulation, interprofessional education opportunities, virtual and online learning activities, and self-reflection. Experiential learning, a cornerstone of our curriculum, is embedded in academic course requirements including clinical education, cooperative education, service-learning, and capstone research projects. These experiences are intentional and align with the Bouvé College and Northeastern University.

We offer a direct guaranteed acceptance* for Northeastern undergraduate students interested in continuing their studies in the DPT program. Undergraduate students interested in this pathway can work with their academic advisor to complete the required prerequisite coursework (https://bouve.northeastern.edu/physical-therapy/programs/pbdpt/). Students may also be able to participate in physical-therapy-related experiential **cooperative education** to gain experience prior to enrolling. Northeastern graduates are eligible for the Double Husky Scholarship when enrolling in the DPT program, which offers a 25% tuition discount.

Please visit our website (https://bouve.northeastern.edu/physical-therapy/programs/pbdpt/) to learn more or email PB_DPT_INQUIRIES@northeastern.edu for more information.

*For guaranteed acceptance, students must maintain a 3.200 cumulative and prerequisite science GPA; complete the required prerequisite coursework (https://bouve.northeastern.edu/physical-therapy/programs/pbdpt/); and submit a resumé, transcript, letter of reference, and personal statement.

The DPT program offers two concentrations with application process.

- A pediatric physical therapy concentration designed to enhance the entry-level physical therapy graduate's ability to engage in interprofessional, family centered services with children from infancy through young adulthood in a variety of settings.
- A sports performance concentration designed to prepare the physical therapist student to confidently#pursue a sports physical therapy position working with athletes of all ages in a variety of settings. Students take additional coursework, focused on research and clinical rotations that expand upon the entry-level physical therapy curriculum.
- Both concentrations are beneficial for students who may wish to pursue clinical residency programs in the area of sports or pediatric physical therapy including the Massachusetts General Hospital/Northeastern University Sports Physical Therapy Residency Program.

Emphasis on Experiential Learning

COOPERATIVE EDUCATION

Our DPT program provides students with six months of full-time experiential learning in addition to the required clinical education experiences necessary for licensure. Through cooperative education, the hallmark of Northeastern, students are able to integrate semesters of academic study with semesters of cooperative education experiences in hospitals and clinics throughout the country. Students may be employed as physical therapy co-ops or perform other health-related duties.

As a part of cooperative education experiences, students will be completing an Integrated Clinical Experience (ICE) during Co-op Work Experience (PT 6964). This experience will provide clinical experience integrated within the didactic portion of the DPT curriculum. Students will observe and/or participate in patient interview, examination, evaluation, intervention, communication, and documentation skills previously learned in the classroom and cooperative educational experiences. Students will have the opportunity to increase their exposure and familiarity in a clinical setting and develop

emerging competency in physical therapy skills. Students will demonstrate personal and professional growth and be able to identify learning needs for success on their future first full-time clinical experience.

CLINICAL EDUCATION

The curriculum also includes three rotations for a total of 36 weeks of full-time clinical education under the direct supervision of a licensed physical therapist. We are affiliated with world-class medical centers and clinical sites throughout the United States, providing students with access to master clinicians and clinical scholars. Every effort is made to accommodate individual circumstances, but students should be prepared to travel out of state for two of the three clinical placements. Availability of a car may be required, as most sites are not accessible by public transportation. All expenses associated with clinical education, including travel and housing, are the responsibility of the student.

GLOBAL OUTREACH

Students may participate in short cultural immersion experiences abroad whereby they engage in community service projects under the direction of a physical therapy faculty member or on physical therapy academic exchanges with partner academic institutions.

SERVICE-LEARNING

During the curriculum, students participate in service-learning opportunities in the local community in which they learn and apply skills and knowledge related to program objectives. These opportunities start during the first academic year and continue throughout the program in a variety of settings.

STUDENT RESEARCH

The Department of Physical Therapy, Movement, and Rehabilitation Sciences' research mission is to build the evidence for best practices to maintain and improve the health and well-being of local, national, and global community members. Students have the opportunity to work with faculty to conduct ongoing research in world-renowned medical centers and in one of the eight Department of Physical Therapy, Movement, and Rehabilitation Sciences' labs and centers, including Neuromotor Systems Lab, Laboratory for Locomotion Research, Movement Neuroscience Laboratory, Musculoskeletal Epidemiology and Biomechanics Laboratory, Occupational Biomechanics and Ergonomics Laboratory, Teaching and Learning Innovation Lab, Neuroscience Wet Lab, and the Center for Cognitive and Brain Health Program.

Progression in the DPT Program

To progress in the program, students must maintain acceptable standards of academic performance as stated in the program requirements section, including successful completion of all didactic, integrated clinical education cooperative education and full-time clinical education experiences. Students must demonstrate appropriate skills and professional behaviors to progress in the program. Students must develop appropriate motor skills, professional behaviors, and emotional maturity as outlined in the essential functions. The program in physical therapy is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

Graduates of the DPT program are eligible to sit for the National Physical Therapy Examination in pursuit of licensure.

PROFESSIONAL BEHAVIORS REQUIREMENT

In order to promote professionalism in the classroom, local and global communities, and clinical settings, the physical therapy program requires the demonstration of professional behaviors in accordance with the professional behaviors policy. The purpose of professional behaviors procedures is to help remediate students who have been identified as having professional behavior issues in an academic, cooperative, or clinical education setting. Professional standards are outlined in the student manual and may include but are not limited to the APTA Code of Ethics for the Physical Therapist (https://www.apta.org/uploadedFiles/APTAorg/About_Us/Policies/Ethics/CodeofEthics.pdf) and/or the APTA Guide for Professional Conduct (http://www.apta.org/uploadedFiles/APTAorg/Practice_and_Patient_Care/Ethics/GuideforProfessionalConduct.pdf).

Any faculty member who has a concern about a student's professional behavior will arrange to meet with the student to discuss the issue. If the faculty member has met with the student and there is satisfactory resolution of the unprofessional conduct, only a form for tracking purposes is needed.

The tracking form shall be kept on record in order to track these students while they are in the program. A request for committee reviews as indicated on the tracking form must occur under the following conditions:

a. A faculty member has attempted to correct the behavior and it has not been corrected after meeting with the student and taking initial steps to improve the identified professional behavior issues.

b. The incident is egregious.

c. A second breach of professional standards has occurred.

Full Professional Behaviors Violation Review Process

a. The chairperson of the PTMRS Academic Affairs Committee will send a letter to students about whom concerns have been raised and instruct each student to complete a Self-Assessment of Professional Behaviors. A meeting date will be set to discuss the concern. If the committee finds there is sufficient evidence to support a violation of the professional standards previously defined, one will be noted in the student's record.

b. The AAC will develop an appropriate remediation plan in collaboration with the student and appropriate faculty.

c. Depending on the situation, students may have the opportunity to improve professional behaviors.

d. Any of the following may result in a dismissal from the program:

i. A third breach of professional standards

ii. A second offense of the same professional standard

iii. An egregious breach of a professional standard as outlined in the student manual and/or behaviors that may include but are not limited to violation of the APTA Code of Ethics for the Physical Therapist and/or the APTA Guide for Professional Conduct

If a student believes they have been erroneously, capriciously, or otherwise unfairly treated in the process or decision, they may appeal decisions made by the PTMRS AAC to the chair of PTMRS.

If the student has been suspected of cheating or in any way violating the Academic Code of Conduct, the student will be referred to the AAC as well as Office of Student Conduct and Conflict Resolution. Any concern regarding the student's professional behavior will be brought to the attention of the faculty as appropriate.

Doctor of Physical Therapy Program Goals

STUDENT:

1. Demonstrate effective written, verbal, technological, and nonverbal communication skills in all professional settings.
2. Demonstrate leadership and advocacy skills.
3. Demonstrate professional and social responsibility by participating in local, national, and/or global initiatives.

GRADUATE:

1. Be clinically competent and culturally sensitive doctors of physical therapy who, guided by the APTA Core Values, excel in patient/client management.
2. Exhibit professionalism, commitment to lifelong learning, and use of evidence-based practice.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C or higher is required in all courses.

Code	Title	Hours
Foundations		
PT 6330 and PT 6331	Functional Anatomy 1 and Lab for PT 6330	3
PT 6340 and PT 6341	Functional Anatomy 2 and Lab for PT 6340	5
PT 5101 and PT 5102	Foundations of Physical Therapy and Lab for PT 5101	4
PT 6350 and PT 6351	Foundations of PT Examination and Therapeutic Activities and Lab for PT 6350	5
Core		
PT 5160	Psychosocial Aspects of Healthcare	3
PT 6243	Health Education, Promotion, and Wellness	3
PT 6245	Seminar for PT 6243	1
PT 5140	Pathology	4
PT 5500	Pharmacology for Physical Therapy	2
PT 5503 and PT 5504	Cardiovascular and Pulmonary Management and Lab for PT 5503	5
PT 5515 and PT 5516	Integumentary Systems and Lab for PT 5515	3
PT 5138 and PT 5139	Neuroscience and Lab for PT 5138	5
PT 5150 and PT 5151	Motor Control, Development, and Learning and Lab for PT 5150	5
PT 5209 and PT 5210	Neurological Rehabilitation 1 and Lab for PT 5209	5
PT 6221 and PT 6222	Neurological Rehabilitation 2 and Lab for PT 6221	5

PT 6550	Pediatric Aspects of Life Span Management	3
PT 6555	Geriatric Aspects of Life Span Management	2
PT 6305 and PT 6306	Musculoskeletal Management I and Lab for PT 6305	5
PT 6405 and PT 6406	Musculoskeletal Management II and Lab for PT 6405	5
PT 6505 and PT 6506	Musculoskeletal Management 3 and Lab for PT 6505	4
PT 6600	Special Topics	2
PT 6520 and PT 6521	Prosthetic Management and Lab for PT 6520	2
PT 6251	Diagnostic Imaging	3
PT 6420	PT Administration and Management within the U.S. Healthcare System	4
PT 5226	Physical Therapy Professional Seminar 2	2
PT 5540	Clinical Integration 1: Evidence and Practice	2
PT 6250	Clinical Integration 2: Evidence and Practice	2
Clinical		
PT 6441	Clinical Education 1	6
PT 6442	Clinical Education 2	6
PT 6450	Clinical Education 3	8
Research		
PT 6510	Evidence-Based Practice and Research Design	3
PT 6511	Research Methods and Statistics in PT	2
PT 6512	DPT Capstone 1	1
PT 6513	DPT Capstone 2	2
Co-op		
PT 5111	Professional Development for Bouvé Graduate Co-op	1
PT 6964	Co-op Work Experience (taken two semesters)	0

Optional Concentration

- Pediatric Physical Therapy (p. 626)
- Sports Performance (p. 626)

Program Credit/GPA Requirements

123 total semester hours required (138–143 semester hours with optional concentration)
Minimum 3.000 GPA required

Concentration in Pediatric Physical Therapy

Code	Title	Hours
Required		
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
PT 6512	DPT Capstone 1 [1]	1
PT 6513	DPT Capstone 2 [1]	2
PT 6550	Pediatric Aspects of Life Span Management	3
Complete one of the following:		6-8
PT 6442	Clinical Education 2	
PT 6450	Clinical Education 3	

Concentration in Sports Performance

Code	Title	Hours
Required		
PT 5165	Sports Medicine: Managing the Injured Athlete	4
PT 6237	Advanced Special Topics in Physical Therapy [2]	2
PT 6512	DPT Capstone 1	1

PT 6513	DPT Capstone 2	2
Complete one of the following:		6-8
PT 6442	Clinical Education 2	
PT 6450	Clinical Education 3	

1 Pediatric physical therapy concentration students will be assigned a faculty with expertise in pediatric physical therapy. Pediatric-focused PT project proposals will be reviewed and approved by the director of the pediatric physical therapy concentration in line with current course requirements.

2 Sports performance concentration students will be assigned a faculty project in sports, orthopedic, and/or anatomy. PT project proposals will be reviewed and approved by the director of the sports performance concentration in line with current course requirements.

Academic Progression Policies

ACADEMIC STANDING

Students must maintain an overall grade-point average of #3.000 #or higher and successfully complete all professional courses (including cooperative education, integrated clinical education, and full time clinical education experiences) with a grade of C or better (or Satisfactory for experiential education experiences) to progress into the subsequent semester of professional courses.

PROBATION IN THE PROFESSIONAL PHASE

Students in the professional phase of the program who fail any professional course or whose overall GPA drops below a 3.000 must request to the department's Academic Affairs Committee to be granted a semester of academic probation to remediate the deficiency by the semester deadline set by the PTMRS Academic Standing Committee in order to remain in the Doctor of Physical Therapy program. Failure to request probation in a timely manner will result in a student being dismissed from the program.

A DPT student may only be placed on academic probation for one semester at a time or until the failed course is offered again. A DPT student may only be placed on academic probation a maximum of twice during the entire professional phase of the program.

During probation, students must correct all deficiencies as specified in their respective signed probation plan during the applicable probationary period. Failure to remediate the deficiencies within the agreed-upon time will result in dismissal from the program. During the period of probation, the student must earn a semester GPA of 3.000 or better, or the student will be dismissed from the DPT program. Once the student has successfully completed their probation action plan, they should work with their academic advisor to be removed from probation.

The chair of the department's Academic Affairs Committee may grant a DPT student's request for probation without a formal meeting under the following circumstances:

- The student has not already reached their maximum two semesters of probation.
- The student is in good professional standing with the Professional Behaviors Committee in accordance with the professional behaviors policy.

PROFESSIONAL BEHAVIORS REQUIREMENT

See Progression in the DPT Program located in the overview text.

Academic Dismissal from Major

Students in the DPT program will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Failure to earn a grade of C or better in a total of three professional courses, regardless of remediation. Within the physical therapy program, each specific professional course (with separate registration number) will be counted as a separate failure even if content is related.
- Failure to remediate a prior deficiency outlined within the probation contract within the agreed-upon time frame.
- Failure to earn the minimum required grade in the same course twice.
- Failure to maintain an overall GPA of 3.000 or higher during the professional phase of the DPT program. Students will be dismissed if they are not eligible for a probationary status.
- Physical therapy students will be permitted only two changes in year of DPT graduation. Any additional changes to year of graduation will result in the student being dismissed from the program.
- Students who do not adhere to the professional standards of the program are violating academic policy and will be dismissed if any of the following occurs:
  - A third breach of professional standards
  - A second offense of the same professional standard
  - Any egregious breach of a professional standard as outlined in the student manual and/or behaviors that may include but are not limited to violation of the APTA Code of Ethics for the Physical Therapist and/or the APTA Guide for Professional Conduct

Appeal of Academic Standing

Students may request, through their academic advisor, to appeal to the chair of the department's Academic Standing Committee to meet with the committee for an exception to the Academic Progression and Probation Policy for DPT program for extenuating or capricious circumstances as provided in the student's respective handbook.

Essential Functions for Physical Therapy Students

The DPT program at Northeastern University is a challenging and intense program, which places specific demands on a student enrolled in the program. The academic rigor of the program closely corresponds to intellectual and physical demands that a graduate will encounter as a practicing physical therapist. Northeastern's DPT program is designed to prepare students to enter the physical therapy profession as a generalist with the skills, knowledge, and ability to successfully perform all the required functions of an entry-level physical therapist. Essential functions are the aptitudes and abilities required of physical therapist students to successfully complete the curriculum of the DPT program and to perform the clinical skills of a physical therapist consistent with patient/client management as detailed in the Guide to Physical Therapy Practice.

The purpose of this document is to delineate the essential functions that are fundamental to the DPT program. Upon admission, students must be able to perform each of the essential functions outlined below during classroom, laboratory, and experiential education learning activities (including, but not limited to, participation in one-on-one interactions, small group discussion and presentation, large group lectures, service-learning, and patient encounters) in both academic, community, and clinical settings.

Students are also required to demonstrate good judgment, responsibility, integrity, sensitivity, and compassion, while simultaneously being able to accurately synthesize and apply knowledge in a timely and safe manner.

Students are required to perform the following essential functions of the DPT program:

Communication Functions

1. Read, understand, and communicate information in written and spoken formats using the English language.
2. Interpret and respond to the verbal, nonverbal, and written communications of others in an appropriate, professional manner.

Affective Functions

1. Establish, value, and continue to develop professional, respectful, empathetic relationships with individuals from all lifestyles, cultures, ages, socioeconomic backgrounds, and abilities.
2. Develop, value, and maintain effective working relationships with faculty, students, professional colleagues, peers, patients/clients, families, and the general public.
3. Meet externally imposed deadlines and time requirements.
4. React effectively in challenging situations with use of appropriate resources.
5. Demonstrate an ability to function effectively in complex, highly stimulating environments.
6. Demonstrate responsibility for self-directed assessment, reflection, and professional growth.
7. Demonstrate core values of honesty, integrity, and accountability for the consequences of one's own actions.
8. Demonstrate ethical behavior, proper judgement, and decision-making skills.

Cognitive Functions

1. Demonstrate self-management skills including planning, organizing, time management, and adhering to legal/regulatory requirements.
2. Use a variety of sources, including reading material, lecture, discussion, observation, and physical examinations to:
    a. Recall, interpret, extrapolate, and apply information
    b. Measure, analyze, synthesize, and evaluate information
    c. Gather and prioritize information needed to solve a problem
3. Respond appropriately to emerging problems and potentially hazardous situations by making timely judgments to react effectively and seek assistance when necessary.
4. Accept and apply constructive feedback.

Psychomotor Functions

1. Possess physical strength, stamina, balance, movement, hand-eye coordination, and dexterity required to perform patient care tasks in a manner that does not compromise the safety of self or others.
2. Perform intermittent physical activity of the whole body throughout an 8- to 12-hour period.
3. Engage in complex, coordinated movements needed during a variety of activities including skills lab practice, manual techniques, patient examination, intervention, and guarding.
4. Utilize auditory, visual, and tactile senses to receive information from written, spoken, and nonverbal communication mechanisms; observation of human structures; postures and movements; and equipment and or technology.
5. Quickly and appropriately react to sudden or unexpected events or movements of others.

For further information and clarification please refer to the Post Baccalaureate Doctor of Physical Therapy (PBDPT) Student Handbook (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Handbooks.aspx) and Clinical Education Student Manual (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Handbooks.aspx).

Human Movement and Rehabilitation Sciences, MS

A strong global need exists for interdisciplinary, innovative, and translational research and practice directed toward improving quality of life and participation of all people in our communities. To meet this need, we offer a novel Master of Science in Human Movement and Rehabilitation Sciences. Human movement and rehabilitation sciences encompasses a broad range of topics including sports performance, functional assessments, occupational biomechanics and ergonomics, motor control and learning, neuroscience, musculoskeletal disorders, orthopedics, aging, assistive technology, injury prevention and rehabilitation, communication sciences, speech, and early development.

The objective of this program is to prepare graduates to assist in advancing basic, translational, and applied research, as well as practice in human movement and rehabilitation sciences. The program is based on the integration of core skills and concepts across the multiple disciplines that are associated with human movement and rehabilitation sciences, coupled with the acquisition of skills and tools, and specialization within specific areas and tracks.

The Master of Science in Human Movement and Rehabilitation Sciences program is housed in the Department of Physical Therapy, Movement, and Rehabilitation Sciences, offering excellent collaborative teaching and research programs across the departments and school of the Bouvé College of Health Sciences, the Khoury College of Computer Sciences, the College of Engineering, and the College of Science. The 12-month program requires 32 semester hours of required and elective courses, including 4 semester hours devoted to the capstone project.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminar		
Students must enroll for two semesters for a total of 2 semester hours:		2
PT 7030	Interdisciplinary Seminar in Rehabilitation Science	
Rehabilitation Science and Human Movement		
PT 5321	Applications of Biomechanics in Human Function and Movement	4
PT 6230	Capstone Project: Human Movement and Rehabilitation Sciences	4
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
PT 7020	Technologies in Movement and Rehabilitation Science	4

Electives

Code	Title	Hours
Complete 11 semester hours from the list below. Students must petition to take electives outside the approved list.		11
Some courses may require prerequisite coursework.		
BIOE 5235	Biomedical Imaging	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CAEP 6326	Behavioral Concepts and Principles	
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing	
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	
HLTH 5450	Healthcare Research	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6500	Human Performance	
IE 7315	Human Factors Engineering	
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
ME 5665	Musculoskeletal Biomechanics	
ME 7247	Advanced Control Engineering	
PHTH 5202	Introduction to Epidemiology	
PHTH 6202	Intermediate Epidemiology	

PHTH 6210	Applied Regression Analysis
PHTH 6440	Advanced Methods in Biostatistics
PT 5133	Kinesiology
PT 5138	Neuroscience
PT 5150	Motor Control, Development, and Learning
PT 5209	Neurological Rehabilitation 1
PT 5410	Functional Human Neuroanatomy
PT 6221	Neurological Rehabilitation 2
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Extreme Medicine, Graduate Certificate

Overview

The Graduate Certificate in Extreme Medicine is an online interprofessional program designed to prepare healthcare professionals to provide medical services in austere conditions. The core didactic courses provide foundational instruction in human factors, crisis resource management, efficiency of highly skilled teams, and theory and ethics of care in humanitarian crises.

In addition to the certificate courses, students may take one or more optional on-ground experiential practicum courses offered in an executive format. Experiential courses enable students to complete intensive, hands-on training and apply the principles covered in the didactic courses. This program is offered in collaboration with World Extreme Medicine (WEM (https://worldextrememedicine.com/)).

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each of the following:

Code	Title	Hours
MSCI 5001	Human Factors and Situational Awareness	3
MSCI 5002	Crisis Resource Management and Case Studies	3
MSCI 5003	Humanitarian Aid Practice and Principles	3
MSCI 5004	Humanitarian and Disaster Response Ethics	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Optional Courses

After completion of the above courses, students are eligible to register for any of the following using Bouvé College's Special Student (https://registrar.northeastern.edu/article/non-matriculated-registration/) registration process:

Code	Title	Hours
MSCI 5005	Care During Conflict	3
MSCI 5401	Human Factors and Situational Awareness Practicum [1]	2
MSCI 5402	Expedition and Cold Weather Medicine Practicum [1]	2
MSCI 5403	Expedition and Wilderness Medicine Practicum [1]	2
MSCI 5404	Tactical Medicine Practicum [1]	2
MSCI 5405	Humanitarian Medicine Practicum [1]	2

[1] *Please note:* Optional experiential courses may be restricted to licensed or credentialed professionals or to students in the last two years of study in a medical or allied health professional program. Additional fees may apply to experiential courses.

School of Community Health and Behavioral Sciences

Website

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The School of Community Health and Behavioral Sciences offers students interdisciplinary education and research excellence—drawing on novel health technologies and data literacy to address society's most pressing public health issues.

Students in the school are prepared to be the next generation of innovators and thought leaders in the health professions and public health. They will have an opportunity to be empowered to affect real change by leveraging new and emerging technologies and data.

The school is designed to improve individuals, communities, and society through three pillars of excellence:

- Health technologies
- Public mental health
- Social and environmental determinants of health to achieve social justice

Department of Applied Psychology

Graduate programs in the Department of Applied Psychology (including two doctoral programs accredited by the American Psychological Association) reflect Northeastern University's tradition of practice-oriented education with an ecological and multicultural focus. Faculty and students come from diverse ethnic and cultural backgrounds, providing an enriching learning experience. The department is a scientist-practitioner-based unit that generates new psychological knowledge through research, and the translation of research, to applications that promote mental and physical health across the life span.

The Bouvé College of Health Sciences emphasizes experiential and field-based learning, interdisciplinary and global knowledge, and integration of science and practice. The Department of Applied Psychology seeks to prepare students to become mental and behavioral health professionals in a variety of educational, government, community, organizational, and private settings. Our doctoral programs provide excellent educational opportunities for those interested in professional psychology with specialized training for future careers in academic or practice positions as licensed psychologists. Our students have an opportunity to acquire knowledge and competency needed for a lifetime of personal fulfillment and professional achievement.

Doctor of Philosophy (PhD)

- Counseling Psychology (p. 634)
- School Psychology (p. 636)

Certificate of Advanced Graduate Studies (CAGS)

- School Psychology (p. 638)

Master of Science (MS)

- Applied Behavior Analysis (p. 639)
- Applied Educational Psychology (p. 641)
- Applied Psychology (p. 642)

Master of Science in Counseling Psychology (MSCP)

- Counseling Psychology (p. 643)

Graduate Certificate

- Early Intervention (p. 606)

Department of Health Sciences

The Department of Health Sciences in the Bouvé College of Health Sciences at Northeastern University provides a unique, transdisciplinary setting that incorporates academics, research, and practice and seeks to prepare students for a wide range of career paths. We offer a bachelor's degree in health sciences and options for combined majors with the D'Amore-McKim School of Business, the College of Social Sciences and Humanities, the College of Science, the College of Engineering, and the Khoury College of Computer Sciences, in addition to minors in exercise science, public health, global health, and nutrition. We offer several graduate degrees: Master of Public Health, Master of Science in Exercise Science, and a combined master's in the two fields. We have exciting new programs that will begin enrolling in Fall 2023: a one-year accelerated, experiential Master of Public Health and a new Master of Science in Real-World Evidence in collaboration with the OHDSI Center at Northeastern's Roux Institute. We also collaborate with Khoury to offer a Master of Science in Health Informatics, as well as combined graduate degrees with the School of Pharmacy, the Physician Assistant Program, and the School of Law. At the doctoral level, we offer a PhD program in population health and, in cooperation with Khoury, a PhD degree in personal health informatics.

Our diverse faculty has expertise in the fields of population health; health disparities; biostatistics; epidemiology; exercise science; medical sociology; public policy; personal health technologies; neurodevelopmental disorders; and nutrition, environmental, occupational, and mental health, including addictive behaviors and responses to traumatic events. Students have the opportunity to work side-by-side with faculty in conducting cutting-edge research in these fields.

In line with Northeastern's commitment to interdisciplinary research and urban engagement, we teach and work closely with many other schools, centers, and institutes in the university, including the Institute for Health Equity and Social Justice Research; the Center for Community Health Education, Research and Service; the Social Science Environmental Health Research Institute; and the Center for Health Policy and Healthcare Research; as well as community agencies and neighborhood health centers in the local Boston area and beyond.

Doctor of Philosophy (PhD)

- Personal Health Informatics (p. 314)
- Population Health (p. 646)

Master of Public Health (MPH)

- Public Health (p. 650)
- Public Health—Accelerated (p. 652)

Master of Science (MS)

- Exercise Science, MS—Online (p. 654)
- Health Informatics (p. 314)
- Real-World Evidence in Healthcare and Life Sciences (p. 599)

Dual Degree

- Law, JD / Public Health, MPH (p. 602)
- Pharmacy, PharmD (p. 603)—Direct Entry / Public Health, MPH
- Physician Assistant Studies, MS / Public Health, MPH (p. 604)
- Public Health, MPH / Health Informatics, MS (p. 605)

Graduate Certificates

- Health Informatics Management and Exchange (p. 665)
- Health Informatics Privacy and Security (p. 666)
- Health Informatics Software Engineering (p. 667)

Counseling Psychology, PhD

The Doctor of Philosophy in Counseling Psychology program is accredited by the American Psychological Association (APA). It is designed to train the next generation of mental health professionals. The program offers doctoral education and training in psychology and seeks to prepare students for entry-level practice in counseling psychology. Doctoral-level counseling psychologists conduct research, teach at the university level, supervise students and professionals, consult with community agencies, and provide clinical services to people across the developmental life span. Counseling psychologists also enhance the science of health promotion and health psychology and emphasize community-based interventions. It is the mission of the PhD in Counseling Psychology program to train multiculturally competent counseling psychologists who are clinically adept in multiple settings with a variety of psychological and health-related issues and who are able to conceptualize, conduct, and evaluate research across biological, cultural, and relational systems in numerous social contexts, such as families, schools, neighborhoods, and communities.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Four qualifying examinations completed in the first three years—research, ethics, assessment, and intervention
Research team during the first year (two consecutive semesters)
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Basic		
CAEP 6390	History and Systems of Psychology	3
CAEP 6394	Advanced Multicultural Psychology	3
CAEP 7750	Biological Bases of Behavior	3
CAEP 7755	Cognitive and Affective Bases of Behavior	3
CAEP 7756	Social Psychology in an Organizational and Ecological Context	3
Fieldwork		
Complete 8 semester hours from the following:		8
CAEP 7741	Advanced Fieldwork 1	
CAEP 7742	Advanced Fieldwork 2	
CAEP 7743	Advanced Fieldwork 3	
CAEP 7744	Advanced Fieldwork 4	
Clinical		
CAEP 6350	Introduction to Cognitive Assessment	3
CAEP 6352	Personality Assessment	3
CAEP 6360	Consultation and Program Evaluation	3
CAEP 7710	Advanced Clinical Assessment	3
CAEP 7720	Advanced Clinical Interventions	3
CAEP 7758	Doctoral Seminar in Contemporary Theories of Psychotherapy	3
Elective		
Three semester hours can be chosen from any graduate level CAEP course or combination of graduate level CAEP courses outside of the PhD in Counseling Psychology program of study. Other electives may be chosen upon approval of the program director and faculty adviser:		3
Professional		
Complete 6 semester hours from the following:		6
CAEP 7701	Doctoral Seminar in Counseling Psychology (Repeatable 3 times for 1 credit and 3 times for 0 credits)	
CAEP 7732	Legal and Ethical Issues in Community and Educational Settings	
Research		

CAEP 7711	Measurement: Advanced Psychometric Principles	3
CAEP 7712	Intermediate Statistical Data Analysis Techniques	3
CAEP 7716	Advanced Research and Data Analyses 2	3
Internship		
Complete 3 semester hours. Prior to beginning internship consult with director, DCT, and/or the Doctoral Internship Seminar instructor.		3
CAEP 7798	Doctoral Internship	

Dissertation

Code	Title	Hours
CAEP 9990	Dissertation Term 1	
CAEP 9991	Dissertation Term 2	

Program Credit/GPA Requirements

62 total semester hours required
Minimum 3.000 GPA required

School Psychology, PhD

Northeastern University's Doctor of Philosophy in School Psychology program is accredited by the American Psychological Association and the National Association of School Psychologists. The program is designed to prepare the next generation of leaders in school psychology. The ecological perspective and scientist-practitioner training model provide the foundation for the program's educational goals. Students have an opportunity to learn how to conduct research, to use research to inform practice, and to contribute to the scientific foundation of professional practice.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Comprehensive examination
Annual review
Mentored research project
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Professional		
CAEP 6365	Seminar in School Psychology	3
CAEP 7702	Scholarship, Teaching, and Leadership in Applied Psychology	3
CAEP 7732	Legal and Ethical Issues in Community and Educational Settings	3
Basic		
CAEP 6206	Learning Principles	3
CAEP 6218	Infant, Child, and Adolescent Development	3
or CAEP 6220	Development Across the Life Span	
CAEP 6390	History and Systems of Psychology	3
CAEP 7750	Biological Bases of Behavior	3
CAEP 7755	Cognitive and Affective Bases of Behavior	3
CAEP 7756	Social Psychology in an Organizational and Ecological Context	3
Elective Course		
Complete a total of 3 semester hours with faculty advisor's prior approval.		3
Multicultural Competency		
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6394	Advanced Multicultural Psychology	3
Assessment and Intervention		
Coursework		
CAEP 6247	Child and Adolesent Psychopathology	3
CAEP 6345	Promoting Youth Academic Success in Schools	3
CAEP 6347	Behavior Management	3
CAEP 6350	Introduction to Cognitive Assessment	3
CAEP 6353	Curriculum-Based Assessment and Data-Based Decision Making	3
CAEP 6354	Social, Emotional, and Behavioral Assessment	3
CAEP 6360	Consultation and Program Evaluation	3
CAEP 6401	Counseling Children and Adolescents in Schools	3
CAEP 6402	Promoting Social, Emotional, and Behavioral Success in Schools	3
Practicum		
CAEP 6400	Prepracticum in School Psychology	1
CAEP 6999	Practicum Continuation	0
CAEP 8415	Practicum in School Psychology 1	2

CAEP 8416	Practicum in School Psychology 2	2
Fieldwork		
Complete a minimum of 2 semester hours required per course, for a total of 8 semester hours:		
CAEP 7741	Advanced Fieldwork 1	2
CAEP 7742	Advanced Fieldwork 2	2
CAEP 7743	Advanced Fieldwork 3	2
CAEP 7744	Advanced Fieldwork 4	2
Internship		
Complete 3 semester hours. Prior to beginning internship consult with director, DCT, and/or the Doctoral Internship Seminar instructor.		3
CAEP 7798	Doctoral Internship	
Research		
CAEP 6202	Research, Evaluation, and Data Analysis	3
or NRSG 7712	Quantitative Research Methods	
CAEP 6328	Single-Case Research Design	3
CAEP 7703	Grant Writing in the Health Professions	3
CAEP 7711	Measurement: Advanced Psychometric Principles	3
CAEP 7712	Intermediate Statistical Data Analysis Techniques	3
CAEP 7716	Advanced Research and Data Analyses 2	3

Dissertation

Code	Title	Hours
CAEP 9990	Dissertation Term 1	
CAEP 9991	Dissertation Term 2	

Program Credit/GPA Requirements

97 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Students who enter with a master's degree develop an individualized program of study with their advisor, which requires a minimum of 50 semester hours of credit.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Comprehensive examination
Annual review
Mentored research project
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all course work.

Code	Title	Hours
Complete 50 semester hours of approved course work. Consult your faculty advisor for acceptable courses.		50

Dissertation

Code	Title	Hours
Complete the following (repeatable) course twice:		
CAEP 9990	Dissertation Term 1	
CAEP 9991	Dissertation Term 2	

Program Credit/GPA Requirements

50 total semester hours required
Minimum 3.000 GPA required

School Psychology, CAGS

Northeastern University's Certificate of Advanced Graduate Study in School Psychology is approved by the National Association of School Psychologists and the Massachusetts Department of Elementary and Secondary Education. The overarching purpose of the program is to develop highly competent school psychologists. Some students also choose to concentrate in applied behavior analysis or concurrently enroll in the Graduate Certificate in Early Intervention (p. 606). The option to concurrently enroll in early intervention training is designed to prepare school psychologists to work with infants and toddlers and their families in community and related agencies, on interdisciplinary teams, and on the transition to school. The applied behavior analysis concentration is designed to prepare school psychologists to address the learning and behavioral needs of children and adolescents with challenging behaviors in school, home, and community settings, including children with autism spectrum disorders.

Please see also the Master of Science in Applied Educational Psychology (p. 641) program.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in all coursework.

Code	Title	Hours
Clinical/Applied		
CAEP 6345	Promoting Youth Academic Success in Schools	3
CAEP 6347	Behavior Management	3
CAEP 6353	Curriculum-Based Assessment and Data-Based Decision Making	3
CAEP 6354	Social, Emotional, and Behavioral Assessment	3
CAEP 6401	Counseling Children and Adolescents in Schools	3
CAEP 6402	Promoting Social, Emotional, and Behavioral Success in Schools	3
Elective course (with faculty advisement) [1]		3
Practicum		**4**
CAEP 8415	Practicum in School Psychology 1	2
CAEP 8416	Practicum in School Psychology 2	2
CAEP 6999	Practicum Continuation	0
Internship		
Complete 6 semester hours from the following:		6
CAEP 8501	Internship in School Psychology 1	
CAEP 8502	Internship in School Psychology 2	

[1] Courses taken to fulfill the optional concentration may be used to fulfill the elective requirement.

Optional Concentration

APPLIED BEHAVIOR ANALYSIS

Code	Title	Hours
CAEP 6326	Behavioral Concepts and Principles	3
CAEP 6327	Behavior Assessment	3
CAEP 6329	Service Administration	3
CAEP 6336	Systematic Inquiry 1	3
Optional Intensive Practicum		
An intensive practicum is optional in this concentration. Consult your faculty advisor.		
CAEP 8417	Intensive Practicum in Applied Behavior Analysis 1	2
CAEP 8418	Intensive Practicum in Applied Behavior Analysis 2	2
CAEP 8419	Intensive Practicum in Applied Behavior Analysis 3	2
CAEP 8421	Intensive Practicum in Applied Behavior Analysis 4	2

Program Credit/GPA Requirements

31 total semester hours required
Minimum 3.000 GPA required

Applied Behavior Analysis, MS

The Master of Science in Applied Behavior Analysis (ABA) program is designed to prepare graduates to assume supervisory behavior analyst roles in schools and service agencies and to serve as independent consultants. The Association for Behavior Analysis International has verified the following course meets the coursework requirements for eligibility to take the Board Certified Behavior Analyst® or Board Certified Assistant Behavior Analyst® examination. Applicants will need to meet additional requirements before they can be deemed eligible to take the examination. While retaining a practitioner focus, this program examines topics such as conditioned reinforcement, motivational influences on behavior, and errorless teaching procedures. Courses explore the principles and procedures of applied behavior analysis in-depth and address its philosophical underpinnings. With this background, successful graduates are prepared to address the most complex behavior problems and learning challenges. Students complete 7 core courses, plus an additional 3 courses that extend the student's familiarity with clinical procedures and with the research supporting their use. Students may elect to complete their supervised fieldwork hours by taking Intensive Practicum in Applied Behavior Analysis 1–4 (Intensive Practicum in Applied Behavior Analysis 1 (CAEP 8417); Intensive Practicum in Applied Behavior Analysis 2 (CAEP 8418); Intensive Practicum in Applied Behavior Analysis 3 (CAEP 8419); Intensive Practicum in Applied Behavior Analysis 4 (CAEP 8421), in addition to the 10 required courses.

Courses are delivered in an online format. Students attend lectures virtually and view supplementary material on their own schedules, taking advantage of technological advances that promote student learning and increase student-to-instructor and student-to-student communication.

Students take one or two courses each academic term, and courses are offered during the fall, spring, and summer full semesters. Behavioral Concepts and Principles (CAEP 6326) and Service Administration (CAEP 6329) serve as prerequisite courses to the remaining courses in the program.

Professional Portfolio

The capstone for the program is the professional portfolio. This portfolio, which is compiled electronically, documents the student's acquisition of critical behavioral procedures. This portfolio documents the student's behavioral competency in critical clinical skills. These skills, each of which is associated with a specific project, include:

- Preference and reinforce assessment
- Functional assessment of problem behavior
- Task analysis
- Discrete trial
- Stimulus equivalence
- Conditioned reinforcement
- Literature review

Each semester, students complete assignments associated with the above clinical skills, and each assignment culminates in professional documents to be included in the student's professional portfolio. A faculty member reviews and signs each assignment in the professional portfolio. The faculty member's signature indicates that the student has achieved the faculty-established standards for the project. Graduates are encouraged to use their professional portfolio when applying for employment.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Professional Portfolio

- Preference and reinforce assessment
- Functional assessment of problem behavior
- Task analysis
- Discrete trial
- Stimulus equivalence
- Conditioned reinforcement
- Literature review

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Basic		
CAEP 6326	Behavioral Concepts and Principles	3
CAEP 6327	Behavior Assessment	3
CAEP 6328	Single-Case Research Design	3

CAEP 6329	Service Administration	3
CAEP 6331	Advanced Learning Seminar 1	3
CAEP 6334	Applied Programming Seminar 1	3
CAEP 6336	Systematic Inquiry 1	3
Advanced		
CAEP 6324	Programmed Learning	3
CAEP 6332	Advanced Learning Seminar 2	3
CAEP 6335	Applied Programming Seminar 2	3

Practicum

Note: The intensive practicum is optional. Consult your faculty advisor.

Code	Title	Hours
CAEP 8417	Intensive Practicum in Applied Behavior Analysis 1	2
CAEP 8418	Intensive Practicum in Applied Behavior Analysis 2	2
CAEP 8419	Intensive Practicum in Applied Behavior Analysis 3	2
CAEP 8421	Intensive Practicum in Applied Behavior Analysis 4	2

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Applied Educational Psychology, MS

Within Northeastern University's MS in Applied Educational Psychology, students enroll in foundational courses in learning, human development, assessment, and diversity. Students also begin their practicum sequence with the pre-practicum, the purpose of which is to provide students with observational experiences and an early opportunity to learn about the school ecology. Following completion of the MS in Applied Educational Psychology, students in good academic standing will enter the CAGS in School Psychology program. Both the MS and CAGS are necessary to obtain licensure as a school psychologist.

Students who are interested in concurrently pursuing early intervention qualification should consider the Early Intervention Graduate Certificate (p. 606) . Please see also the CAGS School Psychology (p. 638) program.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in all coursework.

Code	Title	Hours
Clinical/Applied		
CAEP 6201	Introduction to Assessment	3
CAEP 6350	Introduction to Cognitive Assessment	3
CAEP 6400	Prepracticum in School Psychology	1
Foundations		
CAEP 6202	Research, Evaluation, and Data Analysis (course being added as additional way to fulfill stats requirement)	3
or HLTH 5410	Introduction to Statistics in Health and Behavioral Science	
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6206	Learning Principles	3
CAEP 6218	Infant, Child, and Adolescent Development	3
CAEP 6247	Child and Adolesent Psychopathology	3
CAEP 6328	Single-Case Research Design	3
CAEP 6360	Consultation and Program Evaluation	3
CAEP 6365	Seminar in School Psychology	3

Program Credit/GPA Requirements

31 total semester hours required
Minimum 3.000 GPA required

Applied Psychology, MS

The Master of Science in Applied Psychology program at Northeastern is committed to providing evidence-based knowledge in counseling psychology to students who seek entry into a PhD in Counseling Psychology program and to graduates of baccalaureate degrees in human services, psychology, and health sciences who desire quality training in applied psychology. The program is 30 semester hours and is intended to be completed in two semesters. It does not meet licensing regulations for mental health counselors in the Commonwealth of Massachusetts.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
CAEP 5877	Research Methods in Applied Psychology	3
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6260	Community Counseling Psychology	3
CAEP 6282	Ethics and Professional Development	3
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	3

Concentrations

Complete one of the following:

- Child, Adolescent, and Family Psychology (p. 642)
- Prevention Science (p. 642)

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

CHILD, ADOLESCENT, AND FAMILY PSYCHOLOGY

Code	Title	Hours
Complete five of the following:		15
CAEP 5150	Early Intervention: Family Systems	
CAEP 5878	Pediatric Psychology	
CAEP 5879	Trauma and Mental Health	
CAEP 6218	Infant, Child, and Adolescent Development	
CAEP 6222	Human Sexuality	
CAEP 6247	Child and Adolesent Psychopathology	

PREVENTION SCIENCE

Code	Title	Hours
CAEP 5876	Mental Health Education and Program Planning	3
CAEP 6220	Development Across the Life Span	3
CAEP 6242	Psychopathology: Diagnosis and Treatment Planning	3
CAEP 6360	Consultation and Program Evaluation	3
PHTH 6204	Society, Behavior, and Health	3

Counseling Psychology, MSCP

The Master of Science in Counseling Psychology program at Northeastern University is committed to the development of competent Licensed Mental Health Counselors (LMHC) through the disciplinary studies and contemporary professional practice of counseling psychology. The program complies with licensing regulations for mental health counselors in the Commonwealth of Massachusetts and is unique in its offer of a choice of specific specializations to gain additional depth in selected areas within the general Master of Science program.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

The MSCP program requires a grade of B or better in all courses. Practicum and internship courses require a grade of Satisfactory (S). Grades of B– and lower or Unsatisfactory (U) are inconsistent with this policy. If received, students will be required to pay for the course again, repeat the course, and earn a grade of B or better or a grade of Satisfactory (S) in clinical practice courses.

Core Requirements

Code	Title	Hours
Seminar		
CAEP 6380	Seminar in Feminist Psychology	3
Required Core		
CAEP 6200	Introduction to Counseling: Theory and Process in an Ecological Context	3
CAEP 6201	Introduction to Assessment	3
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6220	Development Across the Life Span	3
CAEP 6235	Vocational, Education, and Career Development	3
CAEP 6242	Psychopathology: Diagnosis and Treatment Planning	3
CAEP 6250	Individual Interventions	3
CAEP 6260	Community Counseling Psychology	3
CAEP 6282	Ethics and Professional Development	3
CAEP 6287	Group Counseling	3
CAEP 6375	Substance Use and Treatment	3
CAEP 6399	Clinical Skills in Counseling Psychology	3
Research		
CAEP 6202	Research, Evaluation, and Data Analysis	3
Practicum		
CAEP 8401	Practicum in Counseling Psychology [1]	3
Internship		
CAEP 8510	Internship in Counseling Psychology 1	3
CAEP 8511	Internship in Counseling Psychology 2	3

[1] If a student enrolls in Practicum in Counseling Psychology (CAEP 8401) two times, the student may only choose 6 semester hours for electives. In rare cases where the student has chosen a *concentration and enrolls in CAEP 8401 two times*, the successful completion of Practicum in Counseling Psychology (CAEP 8401) for the second time takes priority. The student then must either forgo the concentration to complete the program with 60 semester hours or may choose to enroll in an additional course to complete the program plus concentration for a total of 63 semester hours.

Concentration or Electives

In addition to the core requirements, students may choose to complete either a concentration or electives.

- Child and Adolescent Counseling Concentration (p. 644)
- Early Intervention Concentration (p. 644)
- Research in Counseling Psychology Concentration (p. 644)
- Electives Option (p. 644)

Program Credit/GPA Requirements

60–63 total semester hours required

Minimum 3.000 GPA required

CHILD AND ADOLESCENT COUNSELING CONCENTRATION

Code	Title	Hours
CAEP 6247	Child and Adolesent Psychopathology	3
CAEP 6401	Counseling Children and Adolescents in Schools	3
Complete one of the following:		3
CAEP 6218	Infant, Child, and Adolescent Development	
CAEP 6402	Promoting Social, Emotional, and Behavioral Success in Schools	

EARLY INTERVENTION CONCENTRATION

Students who would like to earn a certification in early intervention must complete two semesters of internship at an early intervention site.

Code	Title	Hours
Complete 9 semester hours from the following:		9
CAEP 5150	Early Intervention: Family Systems	
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	
CAEP 5153	Early Intervention: Assessment and Intervention	
CAEP 6218	Infant, Child, and Adolescent Development	
SLPA 5152	Early Intervention: Planning and Evaluating Services	

RESEARCH IN COUNSELING PSYCHOLOGY CONCENTRATION

Code	Title	Hours
Complete 9 semester hours from the following:		9
CAEP 6328	Single-Case Research Design	
CAEP 7711	Measurement: Advanced Psychometric Principles	
CAEP 7712	Intermediate Statistical Data Analysis Techniques	
CAEP 7716	Advanced Research and Data Analyses 2	
CAEP 7771	Research Team Experience	
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	
PHTH 6320	Qualitative Methods in Health and Illness	

ELECTIVES OPTION

When students are required to complete Practicum in Counseling Psychology (CAEP 8401) two times, students may only choose 6 semester hours as electives. Electives not on this list may be chosen with faculty advisor approval.

Code	Title	Hours
Complete 9 semester hours from the following:		9
CAEP 6218	Infant, Child, and Adolescent Development	
CAEP 6222	Human Sexuality	
CAEP 6247	Child and Adolesent Psychopathology	
CAEP 6283	Brief Therapies	
CAEP 6286	Family Counseling Interventions	
CAEP 6390	History and Systems of Psychology	
CAEP 6394	Advanced Multicultural Psychology	
CAEP 7720	Advanced Clinical Interventions	
CAEP 7758	Doctoral Seminar in Contemporary Theories of Psychotherapy	
PHTH 6320	Qualitative Methods in Health and Illness	

Early Intervention, Graduate Certificate

Northeastern University's Certificate Program in Early Intervention is an interdisciplinary, preservice training program that is designed to fulfill requirements for certification as an early intervention specialist, at the advanced provisional level, as set forth by the Massachusetts Department of Public Health (DPH).

The interdisciplinary nature of the program is facilitated by the interaction of graduate students from several disciplines (including school psychology, counseling psychology, and speech-language pathology); undergraduate students from majors such as speech-language pathology and audiology and psychology; and working professionals in the field. Personnel working in the field may use their work sites for field training.

The program is delivered in a hybrid format. Classes meet on campus one day each month, and additional course content is delivered online.

This graduate certificate program can be completed by non-degree-seeking students or integrated with master's or clinical doctoral degree programs. Application of course work from certain degree programs will be approved to apply to requirements of this graduate certificate; students are encouraged to speak with their academic advisors early in their programs to explore these options.

The goals for the early intervention certificate program are:

- To prepare personnel to provide services to infants and toddlers with disabilities and their families, from linguistically and culturally diverse backgrounds in urban environments
- To prepare personnel who have attained all competencies relative to early intervention, specified by the Massachusetts DPH, and that are consistent with best practice and research
- To prepare personnel in an interdisciplinary manner, drawing from Northeastern University's multidisciplinary resources
- To prepare personnel to function effectively across teams (individualized family service plan teams, community teams, interagency teams) and to understand the roles of their interdisciplinary teammates

Upon graduation, students are eligible for employment in an early intervention service delivery setting.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all courses.

Code	Title	Hours
Required Core		
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
SLPA 5152	Early Intervention: Planning and Evaluating Services	3
CAEP 5153	Early Intervention: Assessment and Intervention	3
Practicum		
SLPA 5154	Early Intervention Practicum 1	2
SLPA 5155	Early Intervention Practicum 2	2

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Population Health, PhD

This program seeks to train students to become public health researchers and leaders through simultaneous examination of multiple determinations of health, including social, environmental, nutritional, and behavioral risk factors. Our students investigate the underlying causes of adverse health, including disease, disparities, and disability, through training in core population health disciplines—biostatistics, epidemiology, and health services—together with individual-specific and specialized training in topics related to student research. Importantly, our students are mentored by Northeastern's distinguished faculty, who individually and together conduct innovative, solution-focused research in critical population health topics.

Our population health doctoral students have an opportunity to learn to conduct research that addresses five key health determinants:

1. Social and community contexts
2. Environment and neighborhoods
3. Health and healthcare delivery
4. Education
5. Economic stability

Our diverse faculty has expertise in numerous population health disciplines, including health services research, health disparities, environmental and social epidemiology, biostatistics, exercise science, medical sociology, public policy, personal health technologies, and mental health. Students have the opportunity to work side by side with faculty in conducting cutting-edge, transdisciplinary research in these fields.

Course Requirements

All population health PhD candidates must earn at least 33 semester hours by completing core research courses, selecting a concentration and taking courses for that concentration, and taking additional electives and directed study courses as needed and in consultation with their faculty advisors. They must complete a dissertation in order to earn their degree. Eight core courses (22–23 semester hours) must be taken by all students, in addition to a mandatory, non-credit-bearing seminar speaker series. All students must fulfill the requirements of their specific population health option: social and environmental determinants of health or health services and policy. There may be some flexibility in course selection based on a student's relevant experience and dissertation topic. Students must consult with their advisor before selecting elective courses (9–10 semester hours). Electives should be used to either help the student develop skills needed for research or to help the student develop new research ideas.

ADVANCED ENTRY

This program is strictly for students who already have a master's degree in public health or a closely related area and have full-time employment at a company or agency who has entered into an agreement with Northeastern to be the student's sponsor. Completion of the PhD program requires 21–23 semester hours, including a yearlong research methods seminar and other advanced research courses. All students must fulfill the course requirements of their specific population health option: social and environmental determinants of health (9 semester hours) or health services and policy (7 semester hours). There may be some flexibility in course selection based on a student's relevant experience and dissertation topic. Students must consult with their advisor before selecting elective courses. Electives can be used to either help the student develop skills needed for research or to help the student develop new research ideas but are not required.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Population Health (https://catalog.northeastern.edu/graduate/health-sciences/community-health-behavioral-sciences/population-health-ms/*) degree. Note that no students will be admitted directly into the Population Health program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Oral defense of dissertation proposal
Candidacy status
Dissertation defense

Core Requirements

Code	Title	Hours
Health Services		
PHTH 5232	Evaluating Healthcare Quality	3

or PHTH 5234	Economic Perspectives on Health Policy	
Population Health		
PHTH 6400	Principles of Population Health 1	3
PHTH 6410	Principles of Population Health 2	3
Epidemiology		
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Research Ethics		
BIOL 6381	Ethics in Biological Research	2
or PHSC 5212	Research Skills and Ethics	
Research and Analysis		
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3

Options

Complete one of the following options:

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH OPTION

Code	Title	Hours
PHTH 6224	Social Epidemiology	3
PHTH 6440	Advanced Methods in Biostatistics	3
PHTH 6800	Causal Inference in Public Health Research	3
Electives		2-4

HEALTH SERVICES AND POLICY OPTION

Code	Title	Hours
ECON 5110	Microeconomic Theory	4
PHTH 5234	Economic Perspectives on Health Policy	3
Electives		3-4

Electives

Code	Title	Hours
CS 6220	Data Mining Techniques	
CS 7280	Special Topics in Database Management	
ECON 5110	Microeconomic Theory	
ECON 5140	Applied Econometrics	
ECON 7200	Topics in Applied Economics	
EXSC 5200	Cardiopulmonary Physiology	
EXSC 5220	Advanced Exercise Physiology	
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HRMG 6220	Health Organization Management	
PHSC 6216	Human Physiology and Pathophysiology	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5540	Health Education and Program Planning	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
PHTH 6208	Urban Community Health Assessment	
PHTH 6320	Qualitative Methods in Health and Illness	
SOCL 7287	Social Movements in Health	
STRT 6220	Strategic Management for Healthcare Organizations	

Dissertation

Code	Title	Hours
PHTH 9990	Dissertation Term 1	
PHTH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Oral defense of dissertation proposal
Candidacy Status
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework. Students must complete all core requirements unless otherwise indicated:

Code	Title	Hours
Population Health		
PHTH 6400	Principles of Population Health 1	3
PHTH 6410	Principles of Population Health 2	3
Epidemiology		
PHTH 6202	Intermediate Epidemiology	3
Research Ethics		
BIOL 6381	Ethics in Biological Research	2
or PHSC 5212	Research Skills and Ethics	
Research and Analysis		
PHTH 6210	Applied Regression Analysis	3

Options

Complete one of the following options:

- Social and Environmental Determinants of Health Option
- Health Services and Policy Option

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH OPTION

Code	Title	Hours
PHTH 6224	Social Epidemiology	3
PHTH 6440	Advanced Methods in Biostatistics	3
PHTH 6800	Causal Inference in Public Health Research	3

HEALTH SERVICES AND POLICY OPTION

Code	Title	Hours
ECON 5110	Microeconomic Theory	4
PHTH 5234	Economic Perspectives on Health Policy	3

Electives

Students may elect to take additional course credits to support their dissertation work.

Code	Title	Hours
CS 6220	Data Mining Techniques	
CS 7280	Special Topics in Database Management	
ECON 5140	Applied Econometrics	

EXSC 5200	Cardiopulmonary Physiology
EXSC 5220	Advanced Exercise Physiology
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease
HINF 5200	Theoretical Foundations in Personal Health Informatics
HRMG 6220	Health Organization Management
PHSC 6216	Human Physiology and Pathophysiology
PHTH 5212	Public Health Administration and Policy
PHTH 5214	Environmental Health
PHTH 5226	Strategic Management and Leadership in Healthcare
PHTH 5230	Global Health
PHTH 5540	Health Education and Program Planning
PHTH 6200	Principles and History of Urban Health
PHTH 6204	Society, Behavior, and Health
PHTH 6208	Urban Community Health Assessment
PHTH 6320	Qualitative Methods in Health and Illness
SOCL 7287	Social Movements in Health
STRT 6220	Strategic Management for Healthcare Organizations

Dissertation

Code	Title	Hours
PHTH 9990	Dissertation Term 1	
PHTH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Minimum 21 total semester hours required
Minimum 3.000 GPA required

Public Health, MPH

Through innovation in experiential education, research, and service, the Master of Public Health at Northeastern University (https://bouve.northeastern.edu/health-sciences/programs/master-public-health/) trains diverse and skilled professionals who promote and protect the health of all communities. This program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

MPH—Traditional

In order to help prepare the next generation of public health leaders and professionals, the MPH offers our diverse graduate students an opportunity to:

- Participate in learning options that meet the needs of the working professional:
  - On-ground, Boston courses are offered in the evening (most classes meet once a week from 5:00 p.m. to 7:30 p.m.)
  - Enroll as either a full-time or part-time student
  - Complete your degree online, on-ground, or in hybrid format (combination of both)
  - MPH students on the Charlotte campus participate in residency courses to fulfill experiential and core coursework
- Take 9 semester hours of *concentration* coursework in emerging, relevant areas in the field, including public mental health and public health technologies, or choose electives from a wide range of topics, including cross-departmental offerings from Northeastern's other colleges (law, business, social sciences, and more)
- Enjoy a supportive learning environment that includes outstanding student mentoring

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Traditional Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each required course.

Code	Title	Hours
Public Health Core		
PHTH 5202	Introduction to Epidemiology	3
PHTH 5210	Biostatistics in Public Health	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 5540	Health Education and Program Planning	3
PHTH 6204	Society, Behavior, and Health	3
Social Determinants of Health Core		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3
Experiential Core		
PHTH 6966	Practicum	3
PHTH 6910	Public Health Capstone	3

Concentration or Electives Option

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration for a total of 9 semester hours.

- Public Health Technologies Concentration (p. 651)
- Public Mental Health Concentration (p. 651)
- Electives Option (p. 651)

Program Credit/GPA Requirements

42 total semester hours required
Minimum 3.000 GPA required

PUBLIC HEALTH TECHNOLOGIES CONCENTRATION

Code	Title	Hours
HINF 5102	Data Management in Healthcare	3
HINF 6400	Introduction to Health Data Analytics	3
PHTH 6130	Public Health Technologies: Ethics and Equity	3

PUBLIC MENTAL HEALTH CONCENTRATION

Code	Title	Hours
CAEP 6100	Prevention and Intervention: Evidence-Based Practices	3
CAEP 6110	Etiology-Psychopathology Across the Life Span	3
CAEP 6220	Development Across the Life Span	3

ELECTIVES OPTION

Code	Title	Hours
Complete 9 semester hours from the following (in consultation with your faculty advisor, you may complete electives from another discipline):		9
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 5330	Using Publicly Available Data in Public Health	
PHTH 5340	Writing for Peer-Reviewed Journals in Public Health	
PHTH 5350	Using SAS in Public Health Research	
PHTH 5540	Health Education and Program Planning	
PHTH 6202	Intermediate Epidemiology	
PHTH 6210	Applied Regression Analysis	
PHTH 6224	Social Epidemiology	
PHTH 6320	Qualitative Methods in Health and Illness	
PHTH 6400	Principles of Population Health 1	
PHTH 6410	Principles of Population Health 2	
PHTH 6440	Advanced Methods in Biostatistics	
PHTH 6800	Causal Inference in Public Health Research	
PPUA 6509	Techniques of Program Evaluation	

Public Health, MPH—Accelerated

Through innovation in experiential education, research, and service, the Master of Public Health at Northeastern University (https://bouve.northeastern.edu/health-sciences/programs/master-public-health/)trains diverse and skilled professionals who promote and protect the health of all communities. This program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

MPH—One-Year Accelerated

The one-year accelerated MPH pathway allows students to complete all degree components in 12 months with an emphasis on public health practice and industry partnerships. This is a full-time, asynchronous online program for midcareer professionals that offers an opportunity to:

- Take 9 semester hours of *elective* coursework from a wide range of practical, public health topics including cross-departmental offerings
- Fulfill experiential coursework through industry partnerships and faculty networking
- Enjoy a supportive learning environment that includes outstanding student mentoring

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each required course.

Code	Title	Hours
Required Core		
PHTH 5202	Introduction to Epidemiology	3
PHTH 5210	Biostatistics in Public Health	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 5540	Health Education and Program Planning	3
PHTH 6204	Society, Behavior, and Health	3
Social Determinants of Health Core		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3
Experiential		
PHTH 6910	Public Health Capstone	3
PHTH 6966	Practicum	3

Electives

Code	Title	Hours
Complete 9 semester hours from the following (in consultation with your faculty advisor, you may complete electives from another discipline):		9
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 5330	Using Publicly Available Data in Public Health	
PHTH 5340	Writing for Peer-Reviewed Journals in Public Health	
PHTH 5540	Health Education and Program Planning	
PHTH 6320	Qualitative Methods in Health and Illness	
PHTH 6400	Principles of Population Health 1	
PHTH 6410	Principles of Population Health 2	
PHTH 6962	Elective	

Program Credit/GPA Requirements

42 total semester hours required

Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours	Summer Full Semester	Hours
Fall A		Spring A		Elective 1	3	Elective 3	3	PHTH 6910	3
PHTH 6200	3	PHTH 5212	3	Elective 2	3				
PHTH 6208	3	PHTH 5120	3						
Fall B		Spring B							
PHTH 6204	3	PHTH 5214	3						
PHTH 5540	3	Full Spring							
Full Fall		PHTH 5202	3						
PHTH 5210	3	PHTH 6966	3						
	15		**15**		**6**		**3**		**3**

Total Hours: 42

Exercise Science, MS—Online

The Department of Health Sciences offers a Master of Science in Exercise Science with two concentrations: clinical exercise physiology and physical activity and public health.

The curriculum is offered in a low-residency format with fully online courses and a four-day on-campus component for hands-on learning and training to prepare students for experiential education in the field through internship or practicum. An alternative option can be offered to students who are unable to attend the on-campus component in exceptional situations.

The exercise science core curriculum integrates key competencies for a degree in exercise science recommended by the American College of Sports Medicine, including a knowledge of exercise physiology and the assessment and development of physical activity and exercise programs for the general and clinical populations. Physical inactivity is a major public health problem and a significant risk factor for many chronic diseases, including heart disease, stroke, hypertension, metabolic syndrome, obesity, type 2 diabetes, and some types of cancer.

The clinical exercise physiology concentration provides students with the foundation and hands-on skills for patient assessment and exercise testing. It covers the principles for exercise training and patient education for behavior change. Students choosing this concentration will be given the opportunity to evaluate and develop exercise prescription for individuals and groups. The competencies offered through the clinical exercise physiology concentration are covered under the domains of clinical exercise physiologist requirements provided by ACSM.

The physical activity and public health concentration provides students with the foundation to plan, develop, implement, and evaluate primary prevention programs using exercise and physical activity in diverse populations and community settings. It also provides the foundation to understand how these programs are administered and the approaches to translate evidence-based programs in primary prevention to practice and policy.

Graduate students seeking this degree are members of the Bouvé College of Health Sciences—a leading national model for education and research in the health, psychosocial, and biomedical sciences, which supports the university's mission of educating students for a life of fulfillment and accomplishment and creating and translating knowledge to meet global and societal needs through interdisciplinary research, urban engagement, experiential learning, and the integration of classroom learning with real-world experience. Faculty in the department are exploring a range of research topics, including acute/chronic effects of exercise, community-based exercise and nutrition interventions, nutrition epidemiology, health disparities, urban public health, and the application of technology for measuring and motivating behavior change.

Two unique features of the program are:

- The program offers two concentrations of study based on student interest: clinical exercise physiology and physical activity and public health. Students take three courses in their selected concentration to enhance their specific domain knowledge. The concentrations are designed to offer students the skills and knowledge to pursue career opportunities in a variety of settings including federal/private/nonprofit institutions and clinical settings.
- The curriculum provides students the option of pursuing experiential learning opportunities through internship or practicum in the field. Experiential education is a key component of the program because application of classroom knowledge provides valuable preparation for a career in exercise science.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Exercise Science		
EXSC 5200	Cardiopulmonary Physiology	3
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing [1]	3
EXSC 5220	Advanced Exercise Physiology	3
EXSC 6202	Electrocardiography, Clinical Assessment, and Prescription	3
Research		
EXSC 6400	Applied Research Methods	3
PHTH 5202	Introduction to Epidemiology	3
PHTH 5210	Biostatistics in Public Health	3
or HLTH 5410	Introduction to Statistics in Health and Behavioral Science	

Concentrations

Choose one concentration and complete all courses and requirements unless otherwise indicated.

- Clinical Exercise Physiology (p. 655)
- Physical Activity and Public Health (p. 655)

Program Credit/GPA Requirement

30 total semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN CLINICAL EXERCISE PHYSIOLOGY

Code	Title	Hours
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	3
EXSC 5240	Clinical Nutrition Applications in Health and Disease	3-4
EXSC 6300	Internship in Exercise Science [2]	3
or HINF 6240	Improving the Patient Experience through Informatics	

CONCENTRATION IN PHYSICAL ACTIVITY AND PUBLIC HEALTH

Code	Title	Hours
PHTH 5540	Health Education and Program Planning	3
PHTH 6208	Urban Community Health Assessment	3
Complete 3 semester hours from the following:		3
EXSC 6966	Practicum [2]	
PHTH 5000 or higher		

1 Includes a required four-day on-campus experience.
2 with advisor approval an alternate 3 semester hours of graduate coursework may be substituted

Health Informatics, MS

Northeastern University's interdisciplinary Master of Science in Health Informatics was the first MS in the field and is now one of the few that is fully interdisciplinary between health science and computer science.

The program seeks to prepare students to address the combined clinical, technical, and business needs of health-related professionals. Students may opt to select a concentration to deepen their knowledge in a particular area. Successful students graduate with the knowledge of how technology, people, health, and the healthcare system interrelate; the ability to use technology and information management to improve healthcare delivery and outcomes; and the skills to communicate effectively among healthcare practitioners, administrators, information technology professionals, and patients.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B– or higher is required in each course.

Core Requirements

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5105	The American Healthcare System	3

Program Options

Choose one of the following options:

- Health Informatics (Without Concentration) (p. 314)
- Health Informatics with Health Informatics Analytics Concentration (p. 315)
- Health Informatics with Personal Health Informatics Concentration (p. 316)

Program Credit/GPA Requirements

Minimum 33 total semester hours required
Minimum 3.000 GPA required

HEALTH INFORMATICS (WITHOUT CONCENTRATION)

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	

HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
Complete two of the following:		6
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
HINF 6400	Introduction to Health Data Analytics	
PHTH 5202	Introduction to Epidemiology	
PHTH 5210	Biostatistics in Public Health	
PHTH 6210	Applied Regression Analysis	
PHTH 6400	Principles of Population Health 1	
PHTH 6440	Advanced Methods in Biostatistics	
One course from the following may count toward the technical core requirement:		
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
Capstone		
HINF 7701	Health Informatics Capstone Project	3
Electives		
Complete two of the following:		6
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
HINF 6345	Design for Usability in Healthcare	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

HEALTH INFORMATICS ANALYTICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	
HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Capstone		
HINF 7701	Health Informatics Capstone Project	3
Elective		
Complete one of the following:		4
IE 5137	Computational Modeling in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	

PERSONAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Health Informatics		
HINF 6205	Creation and Application of Medical Knowledge	3
Technical		
CS 5340	Computer/Human Interaction	4
Complete one of the following. Students must petition to take electives outside the approved list.		4
CS 5010	Programming Design Paradigm	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 6200	Information Retrieval	
Complete one of the following:		3
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
Theory and Evaluation		
PHTH 5210	Biostatistics in Public Health [1]	3
Complete one of the following:		4
CS 6350	Empirical Research Methods (On campus only)	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Culminating Experience		
Complete one of the two options below.		6
Thesis Option		
Students must enroll in HINF 7990 for two semesters for a total of 6 semester hours with director approval only and under supervision of Personal Health Informatics faculty.		
HINF 7990	Thesis	
Capstone Option		
HINF 7701	Health Informatics Capstone Project	
Complete any course for a minumum of 3 semester from the Health Informatics (without concentration) curriculum, that has not been used in previous requirements.		

[1] Student may petition director to take a more advanced stats course, such as Applied Regression Analysis (PHTH 6210).

Real-World Evidence in Healthcare and Life Sciences, MS

Overview

The Master of Science in Real-World Evidence (RWE) is an interdisciplinary, flexible, and contemporary degree that focuses on best practices for the appropriate acquisition and analysis of observational health data. Housed in the Department of Health Sciences and the Roux Institute, learners explore how observational research produces a comprehensive understanding of disease, including experience with appropriate methods and software to conduct this research.

RWE#is the clinical evidence regarding the usage and potential benefits, or risks, of a medical product derived from analysis of real-world data (RWD). RWE can be generated by different study designs or analyses, including but not limited to randomized trials, pragmatic trials, and observational studies. RWDare the data relating to patient health status and/or the delivery of healthcare routinely collected from a variety of sources, for example, electronic health records, claims, and billing activities.

RWD and RWE are playing an increasing role in healthcare decisions. The FDA uses RWD and RWE to monitor postmarket safety and to make regulatory decisions. The healthcare community uses these data to support coverage decisions and to develop guidelines and decision support tools for clinical practice. Medical product developers use RWD and RWE to support clinical trial designs and observational studies to generate innovative, new treatment approaches.

This program is based on open, reproducible science—including the use of common data models and open-source analytics software to codify these practices into consistent, transparent, reproducible solutions—and applies these tools and practices to answer clinical questions by generating evidence to guide healthcare policy and improve patient outcomes.

The program seeks to educate two key professionals: analysts and researchers.

An analyst is a technician (e.g., solution architect, epidemiologist, data scientist, etc.) who is engaging in RWE studies by utilizing statistical tools and epidemiologic methods to operationalize and analyze RWD. Technicians may be carrying out activities on behalf of an institution or may be working as individuals interested in the technology that RWD offers. They may be involved in any stage of the RWD/RWE continuum (extract-transform-load [ETL]/data quality processes, tool enablement and self-service analytics, visualization, communication) and are often interested in extending these resources to serve additional use cases or new functionality.

A researcher is one who originates from any number of backgrounds (statistics, clinical training, public health, biological sciences, data science, etc.) who engages in the RWD community for the sake of designing and conducting a research study. Researchers want to know how to run their own observational research studies. In their day, researchers were often responsible for translating the science into better decisions and better care.

The intent of this program is to curate interdisciplinary expertise to support the evidence-generation process in the pharmacoepidemiology research community. The curriculum aims to ensure that learners can obtain in-demand skills that are immediately deployable in roles at pharmaceutical companies, regulatory authorities, health systems, technology companies, and consulting groups specializing in life sciences and healthcare.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
HSCI 5130	Introduction to Real-World Evidence	2
HSCI 5140	Foundations of Data Models	2
HSCI 5150	Methods for Observational Research 1	3
HSCI 5151	Methods for Observational Research 2	3
HSCI 5160	Standardization of Real-World Data	2
HSCI 5170	Data Model Transformation	2
PHSC 5212	Research Skills and Ethics	2
Capstone Requirement		
HSCI 6980	Real-World Evidence Capstone	3

Selectives

Code	Title	Hours
Complete a minimum of 6 semester hours from the following:		6-12
HSCI 5180	Phenotyping	
HSCI 5190	Cohort Building	

HSCI 6110	Advanced Population Characterization
HSCI 6120	Advanced Population Estimation
HSCI 6130	Advanced Patient Prediction

Electives

Code	Title	Hours
Complete up to 6 semester hours from the following (electives are selected in consultation with the program director):		6
HINF 5300	Personal Health Interface Design and Development	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Law, JD / Public Health, MPH

Northeastern University's School of Law and Bouvé College of Health Sciences offer a JD/MPH dual degree. Given the worldwide trend toward urbanization, the Master of Public Health (MPH) recognizes the growing need for professionals trained to respond to unique public health challenges and opportunities facing urban populations. The MPH program brings together interdisciplinary faculty (from the School of Law, D'Amore-McKim School of Business, College of Social Sciences and Humanities, Khoury College of Computer Sciences, and the Bouvé College of Health Sciences) with expertise in collaborating with diverse urban populations to offer students an opportunity to obtain practice-based knowledge, skills, and experience needed to address public health problems.

Up to 9 credit hours of coursework in the JD program may count toward the MPH, while up to 12 credit hours of coursework in the MPH program may count toward the JD. See the JD/MPH program page (https://law.northeastern.edu/academics/programs/jd/dual-degrees/public-health-bouve/) for more information.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Pharmacy, PharmD—Direct Entry / Public Health, MPH

The School of Pharmacy and Pharmaceutical Sciences and the Department of Health Sciences offer a combined Doctor of Pharmacy (PharmD) and Master of Public Health (MPH) program.

The combined PharmD/MPH program recognizes and reinforces the importance of public health in pharmacy practice. Central to addressing public health concerns, and in particular those associated with racial and ethnic health disparities, the program is committed to building a strong, diverse, and activist public health workforce. The goal of the program is to graduate professionals who are well educated in the complex issues associated with disparate health status and healthcare access. The combined PharmD/MPH program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree while also completing their PharmD.

Refer to the School of Pharmacy and Pharmaceutical Sciences PharmD—Direct Entry (p. 720) and Department of Health Sciences Master of Public Health (p. 650) pages of this catalog for program requirements and technical standards. Students must adhere to all PharmD and MPH program standards, policies, and requirements as listed in the catalog, unless otherwise specified.

The Northeastern University Master of Public Health Program is accredited by the Council of Education for Public Health. CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Physician Assistant, MS / Public Health, MPH

The Northeastern University physician assistant program and Department of Health Sciences offer a dual degree program: Master of Science in Physician Assistant/Master of Public Health. The dual MS and MPH degree program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree, while also completing their Master of Science degree in the PA program.

The Northeastern Master of Public Health program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health. The MPH program has a strong commitment to providing a flexible course of study for working professionals. This flexibility allows for easy incorporation into a dual degree program.

The dual degree program is designed to help diversify the public health workforce and improve graduates' ability to approach clinical situations with cultural sensitivity and awareness. Graduates of the program benefit from having a greater understanding of public health issues in clinical practice, including the racial and ethnic health disparities prevalent in the U.S. healthcare system, as well as a strong grounding in epidemiology, quantitative and qualitative research methods, and the use of scientific evidence, skills critical to many fields of healthcare practice.

This dual degree takes less than three years to complete (as opposed to four years, if each degree were pursued separately), and a total of 12 semester hours are shared between both degrees.

For more information, including the application and admissions process, please visit the dual degree program website (https://bouve.northeastern.edu/health-sciences/programs/pa-mph/).

Public Health, MPH / Health Informatics, MS

Website (https://bouve.northeastern.edu/health-sciences/programs/ms-hinf-mph/)

The Master of Public Health and Master of Science in Health Informatics dual degree allows qualified and interested students to prepare to lead healthcare at the nexus between public health and health informatics. Graduates of this program will be well-educated in the complex issues associated with improvements in information technology, as well as changes to the public health and healthcare delivery systems. Recognizing the increasing overlap between health informatics and public health, this program incorporates course work from both the MPH and MSHI curricula for both degrees, reducing tuition costs and saving one year of study compared to obtaining both degrees individually.

The Northeastern University Master of Public Health program is accredited by the Council on Education for Public Health (CEPH). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Up to 15 credits of coursework in the dual-degree program can be counted toward both the MPH and MS degrees.

Health Informatics Management and Exchange, Graduate Certificate

Overview

The certificate program in health informatics management and exchange offers you the opportunity to obtain the knowledge needed to support the collection, management, retrieval, and exchange of electronic health data. It is designed to prepare you for a position as a specialist in data management, interoperability standards, and health database design.

- Eight-month program
- Five courses, 15 semester hours

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in all course work.

Code	Title	Hours
Required Core		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
Management and Exchange		
HINF 6205	Creation and Application of Medical Knowledge	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6355	Interoperability Key Standards in Health Informatics	3

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Health Informatics Privacy and Security, Graduate Certificate

Overview

The certificate program in health informatics privacy and security combines knowledge of health informatics with a strong foundation in important information security issues. Northeastern's status as a National Security Agency Center of Excellence for Information Security Education and Research ensures the program is both relevant and of high academic quality.

- Eight-month program
- Five courses, 18 semester hours

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in all course work.

Code	Title	Hours
Required Core		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
Privacy and Security		
CY 5130	Computer System Security	4
CY 5150	Network Security Practices	4
CY 5200	Security Risk Management and Assessment	4

Program Credit/GPA Requirements

18 total semester hours required
Minimum 3.000 GPA required

Health Informatics Software Engineering, Graduate Certificate

Overview

This certificate program offers software engineers the background in health informatics (as well as interchange and interoperability standards) needed to better understand the context in which they work and perform effectively in a health-related organization. Program design is flexible to allow completion on a rapid schedule or a slower pace that is more compatible with full-time workers.

- Eight-month program
- Five courses, 15 semester hours

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in all course work.

Code	Title	Hours
Required Core		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
Management and Exchange		
HINF 6205	Creation and Application of Medical Knowledge	3
HINF 6345	Design for Usability in Healthcare	3
HINF 6355	Interoperability Key Standards in Health Informatics	3

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

School of Nursing

Website (https://bouve.northeastern.edu/nursing/)

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This is an exciting time in healthcare, and nursing plays a pivotal role in the transformation of our healthcare system. Northeastern University School of Nursing offers multiple options for graduate study, including master's, Doctor of Nursing Practice, and PhD degree programs, as well as Certificate of Advanced Graduate Study programs, that are designed to prepare outstanding clinicians, leaders, scholars, educators, and policymakers. These programs leverage the school's renowned faculty, as well as exceptional clinical practicum sites. Our reputation is why our graduates are sought by top employers. Practicing advanced practice nurses may easily change their specialty area by enrolling in one of our CAGS programs in adult primary or acute, pediatric primary and acute, or mental health.

The DNP program is a practice-oriented degree designed to prepare advanced nurses at the highest level of scholarly practice. Keeping pace with the demands of today's changing healthcare environment requires clinical experts who have the knowledge and skills to be effective change agents. Graduates of our post-master's DNP program assume clinical and leadership positions as advanced nurses in a variety of roles, including clinical experts, nurse executives, community leaders, and professional organization leaders.

The PhD program in nursing prepares research scientists, educators, and leaders who seek to improve health and healthcare across the life span with an emphasis on urban, vulnerable, and underserved populations. Graduates are expected to lead research initiatives that advance nursing science through knowledge development and interdisciplinary scholarly inquiry.

Further information about the degrees and specializations can be found at each program's page of this catalog.

Programs

Doctor of Philosophy (PhD)

- Nursing (p. 669)

Doctor of Nursing Practice (DNP)

- Nurse Anesthesia (p. 672)
- Nursing—Post-Master's (p. 674)

Certificate of Advanced Graduate Study (CAGS)

- Nursing with Concentration in Adult-Gerontology Nurse Practitioner, Acute Care (p. 675)
- Nursing with Concentration in Adult-Gerontology Nurse Practitioner, Primary Care (p. 676)
- Nursing with Concentration in Neonatal Nurse Practitioner (p. 678)
- Nursing with Concentration in Pediatric Nurse Practitioner, Acute Care (p. 679)
- Nursing with Concentration in Pediatric Nurse Practitioner, Acute and Primary Care (p. 680)
- Nursing with Concentration in Pediatric Nurse Practitioner, Primary Care (p. 681)
- Nursing with Concentration in Psychiatric-Mental Health Nurse Practitioner (p. 677)

Master of Science (MS)

- Nursing (p. 682)
- Nursing—Direct Entry (p. 686)

Graduate Certificate

- Patient Safety (p. 607)
- Pediatric Nurse Practitioner, Acute Care (p. 692)

Nursing, PhD

Overview

Research

The PhD in Nursing program is designed to prepare nurse researchers to advance the science of nursing by developing expertise in both leadership and innovation. Graduates are expected to lead multidisciplinary research initiatives that advance nursing and healthcare through knowledge development and interdisciplinary scholarly inquiry. Students will work with nursing faculty whose research addresses innovative questions that seek to advance knowledge for improvement of care. Students will have opportunities to collaborate with faculty across the broader Northeastern University community, in addition to Boston-area research and healthcare institutions. This collaboration allows students to work across disciplines and to access populations and research sites essential to the success of their original dissertation study.

Advanced entry into the PhD in Nursing program requires a master's degree in nursing.

Visit the Northeastern University Faculty Research site (http://www.northeastern.edu/research/faculty-research/) for more information.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS *(*https://catalog.northeastern.edu/graduate/health-sciences/nursing/applied-nursing-research-ms/*)Applied Nursing Research degree. Note that no students will be admitted directly into the Applied Nursing Research program to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

A bachelor's degree in nursing is preferred. Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review of progress
Comprehensive examination
Candidacy status
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Required Core		
NRSG 7104	Foundations in Nursing Research	3
NRSG 7700	The Science of Nursing	3
NRSG 7705	Theoretical and Conceptual Foundations in Nursing Science	3
NRSG 7715	Measurement in Clinical Research	3
NRSG 7750	Healthcare of Urban Populations	3
Statistics		
NRSG 5121	Epidemiology and Population Health	3
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3
Research		
NRSG 7709	Qualitative Research Methods	3
NRSG 7712	Quantitative Research Methods	3
NRSG 7755	Intervention Research: Development, Implementation, and Evaluation	3
NRSG 7770	Research Colloquium	1
Complete the following (repeatable) course twice:		6
NRSG 9984	Research	
Cognate Courses		
Complete two cognate courses in consultation with your faculty advisor. Cognates are graduate-level courses that are taken outside of nursing. These courses should provide depth and breadth to the student's dissertation research.		6

Electives

Code	Title	Hours
Complete two elective courses in consultation with your faculty advisor. Electives may be taken in nursing or in an area related to the student's dissertation research, including appropriate methodology and statistics courses.		6

Dissertation

Code	Title	Hours
NRSG 9845	Dissertation Seminar 1	3
NRSG 9846	Dissertation Seminar 2	3
NRSG 9990	Dissertation Term 1	
NRSG 9991	Dissertation Term 2	

Program Credit/GPA Requirements

58 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review of progress
Comprehensive examination
Candidacy status
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Required Core		
NRSG 7700	The Science of Nursing	3
NRSG 7705	Theoretical and Conceptual Foundations in Nursing Science	3
NRSG 7750	Healthcare of Urban Populations	3
Statistics		
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3
Cognate Courses [1]		
Complete two cognate courses in consultation with your faculty adviser.		6
Research		
NRSG 7709	Qualitative Research Methods	3
NRSG 7712	Quantitative Research Methods	3
NRSG 7715	Measurement in Clinical Research	3
NRSG 7755	Intervention Research: Development, Implementation, and Evaluation	3
NRSG 7770	Research Colloquium	1
Complete the following (repeatable) course twice:		6
NRSG 9984	Research	

Dissertation Courses

Code	Title	Hours
NRSG 9845	Dissertation Seminar 1	3
NRSG 9846	Dissertation Seminar 2	3
NRSG 9990	Dissertation Term 1	
NRSG 9991	Dissertation Term 2	

Program Credit/GPA Requirements

46 total semester hours required

Minimum 3.000 GPA required

[1] Cognates are graduate-level courses that are taken outside of nursing and should provide depth and breadth to the student's area of interest.

Nurse Anesthesia, DNP

The Doctor of Nursing Practice in Nurse Anesthesia is a practice-oriented degree designed to prepare nurse anesthetists at the highest level of clinical scholarly practice. Keeping pace with the demands of today's changing healthcare environment requires clinical experts who have the knowledge and skills to be effective change agents. The program prepares graduates to question practice, search for and critically appraise the best evidence to guide practice, and implement and evaluate the application of best evidence in practice.

A successful graduate from the program will gain the requisite skill set and leadership expertise to be a critical member of the healthcare team and provide anesthetics to patients throughout the life cycle in diverse settings such as small local hospitals, regional centers, and rural or urban settings for all types of surgery or procedures.

Transfer Policy

Northeastern University regulations for transfer credit are published in this catalog (p. 91). The transfer policy specific to this doctoral program is defined as a maximum of 9 semester hours or 12 quarter hours of credit earned at another institution may be accepted toward the degree being pursued at Northeastern, provided the credits:

1. Consist of work taken at the graduate level for graduate credit
2. Carry grades of 3.000 or better
3. Have been earned at an accredited institution
4. Have not been used toward any baccalaureate or advanced degree or certificate at another institution
5. Transfer credits must be approved by the program administrator and course faculty

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in all coursework.

Core Requirements

Code	Title	Hours
Required Core		
NRSG 5117	Advanced Pharmacology	2
NRSG 5121	Epidemiology and Population Health	3
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3
NRSG 6300	Healthcare Finance and Marketing	3
NRSG 6302	Health Policy and Law	3
NRSG 6306	Health Informatics	3
NRSG 7100	Leadership in Advanced Practice Nursing	3
Didactic		
NRSG 7500	Role/Practice Issues in Nurse Anesthesia	3
NRSG 7503	Pharmacotherapeutics in Anesthesia and Critical Care Nursing	3
NRSG 7506	Applied Chemistry, Physics, and Cardiopulmonary Physiology of Anesthesia	3
NRSG 7509	Advanced Concepts in Nurse Anesthesia Practice	3
NRSG 7511	Applied Gross Anatomy and Physiology of Anesthesia	3
NRSG 7520	Conceptual Basis of Nurse Anesthesia Practice 1	3
NRSG 7523	Conceptual Basis of Nurse Anesthesia Practice 2	3
NRSG 7526	Conceptual Basis of Nurse Anesthesia Practice 3	3
Practicum		
NRSG 7530	Nurse Anesthesia Practicum 1	3
NRSG 7533	Nurse Anesthesia Practicum 2	3
NRSG 7536	Nurse Anesthesia Practicum 3	4
Research		
NRSG 7105	Translating Research Evidence into Practice	3
NRSG 7920	The Steps to Practice Inquiry: Analyze, Evaluate, Synthesize, and Apply the Evidence	3

Project		
NRSG 7921	DNP Scholarly Project 1: Design and Ethical Consideration of Practice Application	3
NRSG 7922	DNP Scholarly Project 2: Applying Practice Knowledge—Implementation/ Outcomes	3
NRSG 7923	DNP Scholarly Project 3: Dissemination of Practice Inquiry	3
Clinical		
NRSG 7540	Advanced Clinical Experiences in Nurse Anesthesia 1	1
NRSG 7543	Advanced Clinical Experiences in Nurse Anesthesia 2	2
NRSG 7546	Advanced Clinical Experiences in Nurse Anesthesia 3	2

Program Credit/GPA Requirements

77 total semester hours required
Minimum 3.000 GPA required

Nursing, DNP—Post-Master's

The Doctor of Nursing Practice (DNP) is a practice-oriented degree designed to prepare advanced nurses at the highest level of scholarly practice. Keeping pace with the demands of today's changing healthcare environment requires clinical experts who have the knowledge and skills to be effective change agents. Graduates of our post-master's DNP program assume clinical and leadership positions as advanced nurses in a variety of roles including clinical experts, nurse executives, community leaders, and professional organization leaders.

The Northeastern University post-master's DNP program includes advanced course work in leadership, practice inquiry, population health, informatics, and health policy. Our goal is to prepare the next generation of nurse leaders with a greater breadth of expertise so they can collaborate more effectively with interprofessional partners and provide leadership to enhance quality and safety. The DNP program curriculum is delivered online in an executive model hybrid format, with the on-ground meetings at the Boston campus.

If you are a registered nurse with at least two years of active advanced nursing experience, you may enter the DNP program after completing a master's degree in nursing or, in some cases, a related health field. A DNP Scholarly Project and 1,000 scholarly practice hours are required for program completion. A gap analysis upon admission will determine how many, if any, practice hours from a previously completed Master of Science in Nursing practicum qualify toward this practice hour requirement. An ePortfolio is used to document all scholarly practice hours and DNP program achievements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Required Core		
NRSG 6300	Healthcare Finance and Marketing	3
NRSG 6306	Health Informatics	3
NRSG 7100	Leadership in Advanced Practice Nursing	3
NRSG 7924	Applied Epidemiology for Advanced Nursing	3
NRSG 7925	Health Policy and Advocacy	3
Project		
NRSG 7920	The Steps to Practice Inquiry: Analyze, Evaluate, Synthesize, and Apply the Evidence	3
NRSG 7921	DNP Scholarly Project 1: Design and Ethical Consideration of Practice Application	3
NRSG 7922	DNP Scholarly Project 2: Applying Practice Knowledge—Implementation/ Outcomes	3
NRSG 7923	DNP Scholarly Project 3: Dissemination of Practice Inquiry	3

Elective

Code	Title	Hours
Complete 3 semester hours, selected in consultation with faculty program advisor.		3

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS

The adult-gerontology acute-care nurse practitioner program is designed to prepare nurses for advanced-practice roles as clinical experts, managers, educators, and consultants. The program offers advanced study with a major focus on clinical experience. Nurses who possess a Master of Science are eligible for the Certificate of Advanced Graduate Study (CAGS) in this specialization.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Theory		
NRSG 6220	Nursing Management: Acute Episodic Illness	3
NRSG 6221	Nursing Management: Critical and Chronic Illness	3
NRSG 6241	Acute-Care Concepts in Nursing Practice	3
Practicum		
NRSG 6420	Adult-Gerontology Acute-Care Nursing Practicum 1	2
NRSG 6421	Adult-Gerontology Acute-Care Nursing Practicum 2	4
NRSG 6422	Adult-Gerontology Acute-Care Nursing Practicum 3	4

Electives

Code	Title	Hours
Complete 5 semester hours in the following subject area:		5
NRSG		

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in Primary Care Adult-Gerontology Nurse Practitioner offers nurse practitioners (NPs) with certification in a different specialty the opportunity to prepare for practice providing high-quality adult primary care services as an adult-gerontology NP. Adult-gerontology NPs provide services to individuals across most of the life span in clinics, private practices, home care, long-term care, and day programs. Upon completion of the primary care program, graduates are eligible to sit for the adult-gerontology certification exam.

Prerequisite Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of the student's background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Core Requirements

Students should refer to the Program Overview page for required program prerequisites.

A grade of B or higher is required in each course.

Code	Title	Hours
Required Courses		
NRSG 6222	Pharmacology of Adults and Older Adults	2
NRSG 6249	Health Promotion of Adult/Older Adult	3
NRSG 6253	Primary Care of Adult/Older Adult Health Problems	3
NRSG 6254	Primary Care of Adult/Older Adult Complex Patients	3
NRSG 6449	Health Promotion of Adult/Older Adult Practicum	1
NRSG 6450	Adult/Older Adult Practicum 1	5
NRSG 6451	Adult/Older Adult Practicum 2	5
Elective		2

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS

The School of Nursing offers specialized and flexible program options in psychiatric mental health nursing for nurse practitioners (NPs) with certification in another specialty. Classes are offered during the late afternoon and early evening hours to accommodate the multiple responsibilities of adult learners. This is a 24-semester-hour program of study. Upon completion of the psychiatric mental health advanced practice Certificate of Advanced Graduate Study (CAGS) program, graduates are eligible to sit for available national certification exams in their area of practice.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Required Core		
NRSG 6281	Dimensions of Clinical Practice	3
NRSG 6282	Clinical Psychopharmacology	3
NRSG 6283	Psychobiological Bases of Mental Disorders	3
NRSG 6286	Contemporary Psychotherapies—Theory and Practice	3
Practicum		
NRSG 6480	Psychiatric Practicum across the Life Span 1	5
NRSG 6481	Psychiatric Practicum across the Life Span 2	5

Elective

Code	Title	Hours
Complete 2 semester hours in the following subject area:		2
NRSG		

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Neonatal Nurse Practitioner, CAGS

The School of Nursing offers a certificate of advanced study for experienced nurses who have a master's degree in nursing and want to specialize in neonatal critical care. Applicants are required to have at least two years of level-3 or greater of neonatal intensive care unit experience before entering the program; most applicants have greater relevant experience. One year of full-time study offers the student an opportunity to increase skills and experience and enables the student to sit for the neonatal nurse practitioner certification exam offered by the National Certification Corporation for the obstetric, gynecologic, and neonatal nursing specialties.

Prerequisite or Equivalent Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of the student's background, must have completed coursework with content equivalent to the following courses with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	
NRSG 5126	Pathophysiology for Advanced Practice	

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Clinical		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6230	Nursing Management: Critically Ill Neonatal 1	3
NRSG 6231	Nursing Management: Critically Ill Neonatal 2	3
NRSG 6232	Neonatal Pharmacology	2
Practicum		
NRSG 6430	Neonatal Clinical Practicum 1	4
NRSG 6431	Neonatal Clinical Practicum 2	4
NRSG 6432	Neonatal Clinical Practicum 3	2

Elective

Code	Title	Hours
Select courses in consultation with faculty advisor.		3
NRSG		

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in Acute Care Pediatric Nurse Practitioner (PNP) is designed for nurses who possess an MS degree in nursing. Such applicants are eligible to apply for admission to this CAGS program for advanced preparation as a PNP.

Prerequisite Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Students should refer to the program overview page for required program prerequisites.

A grade of B or higher is required in all coursework.

Code	Title	Hours
Required Courses		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6262	Pediatric Pharmacology	2
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6267	Care of the Critically Ill Child	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6461	Child/Adolescent Health Problems Practicum	5
NRSG 6463	Care of the Critically Ill Child Practicum	5

Program Credit/GPA Requirements

25 total semester hours required
Minimum 3.000 GPA required

Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in dual Primary/Acute Care Pediatric Nurse Practitioner (PNP) is designed for nurses who possess an MS degree in nursing. Such applicants are eligible to apply for admission to this CAGS program for advanced preparation as a PNP.

Prerequisite Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Students should refer to the program overview page for required program prerequisites.

A grade of B or higher is required in each course.

Code	Title	Hours
Required Courses		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6262	Pediatric Pharmacology	2
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6267	Care of the Critically Ill Child	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5
NRSG 6463	Care of the Critically Ill Child Practicum	5

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in Primary Care Pediatric Nurse Practitioner (PNP) is designed for nurses who possess an MS degree in nursing. Such applicants are eligible to apply for admission to this CAGS program for advanced preparation as a PNP.

Prerequisite or Equivalent Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	
NRSG 5126	Pathophysiology for Advanced Practice	
NRSG 6115	Health Assessment	

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Required Courses		
NRSG 6262	Pediatric Pharmacology	2
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5
Elective		
Complete 2 semester hours of graduate NRSG coursework.		2

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing, MS

Northeastern University's School of Nursing offers seven nurse practitioner concentrations leading to a Master of Science in Nursing. The program provides a solid foundation in research, epidemiology, health assessment, advanced pharmacology and pathophysiology, and healthcare systems with on-ground or online didactic coursework and on-ground skills and clinical experiences. The program has a strong clinical focus with high-quality clinical rotations as top priority. Students graduate prepared to practice as novice advanced-practice providers and work across a variety of healthcare settings. Graduates become nurse clinicians, educators, scholars, researchers, and lifelong learners. Upon completion of the program, graduates are eligible to sit for all national certification exams in their specialty area.

Adult-Gerontology Acute-Care Nurse Practitioner Concentration

The adult-gerontology acute-care concentration seeks to prepare nurses for advanced-practice roles as clinical experts, educators, and consultants. The concentration provides advanced study with a major focus on clinical experience and prepares graduates to care for patients across the continuum of care, including tertiary care, rehabilitation, and home care.

Adult-Gerontology Primary Care Nurse Practitioner Concentration

With a focus on health equity, the adult-gerontology primary care concentration prepares nurses to provide high-quality, ethical, and inclusive primary care to individuals 13 years and older. Graduates care for patients in a wide variety of settings.

Family Nurse Primary Care Practitioner Concentration

The primary goal of the FNP concentration is to educate FNPs who are capable of providing evidence-based, culturally and linguistically competent, ethical primary healthcare to individuals and families in a variety of healthcare settings. The FNP concentration is offered in a hybrid format with the majority of the classes delivered online, coupled with live presentation sessions. Students are required to be on the Boston campus twice per semester. Upon completion, graduates are eligible to sit for all national certification exams in their area of practice.

Neonatal Nurse Practitioner Concentration

Neonatal critical care is a growing field, and Bouvé is at the forefront of providing experienced nurses with the knowledge, competence, and skill to be in demand across the country. We require applicants to have at least two years of level-3 neonatal intensive care unit experience before entering our program, and most applicants have more years of NICU experience. A registered nurse working in the NICU setting already has a significant base of nursing knowledge. The NNP concentration focuses on advanced nursing knowledge and clinical practice. Our graduates are prepared to make independent decisions in level-2 and level-3 NICUs, drawing on their experience and diagnostic abilities to affect lives every day.

Pediatric Nurse Practitioner Concentrations

These concentrations are designed to prepare nurses with the specialized skills needed to care for at-risk children living in urban settings, across the continuum of care. For nearly two decades, our PNP concentration prepared primary care PNPs to provide community-based, culturally sensitive primary care. More recently, building on the School of Nursing's foundation in evidence-based, interdisciplinary, urban healthcare, the PNP curriculum was expanded to offer a concentration in acute care. Northeastern offers the only graduate nursing program in New England to prepare acute-care PNPs.

The School of Nursing offers two concentrations for the PNP student. The primary care concentration prepares students for the role of PNP focusing on well-child care and prevention and management of common acute and chronic illnesses. The acute- and primary care dual concentration prepares students for the primary care role, as well as the acute-care role. Pediatric acute-care nurse practitioners are prepared to care for patients with acute, complex, critical, and chronic illness in a variety of settings.

Psychiatric-Mental Health Concentration

The curriculum of the psychiatric-mental health concentration has a life span focus, with core course content covering all ages. The concentration emphasizes a biopsychosocial framework to develop the understanding of human development, etiology of psychiatric disorders, and treatment modalities geared toward working with individuals across the life span and their families. The course of study emphasizes diagnostic decision making; psychotherapeutic interventions, including individual, family, and group therapies; and psychopharmacology across the life span.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Professional		
NRSG 5118	Healthcare System and Professional Role Development	3
NRSG 5121	Epidemiology and Population Health	3
Clinical		
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3

NRSG 7105	Translating Research Evidence into Practice	3
NRSG 7110	Evidence-Based Practice Research Application	2

Concentrations and Program Credit Requirements

A concentration is required to complete this program.

- Adult-Gerontology Nurse Practitioner, Acute Care (p. 683)
- Adult-Gerontology Nurse Practitioner, Primary Care (p. 683)
- Family Nurse Practitioner, Primary Care (p. 684)
- Neonatal Nurse Practitioner (p. 684)
- Pediatric Nurse Practitioner, Acute and Primary Care (p. 684)
- Pediatric Nurse Practitioner, Primary Care (p. 685)
- Psychiatric-Mental Health Nurse Practitioner (p. 685)

Program Credit/GPA Requirements

Total program hours vary based on the concentration the student chooses
Minimum 3.000 GPA required

CONCENTRATION IN ADULT-GERONTOLOGY NURSE PRACTITIONER, ACUTE CARE

Code	Title	Hours
Clinical		
NRSG 6115	Health Assessment	3
NRSG 6222	Pharmacology of Adults and Older Adults	2
Theory		
NRSG 6220	Nursing Management: Acute Episodic Illness	3
NRSG 6221	Nursing Management: Critical and Chronic Illness	3
NRSG 6241	Acute-Care Concepts in Nursing Practice	3
Practicum		
NRSG 6420	Adult-Gerontology Acute-Care Nursing Practicum 1	2
NRSG 6421	Adult-Gerontology Acute-Care Nursing Practicum 2	4
NRSG 6422	Adult-Gerontology Acute-Care Nursing Practicum 3	4

ELECTIVE

Code	Title	Hours
Complete 3 semester hours in the following subject area:		3
NRSG		

PROGRAM CREDIT REQUIREMENT

43 total semester hours required, including program core requirements

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CONCENTRATION IN ADULT-GERONTOLOGY NURSE PRACTITIONER, PRIMARY CARE

Code	Title	Hours
Clinical		
NRSG 6115	Health Assessment	3
NRSG 6222	Pharmacology of Adults and Older Adults	2
Required Core		
NRSG 6249	Health Promotion of Adult/Older Adult	3
NRSG 6253	Primary Care of Adult/Older Adult Health Problems	3
NRSG 6254	Primary Care of Adult/Older Adult Complex Patients	3
Practicum		
NRSG 6449	Health Promotion of Adult/Older Adult Practicum	1
NRSG 6450	Adult/Older Adult Practicum 1	5
NRSG 6451	Adult/Older Adult Practicum 2	5

ELECTIVE

Code	Title	Hours
Complete 2 semester hours in the following subject area:		2
NRSG		

PROGRAM CREDIT REQUIREMENT

43 total semester hours required, including program core requirements

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NURSING CONCENTRATION IN FAMILY NURSE PRACTITIONER, PRIMARY CARE

Code	Title	Hours
Professional		
NRSG 6115	Health Assessment	3
Family		
NRSG 6390	Family Care of the Adult/Older Adult Patient	4
NRSG 6392	Family Theory	2
NRSG 6393	Family Care of the Pediatric and Adolescent Patient	4
NRSG 6395	Healthcare of Women in Family Practice	2
Clinical		
NRSG 6222	Pharmacology of Adults and Older Adults	2
NRSG 6262	Pediatric Pharmacology	2
Practicum		
NRSG 6391	Practicum for NRSG 6390	4
NRSG 6394	Practicum for NRSG 6393	4
NRSG 6396	Practicum for NRSG 6395	4

PROGRAM CREDIT REQUIREMENT

47 total semester hours required, including program core requirements

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CONCENTRATION IN NEONATAL NURSE PRACTITIONER

Code	Title	Hours
Clinical		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6230	Nursing Management: Critically Ill Neonatal 1	3
NRSG 6231	Nursing Management: Critically Ill Neonatal 2	3
NRSG 6232	Neonatal Pharmacology	2
Practicum		
NRSG 6430	Neonatal Clinical Practicum 1	4
NRSG 6431	Neonatal Clinical Practicum 2	4
NRSG 6432	Neonatal Clinical Practicum 3	2

ELECTIVE

Code	Title	Hours
Complete 4 semester hours at the graduate level from the following subject area:		4
NRSG		

PROGRAM CREDIT REQUIREMENT

41 total semester hours required, including program core requirements

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CONCENTRATION IN PEDIATRIC NURSE PRACTITIONER, ACUTE & PRIMARY CARE

Code	Title	Hours
Clinical Core Courses		
NRSG 6115	Health Assessment	3
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6262	Pediatric Pharmacology	2

Clinical Theory Courses (*NRSG 6275 w/clinical component)		
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6267	Care of the Critically Ill Child	3
Clinical Practicum Courses		
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5
NRSG 6463	Care of the Critically Ill Child Practicum	5

PROGRAM CREDIT REQUIREMENT

52 total semester hours required, including program core requirements

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CONCENTRATION IN PEDIATRIC NURSE PRACTITIONER, PRIMARY CARE

Code	Title	Hours
Clinical Core Courses		
NRSG 6115	Health Assessment	3
NRSG 6262	Pediatric Pharmacology	2
Clinical Theory Courses (*NRSG 6275 w/clinical component)		
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
Clinical Practicum Courses		
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5

PROGRAM CREDIT REQUIREMENT

41 total semester hours required, including program core requirements

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CONCENTRATION IN PSYCHIATRIC-MENTAL HEALTH NURSE PRACTITIONER

Code	Title	Hours
Required Core		
NRSG 6281	Dimensions of Clinical Practice	3
NRSG 6282	Clinical Psychopharmacology	3
NRSG 6283	Psychobiological Bases of Mental Disorders	3
NRSG 6286	Contemporary Psychotherapies—Theory and Practice	3
Clinical		
NRSG 6115	Health Assessment	3
Practicum		
NRSG 6480	Psychiatric Practicum across the Life Span 1	5
NRSG 6481	Psychiatric Practicum across the Life Span 2	5

ELECTIVE

Code	Title	Hours
Complete 2 semester hours in the following subject area:		2
NRSG		

PROGRAM CREDIT REQUIREMENT

43 total semester hours required, including program core requirements

Nursing, MS—Direct Entry

Part I: Prelicensure

The direct-entry nursing student enters the accelerated master's program as a graduate student. The first 16 months (four semesters) of the program consist of intensive, sequential classes and clinical with combined undergraduate- and graduate-level courses. Students are then prepared to take the National Council Licensure Exam (NCLEX-RN) upon completion of 64 program semester hours to earn an RN license. Students earn a Bachelor of Science in Nursing (BSN) after this part of the program. Financial aid will be granted on an undergraduate basis during the prelicensure phase of the program.

Academic Standards for Nursing Majors

ACADEMIC DISMISSAL FROM MAJOR

Students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Students who do not meet the required minimum grade in two professional courses, including labs and clinical, will be dismissed from the program. Only one professional course can be remediated.
- Remediation of a failed professional course is a requirement for progression in the program.
- Students who do not meet the minimum grade requirement within two attempts of the course will be dismissed from the program.

ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Refer to the Bouvé College of Health Sciences Academic Affairs Appeals Process and the Northeastern University Academic Appeals Policies and Procedures.

Program Policies and Standards

Students are expected to adhere to the policies and standards of their program major to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major will present their petitions before the School of Nursing Academic Standing Committee.

Students are required to attend all scheduled nursing classes, clinical experiences, and clinical labs on campus and in clinical agencies. If the student fails to meet attendance requirements, the student will fail the associated class, clinical, and/or lab.

CLINICAL REQUIREMENTS

Clinical settings require a criminal background check.

All students must receive a health clearance from University Health and Counseling Services. Health clearance is based on specific documentation of immunity from infectious disease and a physical examination. (This may be done by the student's own healthcare provider.) In addition, nursing students need a clinical clearance in order to participate in clinical courses. Clinical clearance, managed by the School of Nursing's Clinical Placement Office, includes verification of certification in cardiopulmonary resuscitation; recent negative tuberculosis screening (PPD); positive titers for MMR, varicella, and hepatitis B; vaccines including TDAP and influenza; and additional health screenings as may be required by the program. It is the responsibility of the student to stay current and to provide documentation required for clinical clearance throughout the entire nursing program.

Six weeks prior to the start of a clinical course, students must show the following to be eligible for clinical placement:

- Evidence of immunizations and health clearance by UHCS
- Documentation of CPR certification
- Completion of a Criminal Offender Record Information background check

Students will not be allowed to start the clinical course, and may be dropped from the clinical course, if these processes are not satisfactorily completed.

Students should refer to Requirements for Clinical, Internships, and Practicum Courses (p. 573)in this catalog (applicable to both undergraduate students and graduate students at the college) for additional details.

Clinical Warning

A nursing student may be placed on clinical warning, or fail the clinical course, at any time during the semester for the following reasons:

- Failing to meet the clinical objectives at a satisfactory level.
- Failing to demonstrate safe practice. Students may be removed from the clinical area, before completion of the clinical rotation, if the instructor determines that the student is unsafe. This will result in the student failing the clinical course.
- Failing to meet the attendance requirement.

Conditions

- Students on clinical warning must develop an academic plan with the clinical instructor to address clinical performance.
- Students will be expected to improve clinical performance by adhering to the plan.
- Failure to adhere to the terms of the plan will result in the student failing the course and being placed on academic probation. All conditions of academic probation will then apply.

Notification

- The clinical instructor will issue the student a clinical warning via the Faculty and Advisor Communication Tool identifying the problem.
- The student and the instructor should then develop a plan together to address the deficiency.
- Copies of the warning will be forwarded to the program director and/or the assistant dean for undergraduate programs if needed.
- This is an administrative warning and will not be posted on the transcript.
- Satisfactory completion of the clinical experience component of the course will result in removal of the warning from the student's file.

BLOODBORNE PATHOGEN EXPOSURE AND INJURY

Any student who sustains any kind of injury and/or exposure related to blood-borne, respiratory, or other pathogens or hazardous materials while on a clinical rotation should seek immediate treatment. They must also immediately follow the procedures listed below:

Procedures

- Students must follow the affiliate site's protocol for exposure reporting, testing, counseling, and follow-up.
- Students can present their Clinical Accident Insurance identification card (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/General%20Resources/Forms/AllItems.aspx?id=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance%2FNortheastern%20University%20Insurance%20Card%2Epdf&parent=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance) to arrange billing at the site or a suitable nearby hospital or urgent care clinic. If students do not know a local provider, they can call the resource number on their identification card for aid in finding a local provider. Students should also present their personal health insurance information.
- Within 24 hours of the accident, students must also inform their program's director of clinical education (or unit designee responsible for clinical placements) of the accident and submit, in writing, a description of the incident and injury or exposure using the BCHS Accident Report form, linked here (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Clinical-Accident-Report-Form.aspx). *If a student is incapacitated and unable to file their own report within the 24-hour time frame, a Northeastern faculty or staff person familiar with the incident may file on their behalf. The student should file their own report as soon as possible thereafter.*
- Submission of the Accident Report form linked above will automatically notify:
  - The program's director of clinical education or Clinical Placement Office (or unit designee responsible for clinical placements)
  - The program director (if applicable)
  - Assistant dean of clinical education in the BCHS Dean's Office
  - Risk Services (risk@northeastern.edu) (risk@northeastern.edu)
  - If exposure involved, Office of Environmental Health and Safety—Biosafety
- If for any reason a student is not able to receive immediate medical treatment, there is the resource of postexposure counseling through the university's partner, OEHN (Occupational & Environmental Health Network). They can be reached at 1-866-360-8100. OEHN is open 24 hours a day, 7 days a week, 365 days a year. OEHN will collect appropriate information and engage the doctor on call who can help to direct appropriate care depending on exposure and circumstances.

Technical Standards for Admission, Academic Progression, and Graduation

The primary mission of the School of Nursing is to educate our students to provide evidence-based, culturally and linguistically competent, ethical healthcare that is high quality, safe, and accessible to diverse local, national, and global communities. Our programs are designed to prepare students to become leaders as nurse clinicians, educators, scholars, and researchers. The School of Nursing is also committed to achieving the goals of the university to become an outstanding national research, practice-oriented, student-centered, urban institution.

The goal of the School of Nursing is to prepare students to think critically and to practice nursing competently and compassionately in rapidly changing practice environments. All efforts are designed to build nursing knowledge; enhance nursing practice and patient safety; foster professional integrity; and ultimately improve the health outcomes of patients, families, and communities across the continuum of care.

In addition to classroom learning, students' clinical education experiences occur in settings, like hospitals, in which patient safety is the priority. For this reason, students who, upon enrollment in any of the nursing programs, seek accommodations from the Disability Resource Center at Northeastern must also request an assessment of accommodations that would be needed for clinical education.

Certain functional abilities are essential for the delivery of safe, effective nursing care during clinical education activities. Therefore, the School of Nursing has determined that certain technical standards are requisite for admission, progression, and graduation from the nursing programs. An individual must be able to independently, with or without reasonable accommodation, meet the following technical standards:

1. General abilities (p. 688)
2. Observational ability (p. 688)
3. Communication ability (p. 688)

4. Motor ability (p. 688)
5. Intellectual, conceptual, and quantitative abilities (p. 688)
6. Essential behavioral and social attributes (p. 688)
7. Ability to manage stressful situations (p. 688)

Individuals unable to meet these technical standards, with or without reasonable accommodation, will not be able to complete the program.

GENERAL ABILITIES

The student is expected to possess functional use of the senses of vision, touch, hearing, and smell so that data received by the senses may be integrated, analyzed, and synthesized in a consistent and accurate manner. A student must be able to respond promptly to urgent situations that may occur during clinical training activities and must not hinder the ability of other members of the healthcare team to provide prompt treatment and care to patients.

OBSERVATIONAL ABILITY

The student must have sufficient capacity to make accurate visual observations and interpret them in the context of laboratory studies, medication administration, and patient care activities. In addition, the student must be able to document these observations and maintain accurate records.

COMMUNICATION ABILITY

The student must communicate both verbally and nonverbally in order to elicit information and to convey that information to others. Each student must have the ability to read and write accurately and comprehensively in English. The student must be able to thoroughly comprehend and fluently speak the English language so as to facilitate communication with patients, families, professionals in healthcare settings, instructors, and other students. The student must also be able to present information in a professional, logical manner and to provide counseling and instruction in order to effectively care for patients and their families.

MOTOR ABILITY

The student must be able to perform gross and fine motor movements with sufficient coordination needed to perform complete physical examinations utilizing the techniques of inspection, palpation, percussion, auscultation, and other diagnostic maneuvers. A student must develop the skills needed to perform or assist with procedures, treatments, administration of medication, and the management and operation of diagnostic and therapeutic medical equipment. The student must possess the physical and mental stamina to meet the demands associated with extended periods of sitting, standing, moving, and physical exertion required for satisfactory and safe performance in the clinical and classroom settings.

INTELLECTUAL, CONCEPTUAL, AND QUANTITATIVE ABILITIES

The student must be able to develop and refine critical thinking skills that are essential to nursing practice. Critical thinking involves the abilities to measure, calculate, reason, analyze, and synthesize objective and subjective data and to make decisions, often in a time-urgent environment, that reflect consistent and thoughtful deliberation and sound clinical judgment.

ESSENTIAL BEHAVIORAL AND SOCIAL ATTRIBUTES

Compassion, integrity, motivation, effective interpersonal skills, and concern for others are personal attributes required of those in the nursing programs. The student must be able to work under supervision of a clinical instructor or preceptor; this is essential to ensure patient safety. The student must exercise good judgment and promptly complete all responsibilities in the classroom and clinical settings. The ability to establish culturally competent relationships with individuals, families, and groups and to respond effectively to patients who have different intellectual capacities is critical to nursing practice.

ABILITY TO MANAGE STRESSFUL SITUATIONS

The student must be able to adapt to and function effectively in stressful situations in both the classroom and clinical settings, including emergency situations. These stressors include personal, patient care/family, faculty/peer, and/or program-related issues.

Disability and Special Needs

Students with special needs are encouraged to contact the DRC (https://drc.sites.northeastern.edu/) to register and request services. Students must notify the instructor at the beginning of the semester if they plan to use DRC services throughout the course. The staff in that office is available for assistance.

State Board Nursing Examination

In Massachusetts, and several other states, the registering board requires that graduates taking the National Council Licensing Examination (NCLEX-RN) meet standards of "good moral character." Students may review the GMC requirement specified at Massachusetts General Laws Chapter 112, sections 74, 74A, and 76; Licensure Policy No. 00-01 under "Rules & Regulations" on the Massachusetts BORN website.

RN Work Experience

Once a student graduates with a BSN, they are required to participate in an online professional seminar for two semesters prior to progressing into their master's coursework. In addition, students seek full-time RN experience, which is also required for progression into the master's clinical practicums in their concentration. One to two years of RN work experience is required, depending on the concentration. Students may begin the master's core courses during the required one to two years of RN experience, with approval from the specialty concentration director. Finding RN employment is the responsibility of the student, as it is professional nursing experience. Northeastern will help support the student in preparation for the job search. The student may take no more than 12 months' leave of absence between the prelicensure and MS phases of the Direct Entry program. Please see MS Nursing (p. 682) for more information about the master's phase of the Direct Entry program.

Part II: Return to Master's Specialty Tracks

In the master's program, students are required to take professional, research, and clinical core courses, as well as clinical courses specific to their concentration. Full- or part-time academic study is available to students. Most students return to the master's segment of the program taking coursework as a part-time student while continuing to work and increasing the amount of professional RN experience accrued. Completion of the master's degree can take four to six semesters, depending on the student's program plan and concentration. Upon completion of the requirements for their concentration, the student receives a Master of Science degree and is eligible to take the national certification exam in their area of advanced nursing practice. Financial aid is awarded on a graduate basis during this portion of the program.

Please visit Bouvé College of Health Sciences Program Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or better in the BSN clinical courses is highly recommended for progression into the MSN portion of the program. Progression is at the graduate specialty director's discretion.

Students must successfully complete all courses with a grade of C or better except where otherwise indicated.

Code	Title	Hours
Semester 1		
NRSG 2220 and NRSG 2221	Health Assessment and Fundamental Nursing Skills and Lab for NRSG 2220	4
NRSG 3302 and NRSG 3303	Nursing with Women and Families and Clinical for NRSG 3302	5
A grade of B or higher is required in NRSG 5117.		
NRSG 5117	Advanced Pharmacology	2
A grade of B or higher is required in NRSG 5126.		
NRSG 5126	Pathophysiology for Advanced Practice	3
Semester 2		
NRSG 2210	Influences on Health and Illness: A Nursing Perspective	3
NRSG 3323 and NRSG 3324	Advanced Assessment and Interventions and Lab for NRSG 3323	2
NRSG 3320 and NRSG 3321	Nursing Care of Adults 1 and Clinical for NRSG 3320	6
NRSG 3400 and NRSG 3401	Nursing and the Promotion of Mental Health and Clinical for NRSG 3400	5
Semester 3		
NRSG 3420 and NRSG 3421	Nursing Care of Adults 2 and Clinical for NRSG 3420	6
NRSG 4502 and NRSG 4503	Nursing Care of the Child and Clinical for NRSG 4502	6
NRSG 5220	Introduction to Research Methods and Application for Healthcare	4
Semester 4		
NRSG 2150	Ethical Healthcare: Genetics and Genomics	4
NRSG 4604 and NRSG 4605	Public Health Community Nursing and Clinical for NRSG 4604	5
NRSG 4610	Managing and Leading in Healthcare	4
NRSG 4995 and NRSG 4996	Comprehensive Nursing Practicum and Clinical for NRSG 4995	5

Academic Progression Standards for Nursing Majors

- Students who either fail or withdraw from a professional course will need to successfully remediate that course before continuing in their approved curriculum plan.
- Students who incur an incomplete grade in a prerequisite course must obtain approval from their academic advisor, upon consultation with the department faculty and, when appropriate, the School of Nursing Academic Standing Committee, prior to progression into the subsequent course(s).
- Students may not change their graduation date more than twice.

Program Credit / GPA Requirements

64 total semester hours required
Minimum 3.000 GPA required

Patient Safety, Graduate Certificate

Overview

The Graduate Certificate in Patient Safety informs and empowers the next generations of innovative patient safety experts by providing the knowledge and practical skills to promote a culture of safety and design safer systems of care. Future leaders incorporate clinician wellness strategies in care delivery models that are accountable, honest, and transparent. The purpose of this certificate is to support healthcare clinicians and leaders in advancing patient safety and the safety of healthcare providers by expanding their fundamental skills and knowledge in patient safety science principles, workforce wellness, and quality improvement strategies.

This is a four-course, interdisciplinary graduate certificate, tailored to accommodate a busy healthcare professional's schedule. Courses are delivered in an online format, structured to enhance the curriculum with peer-to-peer discussions and experience developing tools, protocols, and process improvement strategies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

A grade of B or higher is required in each course.

Code	Title	Hours
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.00 GPA required

Pediatric Nurse Practitioner, Acute Care, Graduate Certificate

The post-master's acute-care PNP 16-credit graduate certificate for PNPs or FNPs certified in primary care seeking pediatric specialization in acute care is open to PNPs or FNPs certified in primary care with a master's or doctoral degree from an accredited institution. Graduates are eligible to sit for the acute-care PNP certification board exam.

Prerequisite Requirements

To ensure that all students have the foundation necessary to participate in this program, successful completion of the following courses or their equivalent within the past five years is required. Alternatively, active PNP/FNP experience with primary care PNP competencies (one-year minimum full-time pediatric experience) is required.

A grade of B or higher is required in each course.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	
NRSG 5126	Pathophysiology for Advanced Practice	
NRSG 6115	Health Assessment	
NRSG 6262	Pediatric Pharmacology	
NRSG 6265	Care of Child/Adolescent Health Problems	
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6267	Care of the Critically Ill Child	3
NRSG 6461	Child/Adolescent Health Problems Practicum [1]	5
NRSG 6463	Care of the Critically Ill Child Practicum [1]	5

[1] Direct clinical hours included

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

School of Pharmacy and Pharmaceutical Sciences

Website (http://www.northeastern.edu/bouve/pharmacy/)

Tatiana K. Bronich, PhD
Dean

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SOPPS@northeastern.edu

The School of Pharmacy and Pharmaceutical Sciences provides transformative learning and research experiences in a collaborative and diverse environment to develop leaders who positively impact pharmacy-related education, research, and service, including the health and well-being across the life span of those we serve.

SOPPS will be the model for excellence and innovation in pharmacy and pharmaceutical sciences education that is grounded in experiential learning and enhances the health of communities through research and practice.

Programs

Doctor of Philosophy (PhD)

- Biomedical Science (p. 694)
- Medicinal Chemistry and Drug Discovery (p. 701)
- Pharmaceutics and Drug Delivery (p. 707)
- Pharmacology (p. 713)

Doctor of Pharmacy (PharmD)

- Doctor of Pharmacy (p. 719)
- Doctor of Pharmacy—Direct Entry (p. 720)

Master of Science (MS)

- Biomedical Science (p. 726)
- Medicinal Chemistry and Drug Discovery (p. 729)
- Pharmaceutical Engineering (p. 374)
- Pharmaceutics and Drug Delivery (p. 734)
- Pharmacology (p. 738)

Dual Degree

- Pharmacy, PharmD—Direct Entry / Public Health, MPH (p. 603)

Biomedical Science, PhD

The Department of Pharmaceutical Sciences offers a PhD program in biomedical science that focuses on the cross-disciplinary integration of human (patho)biology with drug action, invention, and clinical utility. The biomedical sciences curriculum involves coursework and original research in areas including drug design and profiling, toxicology, and pharmaceutical biochemistry/cell biology aimed at increasing our understanding of how unsolved medical needs may be addressed by novel therapeutic approaches. The biomedical science program is appropriate for those entering the field as well as persons currently employed as research technicians, clinical laboratory workers, and science teachers/administrators. The flexibility of the biomedical science program and its interdisciplinary nature can enhance job performance in a present position and invite new employment opportunities.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

Colloquium Attendance

All PhD students, regardless of program, are required to attend the weekly Pharmaceutical Science Colloquium series. Announcements of times and locations will be distributed weekly to students by email to their university email addresses. Attendance is recorded by sign-up sheet. One excused absence is permitted per semester. Failure to attend colloquia may result in sanctions such as probation or dismissal from the PhD program.

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Internships provide an experiential component of the graduate curriculum that fosters professional development through work in the pharmaceutical and biotechnology industries.

After PhD candidates have completed their dissertation research and are working on their dissertations, they are able, with the express permission of their PhD advisor, to participate in an internship if they choose. They are never allowed to intern while they are serving as teaching assistants.

1. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Students are responsible for tracking this experience on their resumés as there will be no detailed record on students' transcripts of these opportunities.
2. In order to be eligible for internship, students must take Professional Development for Pharmaceutical Sciences (PHSC 5305) a semester before internship.
3. Students must not accept more than one position. They must honor the first offer accepted. Any student not adhering to this requirement will not be allowed to participate.
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5. In order to receive a grade for the course, students must write at least two learning goals within the first two weeks of the internship and a one- to two-page paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
6. Taking internship must not extend international students' visas.
7. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers. For all other matters, please see the University-wide Academic Policies and Procedures (p. 44) and/or Bouvé College of Health Sciences Academic Policies and Procedures (p. 569).

Milestones

QUALIFYING EXAMINATION

The PhD qualifying examination is required for students in all four programs under the auspices of the Department of Pharmaceutical Sciences: pharmacology, medicinal chemistry and drug discovery, biomedical sciences, and pharmaceutics and drug delivery. Students from each of the four programs will take the exams within the same time frame (below), regardless of specialty-area program focus.

Doctoral students should have selected a dissertation advisor by the end of their first year in the program and are expected to have begun research and demonstrated initial proficiency in the laboratory before taking the PhD qualifying examination.

The PhD qualifying examination tests the candidates' knowledge and skills in core courses and program content areas. The overall PhD qualifying examination consists of two written exams and one oral exam. The qualifying examination is taken as a course, Doctoral Training and Research

(PHSC 8940), no later than during the fall semester of the student's second year, after having successfully completed all the core courses of their respective programs.

At least two departmental faculty will contribute questions for the written exams, and no one faculty member will write more than the equivalent of one entire exam. All students qualified to sit for the exams are expected to take them at the times announced.

The format for the written exams may vary (e.g., faculty may ask a series of comprehensive essay questions or provide research publications(s) from the biomedical literature and ask questions based upon the publications' content). The first exam is given in the first week of fall semester, with the written portion of the second exam (i.e., the F31 written document) to be submitted to the student's exam committee by end of October with the oral presentation to be completed by mid-November and graded by the providers of the question(s).

- ***Written exam 1*** reflects students' knowledge of their specialty-area program material and of overall pharmaceutical sciences. This exam is given on the same day in two parts. Part 1 is focused on each student's specialty-area program focus. Part 2 will test students' overall knowledge in another program focus covered by the pharmaceutical sciences curriculum.
    - For example, if the student is in the pharmaceutics and drug delivery PhD program, part 1 will be about pharmaceutics and drug delivery, and part 2 can focus either on pharmacology or medicinal chemistry and drug discovery.
- ***Written exam 2*** requires that students write an NIH F31 grant proposal and have the proposal signed off as passing by their examination committee after an oral defense.

A score of at least 70% is required to pass the first written exam (two parts). Students must pass all written portions of the PhD qualifying examination prior to the oral defense of the F31 proposal. Students who fail one written exam will have one opportunity to retake and pass that examination. A student who fails the first exam twice will be required to withdraw from the PhD program.

During the oral exam, students defend their NIH F31 grant proposal before an examination committee of, minimally, four faculty members: the dissertation advisor, at least two other Department of Pharmaceutical Sciences faculty members, and at least one member from outside the department. This committee is convened only for the oral exam and does not need to be the same committee as the student's dissertation committee.

Members of the oral examination committee are selected by the student, after consultation with the dissertation advisor and/or the director of graduate studies. The oral exam is graded on a pass/fail basis. Students who fail the oral exam on the first attempt may retake the exam within a time period designated by the examination committee not to exceed two months from the first oral exam. Those who fail twice will be dismissed from the program.

DOCTORAL CANDIDACY STATUS

Doctoral students who have completed satisfactorily and thereby earned the credits for all required core courses (including those for their specialized area) and who have passed the written and oral qualifying examinations shall be admitted to candidacy status for the PhD degree.

DOCTORAL DISSERTATION COMMITTEE

Doctoral students must complete a dissertation that embodies the results of extended research and makes an original contribution to their field. This work should give evidence of candidates' abilities to conduct independent investigation and interpret the results of their research in a professional manner. The doctoral dissertation advisor serves as chairperson of the Doctoral Dissertation Committee, which consists of no fewer than five members. Selection of an advisor is by mutual consent of the student and a member of the faculty, with approval by the director of graduate studies in the Department of Pharmaceutical Sciences. At least two members of the Doctoral Dissertation Committee must be faculty members in the Department of Pharmaceutical Sciences. At least one member is to be selected from outside the department. Committee members are chosen for their expertise in students' research areas.

DISSERTATION PROPOSAL DEFENSE

Within a year after successful completion of the PhD qualifying examination, but no later than the beginning of the fall semester of the third year, students must prepare and defend a written proposal detailing their planned dissertation project. Failure to do so will be regarded as a failure to progress in the PhD program and will result in a warning from the director of graduate studies of the Department of Pharmaceutical Sciences.

Students who do not correct this deficiency within one semester will be placed on academic probation. Students on academic probation must complete the dissertation proposal defense and return to nonprobationary status within one semester or be dismissed from the PhD program.

The dissertation proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should otherwise conform to the format and structure of an NIH grant proposal with four main sections: specific aims, background and significance, preliminary studies, and experimental design and methods. The Department of Pharmaceutical Sciences *Dissertation Proposal* document provides detailed instructions on the preparation of a dissertation proposal. Associated required forms may be found on the SOPPS Student Portal Canvas site.

The dissertation proposal must be defended orally before the student's dissertation committee and signed by all dissertation committee members in *approval of the student's planned dissertation research.* Upon dissertation approval, the copies of the signed proposal approval cover sheet (https://bouve.northeastern.edu/pdf/dissertation-proposal-approval-form.pdf) must be submitted to the department's director of graduate studies and to the Bouvé College of Health Sciences Graduate Office.

BIANNUAL REVIEW

Dissertation committees meet routinely at six-month intervals, but no less than once a year, to evaluate students' research progress and to be presented with written and oral progress reports on the direction and status of the research. Progress reports should be written in a brief format,

identical to that described for the formal dissertation (see instructions listed on the SOPPS Student Portal Canvas site). Unsatisfactory productivity provides the basis for a warning by the dissertation committee and/or the Graduate Committee. Two such warnings will result in a student's dismissal from the program.

Registration for Dissertation

Advisor consent and completion of all coursework (with the exception of the colloquium course) must be documented before students register for the first dissertation course. Students must register for Dissertation Term 1 (PHSC 9990) and Dissertation Term 2 (PHSC 9991). Students must register for Dissertation Continuation (PHSC 9996) each semester thereafter until the dissertation has been successfully defended. The department strongly encourages PhD students to complete the program within five years after acceptance, i.e., by three years after establishing degree candidacy. According to university policy, no PhD students may remain in the program for more than seven years.

Publications and Presentations

Prior to completion of PhD training, candidates must present their research either as a poster or podium presentation at a regional or national scientific conference. Also prior to completion, the student must have submitted (preferably, published) at least one manuscript in a peer-reviewed journal that reflects original findings and laboratory work from the candidate's dissertation research.

PhD Dissertation Preparation

Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM

All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE

The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

At least two weeks prior to the defense, students should inform the director of graduate studies in the Department of Pharmaceutical Sciences of the date of defense, so that advance announcement may be distributed. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student in a seminar format, and responses to audience and committee questions, the committee meets first with the student for any follow-up discussion and then in executive session to decide whether the student has defended the dissertation successfully.

The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and corrections, if applicable, and the dissertation is signed and passed on to the department's director of graduate studies. Requests for a second defense are highly irregular but may be permitted in the event that the previous oral defense was judged by the committee to be highly promising but inadequate in one critical aspect.

Deadline

The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT

All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination

Doctoral candidacy status
Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Sciences Colloquium
Oral dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Seminar		
Complete the following repeatable course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
Complete the following:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2

Electives

Code	Title	Hours
Students must complete one course from each of the following specialization areas for a total of three courses:		8-10
Pharmaceutics & Drug Delivery		
Complete one of the following:		
PMST 6250	Advanced Physical Pharmacy	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	
Pharmacology		
Complete one of the following:		
PMCL 6250	Ion Channel Physiology and Pharmacology	
PMCL 6252	Small-Molecule Target and Ligand Pharmacology	
Medicinal Chemistry & Drug Discovery		
Complete one of the following:		
CHEM 5626	Organic Synthesis 1	
CHEM 5628	Principles of Spectroscopy of Organic Compounds	
PHSC 5450	Contemporary Approaches to Drug Design	

Research and Dissertation

Code	Title	Hours
Prequalifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Exam		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

31 - 33 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Sample Plan

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 5212	2	PHSC 7020[1]	2
PHSC 5100	2	PHSC 6214	2		
PHSC 5102	2	PHSC 6300	1		
During the first year of courses, students must complete one course for each specialization:	3-6	During the first year of courses, students must complete one course for each specialization:	2-7		
Available in Fall semester:		Available in Spring semester:			
Pharmaceutics & Drug Delivery:		Pharmaceutics & Drug Delivery:			
PMST 6254		PMST 6250 or 6252			
Pharmacology:		Pharmacology:			
PMCL 6250		PMCL 6252			
Medicinal Chemistry & Drug Discovery:		Medicinal Chemistry & Drug Discovery:			
CHEM 5626 or 5628		PHSC 5450			
	10-11		**8-12**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]	2
PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5305[4]	1	PHSC 6213[4]	2	PHSC 9996	0
PHSC 6810[3]	1	PHSC 9996	0		
	2		**2**		**0**

Total Hours: 31-36

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year, but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 PHSC 5305 & PHSC 6213 is suggested to be taken in the fourth year, but can be taken at any point before graduation.

Sample Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2							
Fall	**Hours**		**Spring**	**Hours**		**Summer Full Semester**	**Hours**
PHSC 6300		1	PHSC 6300		1	PHSC 9996	0
PHSC 9990		0	PHSC 9991		0		
		1			**1**		**0**
Year 3							
Fall	**Hours**		**Spring**	**Hours**			
PHSC 6810[2]		1	PHSC 6213		2		
			PHSC 9996		0		
		1			**2**		

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of the first year but must be taken before fall of the second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before the dissertation defense.

Advanced Entry Program Requirements

Advanced entry into the PhD program in biomedical science requires a master's degree in pharmaceutical sciences or a related area and focuses on various advanced research courses, and successful defense of the dissertation. . An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research and Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Sample Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
		PHSC 9996	0
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of the first year but must be taken before fall of the second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before the dissertation defense.

Medicinal Chemistry and Drug Discovery, PhD

The PhD Program in Medicinal Chemistry and Drug Discovery educates and trains students in the design and synthesis of novel, biologically active compounds and in delineating their mechanisms of action using biochemical, biophysical, and pharmacological approaches. Research specializations are available in synthetic, biochemical/pharmacological, and biophysical aspects of medicinal chemistry. Doctoral research in these specializations will relate to faculty areas of research, which currently include substance use disorders and addiction; neuropathic pain; obesity and metabolic disorders; neuropsychiatric disorders (psychoses, ADHD, depression, anxiety, eating disorders); and neurodegenerative diseases.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

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Milestones

QUALIFYING EXAMINATION

The PhD qualifying examination is required for students in all four programs under the auspices of the Department of Pharmaceutical Sciences: pharmacology, medicinal chemistry and drug discovery, biomedical sciences, and pharmaceutics and drug delivery. Students from each of the four programs will take the exams within the same time frame (below), regardless of specialty-area program focus.

Doctoral students should have selected a dissertation advisor by the end of their first year in the program and are expected to have begun research and demonstrated initial proficiency in the laboratory before taking the PhD qualifying examination.

The PhD qualifying examination tests the candidates' knowledge and skills in core courses and program content areas. The overall PhD qualifying examination consists of two written exams and one oral exam. The qualifying examination is taken as a course, Doctoral Training and Research (PHSC 8940), no later than during the fall semester of the student's second year, after having successfully completed all the core courses of their respective programs.

At least two departmental faculty will contribute questions for the written exams, and no one faculty member will write more than the equivalent of one entire exam. All students qualified to sit for the exams are expected to take them at the times announced.

The format for the written exams may vary (e.g., faculty may ask a series of comprehensive essay questions or provide research publications(s) from the biomedical literature and ask questions based upon the publications' content). The first exam is given in the first week of fall semester, with the written portion of the second exam (i.e., the F31 written document) to be submitted to the student's exam committee by end of October with the oral presentation to be completed by mid-November and graded by the providers of the question(s).

- ***Written exam 1*** reflects students' knowledge of their specialty-area program material and of overall pharmaceutical sciences. This exam is given on the same day in two parts. Part 1 is focused on each student's specialty-area program focus. Part 2 will test students' overall knowledge in another program focus covered by the pharmaceutical sciences curriculum.
    - For example, if the student is in the pharmaceutics and drug delivery PhD program, part 1 will be about pharmaceutics and drug delivery, and part 2 can focus either on pharmacology or medicinal chemistry and drug discovery.
- ***Written exam 2*** requires that students write an NIH F31 grant proposal and have the proposal signed off as passing by their examination committee after an oral defense.

A score of at least 70% is required to pass the first written exam (two parts). Students must pass all written portions of the PhD qualifying examination prior to the oral defense of the F31 proposal. Students who fail one written exam will have one opportunity to retake and pass that examination. A student who fails the first exam twice will be required to withdraw from the PhD program.

During the oral exam, students defend their NIH F31 grant proposal before an examination committee of, minimally, four faculty members: the dissertation advisor, at least two other Department of Pharmaceutical Sciences faculty members, and at least one member from outside the department. This committee is convened only for the oral exam and does not need to be the same committee as the student's dissertation committee.

Members of the oral examination committee are selected by the student, after consultation with the dissertation advisor and/or the director of graduate studies. The oral exam is graded on a pass/fail basis. Students who fail the oral exam on the first attempt may retake the exam within a time period designated by the examination committee not to exceed two months from the first oral exam. Those who fail twice will be dismissed from the program.

DOCTORAL CANDIDACY STATUS

Doctoral students who have completed satisfactorily and thereby earned the credits for all required core courses (including those for their specialized area) and who have passed the written and oral qualifying examinations shall be admitted to candidacy status for the PhD degree.

DOCTORAL DISSERTATION COMMITTEE

Doctoral students must complete a dissertation that embodies the results of extended research and makes an original contribution to their field. This work should give evidence of candidates' abilities to conduct independent investigation and interpret the results of their research in a professional manner. The doctoral dissertation advisor serves as chairperson of the Doctoral Dissertation Committee, which consists of no fewer than five members. Selection of an advisor is by mutual consent of the student and a member of the faculty, with approval by the director of graduate studies in the Department of Pharmaceutical Sciences. At least two members of the Doctoral Dissertation Committee must be faculty members in the Department of Pharmaceutical Sciences. At least one member is to be selected from outside the department. Committee members are chosen for their expertise in students' research areas.

DISSERTATION PROPOSAL DEFENSE

Within a year after successful completion of the PhD qualifying examination, but no later than the beginning of the fall semester of the third year, students must prepare and defend a written proposal detailing their planned dissertation project. Failure to do so will be regarded as a failure to progress in the PhD program and will result in a warning from the director of graduate studies of the Department of Pharmaceutical Sciences.

Students who do not correct this deficiency within one semester will be placed on academic probation. Students on academic probation must complete the dissertation proposal defense and return to nonprobationary status within one semester or be dismissed from the PhD program.

The dissertation proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should otherwise conform to the format and structure of an NIH grant proposal with four main sections: specific aims, background and significance, preliminary studies, and experimental design and methods. The Department of Pharmaceutical Sciences *Dissertation Proposal* document provides detailed instructions on the preparation of a dissertation proposal. Associated required forms may be found on the SOPPS Student Portal Canvas site.

The dissertation proposal must be defended orally before the student's dissertation committee and signed by all dissertation committee members in *approval of the student's planned dissertation research.* Upon dissertation approval, the copies of the signed proposal approval cover sheet (https://bouve.northeastern.edu/pdf/dissertation-proposal-approval-form.pdf) must be submitted to the department's director of graduate studies and to the Bouvé College of Health Sciences Graduate Office.

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Dissertation committees meet routinely at six-month intervals, but no less than once a year, to evaluate students' research progress and to be presented with written and oral progress reports on the direction and status of the research. Progress reports should be written in a brief format, identical to that described for the formal dissertation (see instructions listed on the SOPPS Student Portal Canvas site). Unsatisfactory productivity

provides the basis for a warning by the dissertation committee and/or the Graduate Committee. Two such warnings will result in a student's dismissal from the program.

Registration for Dissertation
Advisor consent and completion of all coursework (with the exception of the colloquium course) must be documented before students register for the first dissertation course. Students must register for Dissertation Term 1 (PHSC 9990) and Dissertation Term 2 (PHSC 9991). Students must register for Dissertation Continuation (PHSC 9996) each semester thereafter until the dissertation has been successfully defended. The department strongly encourages PhD students to complete the program within five years after acceptance, i.e., by three years after establishing degree candidacy. According to university policy, no PhD students may remain in the program for more than seven years.

Publications and Presentations
Prior to completion of PhD training, candidates must present their research either as a poster or podium presentation at a regional or national scientific conference. Also prior to completion, the student must have submitted (preferably, published) at least one manuscript in a peer-reviewed journal that reflects original findings and laboratory work from the candidate's dissertation research.

PhD Dissertation Preparation
Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM
All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE
The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

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The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT
All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Doctoral candidacy status

Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Sciences Colloquium
Oral dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Seminar		
Complete the following repeatable course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2
Medicinal Chemistry and Drug Discovery		
CHEM 5626	Organic Synthesis 1	3
CHEM 5628	Principles of Spectroscopy of Organic Compounds	3
PHSC 5450	Contemporary Approaches to Drug Design	3

Research and Dissertation

Code	Title	Hours
Pre-Qualifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Exam		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Plan of Study

Year 1						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
CHEM 5626	3	PHSC 5212	2	PHSC 7020[1]		2
CHEM 5628	3	PHSC 5450	3			
PHSC 5100	2	PHSC 6214	2			
PHSC 5102	2	PHSC 6300	1			
PHSC 6300	1					
	11		**8**			**2**
Year 2						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]		2

PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5305[4]	1	PHSC 6213[4]	2	PHSC 9996	0
PHSC 6810[3]	1	PHSC 9996	0		
	2		**2**		**0**

Total Hours: 32

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year, but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 PHSC 5305 & PHSC 6213 is suggested to be taken in the fourth year, but can be taken at any point before graduation.

Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
		PHSC 9996	0
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.
2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Advanced Entry Program Requirements

Advanced entry into the Medicinal Chemistry and Drug Discovery PhD program requires a master's degree in pharmaceutical sciences or a related area and focuses on various advanced research courses and successful defense of the dissertation. An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal

Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research and Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
		PHSC 9996	0
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Pharmaceutics and Drug Delivery, PhD

Students studying pharmaceutics and drug delivery will be thoroughly exposed to the fundamentals of physical pharmacy and pharmaceutics and trained in several specialized areas including:

- Novel drug delivery systems
- Nanomedical technologies
- Biopharmaceutics and pharmacokinetics

With exposure to these facets of the pharmaceutical sciences, successful graduates are poised to understand and assimilate the field of modern pharmaceutics. A PhD degree in pharmaceutics is a research degree. While coursework plays an important role, students become active participants in the science of pharmaceutics in the laboratory. Faculty research in pharmaceutical sciences covers a broad range of scientific interests, including pharmacokinetic toxicodynamics of anticancer agents; use of novel biomaterials and synthetic polymeric systems in designing small-molecule drug delivery systems for small molecules, proteins, and nucleic acids; passive and active targeting of therapeutic agents for cancer and cardiovascular diseases; novel delivery systems for immunostimulating purposes; and mathematical modeling of endogenous compounds.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

Colloquium Attendance

All PhD students, regardless of program, are required to attend the weekly Pharmaceutical Science Colloquium series. Announcements of times and locations will be distributed weekly to students by email to their university email addresses. Attendance is recorded by sign-up sheet. One excused absence is permitted per semester. Failure to attend colloquia may result in sanctions such as probation or dismissal from the PhD program.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in the pharmaceutical and biotechnology industries.

After PhD candidates have completed their dissertation research and are working on their dissertations, they are able, with the express permission of their PhD advisor, to participate in an internship if they choose. They are never allowed to intern while they are serving as teaching assistants.

1. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Students are responsible for tracking this experience on their resumés as there will be no detailed record on students' transcripts of these opportunities.
2. In order to be eligible for internship, students must take Professional Development for Pharmaceutical Sciences (PHSC 5305) a semester before internship.
3. Students must not accept more than one position. They must honor the first offer accepted. Any student not adhering to this requirement will not be allowed to participate.
4. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services (https://international.northeastern.edu/ogs/) every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
5. In order to receive a grade for the course, students must write at least two learning goals within the first two weeks of the internship and a one- to two-page paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
6. Taking internship must not extend international students' visas.
7. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers. For all other matters, please see the University-wide Academic Policies and Procedures (p. 44) and/or Bouvé College of Health Sciences Academic Policies and Procedures (p. 569).

Milestones

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The PhD qualifying examination is required for students in all four programs under the auspices of the Department of Pharmaceutical Sciences: pharmacology, medicinal chemistry and drug discovery, biomedical sciences, and pharmaceutics and drug delivery. Students from each of the four programs will take the exams within the same time frame (below), regardless of specialty-area program focus.

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Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Science Colloquium
Oral dissertation defense

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PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2
Pharmaceutics		
PMST 6250	Advanced Physical Pharmacy	2
PMST 6252	Pharmacokinetics and Drug Metabolism	3
PMST 6254	Advanced Drug Delivery Systems	3

Research and Dissertation

Code	Title	Hours
Prequalifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

31 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**		
PHSC 6300	1	PHSC 6300	1	PHSC 7020[1]	2		
PHSC 5100	2	PHSC 5212	2				
PHSC 5102	2	PHSC 6214	2				
PMST 6254	3	PMST 6250	2				
		PMST 6252	3				
	8		**10**		**2**		

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]	2
PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6810[3]	1	PHSC 9996	0	PHSC 9996	0
PHSC 5305[4]	1	PHSC 6213[4]	2		
	2		**2**		**0**

Total Hours: 31

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 Professional Development for Pharmaceutical Sciences (PHSC 5305) and Ethical Problems in Health Sciences Research (PHSC 6213) are suggested to be taken in the fourth year but can be taken at any point before graduation.

Advanced Entry Program Requirements

Advanced entry into the Pharmaceutics and Drug Delivery PhD program requires a master's degree in pharmaceutical sciences or related area and focuses on various advanced research courses. An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course for four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research and Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2

Dissertation	
PHSC 9990	Dissertation Term 1
PHSC 9991	Dissertation Term 2

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Year 1						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
PHSC 8940	1	PHSC 8986 or 9681[1]	0	PHSC 9681[1]		2
PHSC 6300	1	PHSC 6300	1			
	2		**1**			**2**
Year 2						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
PHSC 6300	1	PHSC 6300	1	PHSC 9996		0
PHSC 9990		PHSC 9991				
	1		**1**			**0**
Year 3						
Fall	**Hours**	**Spring**	**Hours**			
PHSC 6810[2]	1	PHSC 9996	0			
PHSC 9996	0	PHSC 6213	2			
	1		**2**			

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Pharmacology, PhD

The pharmacology PhD enables students to specialize in the study of the actions of drugs and their effects in living systems. In addition to the opportunity for developing a sound knowledge base through coursework and seminars, the program is designed to strengthen students' ability to understand and evaluate critically current pharmacology literature, informing the students' independent laboratory research that advances our understanding of drugs, their actions, and their pharmacotherapeutic applications. Recent graduates with a pharmacology PhD have found employment in academic and industrial research positions.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

Colloquium Attendance

All PhD students, regardless of program, are required to attend the weekly Pharmaceutical Science Colloquium series. Announcements of times and locations will be distributed weekly to students by email to their university email addresses. Attendance is recorded by sign-up sheet. One excused absence is permitted per semester. Failure to attend colloquia may result in sanctions such as probation or dismissal from the PhD program.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in the pharmaceutical and biotechnology industries.

After PhD candidates have completed their dissertation research and are working on their dissertations, they are able, with the express permission of their PhD advisor, to participate in an internship if they choose. They are never allowed to intern while they are serving as teaching assistants.

1. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Students are responsible for tracking this experience on their resumés as there will be no detailed record on students' transcripts of these opportunities.
2. In order to be eligible for internship, students must take Professional Development for Pharmaceutical Sciences (PHSC 5305) a semester before internship.
3. Students must not accept more than one position. They must honor the first offer accepted. Any student not adhering to this requirement will not be allowed to participate.
4. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services (https://international.northeastern.edu/ogs/) every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
5. In order to receive a grade for the course, students must write at least two learning goals within the first two weeks of the internship and a one- to two-page paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
6. Taking internship must not extend international students' visas.
7. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers. For all other matters, please see the University-wide Academic Policies and Procedures (p. 44) and/or Bouvé College of Health Sciences Academic Policies and Procedures (p. 569).

Milestones

QUALIFYING EXAMINATION

The PhD qualifying examination is required for students in all four programs under the auspices of the Department of Pharmaceutical Sciences: pharmacology, medicinal chemistry and drug discovery, biomedical sciences, and pharmaceutics and drug delivery. Students from each of the four programs will take the exams within the same time frame (below), regardless of specialty-area program focus.

Doctoral students should have selected a dissertation advisor by the end of their first year in the program and are expected to have begun research and demonstrated initial proficiency in the laboratory before taking the PhD qualifying examination.

The PhD qualifying examination tests the candidates' knowledge and skills in core courses and program content areas. The overall PhD qualifying examination consists of two written exams and one oral exam. The qualifying examination is taken as a course, Doctoral Training and Research (PHSC 8940), no later than during the fall semester of the student's second year, after having successfully completed all the core courses of their respective programs.

At least two departmental faculty will contribute questions for the written exams, and no one faculty member will write more than the equivalent of one entire exam. All students qualified to sit for the exams are expected to take them at the times announced.

The format for the written exams may vary (e.g., faculty may ask a series of comprehensive essay questions or provide research publications(s) from the biomedical literature and ask questions based upon the publications' content). The first exam is given in the first week of fall semester, with the written portion of the second exam (i.e., the F31 written document) to be submitted to the student's exam committee by end of October with the oral presentation to be completed by mid-November and graded by the providers of the question(s).

- ***Written exam 1*** reflects students' knowledge of their specialty-area program material and of overall pharmaceutical sciences. This exam is given on the same day in two parts. Part 1 is focused on each student's specialty-area program focus. Part 2 will test students' overall knowledge in another program focus covered by the pharmaceutical sciences curriculum.
    - For example, if the student is in the pharmaceutics and drug delivery PhD program, part 1 will be about pharmaceutics and drug delivery, and part 2 can focus either on pharmacology or medicinal chemistry and drug discovery.
- ***Written exam 2*** requires that students write an NIH F31 grant proposal and have the proposal signed off as passing by their examination committee after an oral defense.

A score of at least 70% is required to pass the first written exam (two parts). Students must pass all written portions of the PhD qualifying examination prior to the oral defense of the F31 proposal. Students who fail one written exam will have one opportunity to retake and pass that examination. A student who fails the first exam twice will be required to withdraw from the PhD program.

During the oral exam, students defend their NIH F31 grant proposal before an examination committee of, minimally, four faculty members: the dissertation advisor, at least two other Department of Pharmaceutical Sciences faculty members, and at least one member from outside the department. This committee is convened only for the oral exam and does not need to be the same committee as the student's dissertation committee.

Members of the oral examination committee are selected by the student, after consultation with the dissertation advisor and/or the director of graduate studies. The oral exam is graded on a pass/fail basis. Students who fail the oral exam on the first attempt may retake the exam within a time period designated by the examination committee not to exceed two months from the first oral exam. Those who fail twice will be dismissed from the program.

DOCTORAL CANDIDACY STATUS

Doctoral students who have completed satisfactorily and thereby earned the credits for all required core courses (including those for their specialized area) and who have passed the written and oral qualifying examinations shall be admitted to candidacy status for the PhD degree.

DOCTORAL DISSERTATION COMMITTEE

Doctoral students must complete a dissertation that embodies the results of extended research and makes an original contribution to their field. This work should give evidence of candidates' abilities to conduct independent investigation and interpret the results of their research in a professional manner. The doctoral dissertation advisor serves as chairperson of the Doctoral Dissertation Committee, which consists of no fewer than five members. Selection of an advisor is by mutual consent of the student and a member of the faculty, with approval by the director of graduate studies in the Department of Pharmaceutical Sciences. At least two members of the Doctoral Dissertation Committee must be faculty members in the Department of Pharmaceutical Sciences. At least one member is to be selected from outside the department. Committee members are chosen for their expertise in students' research areas.

DISSERTATION PROPOSAL DEFENSE

Within a year after successful completion of the PhD qualifying examination, but no later than the beginning of the fall semester of the third year, students must prepare and defend a written proposal detailing their planned dissertation project. Failure to do so will be regarded as a failure to progress in the PhD program and will result in a warning from the director of graduate studies of the Department of Pharmaceutical Sciences.

Students who do not correct this deficiency within one semester will be placed on academic probation. Students on academic probation must complete the dissertation proposal defense and return to nonprobationary status within one semester or be dismissed from the PhD program.

The dissertation proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should otherwise conform to the format and structure of an NIH grant proposal with four main sections: specific aims, background and significance, preliminary studies, and experimental design and methods. The Department of Pharmaceutical Sciences *Dissertation Proposal* document provides detailed instructions on the preparation of a dissertation proposal. Associated required forms may be found on the SOPPS Student Portal Canvas site.

The dissertation proposal must be defended orally before the student's dissertation committee and signed by all dissertation committee members in *approval of the student's planned dissertation research.* Upon dissertation approval, the copies of the signed proposal approval cover sheet (https://bouve.northeastern.edu/pdf/dissertation-proposal-approval-form.pdf) must be submitted to the department's director of graduate studies and to the Bouvé College of Health Sciences Graduate Office.

BIANNUAL REVIEW

Dissertation committees meet routinely at six-month intervals, but no less than once a year, to evaluate students' research progress and to be presented with written and oral progress reports on the direction and status of the research. Progress reports should be written in a brief format, identical to that described for the formal dissertation (see instructions listed on the SOPPS Student Portal Canvas site). Unsatisfactory productivity

provides the basis for a warning by the dissertation committee and/or the Graduate Committee. Two such warnings will result in a student's dismissal from the program.

Registration for Dissertation
Advisor consent and completion of all coursework (with the exception of the colloquium course) must be documented before students register for the first dissertation course. Students must register for Dissertation Term 1 (PHSC 9990) and Dissertation Term 2 (PHSC 9991). Students must register for Dissertation Continuation (PHSC 9996) each semester thereafter until the dissertation has been successfully defended. The department strongly encourages PhD students to complete the program within five years after acceptance, i.e., by three years after establishing degree candidacy. According to university policy, no PhD students may remain in the program for more than seven years.

Publications and Presentations
Prior to completion of PhD training, candidates must present their research either as a poster or podium presentation at a regional or national scientific conference. Also prior to completion, the student must have submitted (preferably, published) at least one manuscript in a peer-reviewed journal that reflects original findings and laboratory work from the candidate's dissertation research.

PhD Dissertation Preparation
Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM
All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE
The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

At least two weeks prior to the defense, students should inform the director of graduate studies in the Department of Pharmaceutical Sciences of the date of defense, so that advance announcement may be distributed. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student in a seminar format, and responses to audience and committee questions, the committee meets first with the student for any follow-up discussion and then in executive session to decide whether the student has defended the dissertation successfully.

The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and corrections, if applicable, and the dissertation is signed and passed on to the department's director of graduate studies. Requests for a second defense are highly irregular but may be permitted in the event that the previous oral defense was judged by the committee to be highly promising but inadequate in one critical aspect.

Deadline
The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT
All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Qualifying examination
Doctoral candidacy status

Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Sciences Colloquium
Oral dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Seminar		
Complete the following repeatable course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
Complete the following courses:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2
Pharmacology		
PMCL 6250	Ion Channel Physiology and Pharmacology	3
PMCL 6252	Small-Molecule Target and Ligand Pharmacology	4

Research & Dissertation

Code	Title	Hours
Pre-Qualifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Exam		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Sample Plan

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5100	2	PHSC 5212	2	PHSC 7020[1]	2
PHSC 5102	2	PHSC 6214	2		
PMCL 6250	3	PHSC 6300	1		
PHSC 6300	1	PMCL 6252	4		
	8		**9**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]	2

PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5305[4]	1	PHSC 6213[4]	2	PHSC 9996	0
PHSC 6810[3]	1	PHSC 9996	0		
	2		**2**		**0**

Total Hours: 30

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year, but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 PHSC 5305 & PHSC 6213 are suggested to be taken in the fourth year, but can be taken at any point before graduation.

Sample Plan - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940[1]	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	
PHSC 9990		PHSC 9991			
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
PHSC 9996		PHSC 9996	
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.
2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Advanced Entry Program Requirements

Advanced entry into the PhD in Pharmacology requires a master's degree in pharmaceutical sciences or a related area and focuses on various advanced research courses and successful defense of the dissertation. An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal

Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research & Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Sample Plan - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940[1]	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	
PHSC 9990		PHSC 9991			
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
PHSC 9996		PHSC 9996	
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Pharmacy, PharmD

Program requirements that follow relate to the final year of the six-year Doctor of Pharmacy (PharmD) program only. For information regarding years one through five of this program, please see the *Undergraduate Catalog* Doctor of Pharmacy (Pharmacy, PharmD) webpage.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 36 semester hours in the following range:		36
PHMD 6440 to PHMD 6474		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Pharmacy, PharmD—Direct Entry

The School of Pharmacy and Pharmaceutical Sciences offers the Doctor of Pharmacy degree (PharmD). The direct-entry admission pathway for this program requires that students complete a BS or BA from an accredited institution with a preferred prerequisite grade-point average of 3.000. Only grades of C (2.000) or higher are acceptable to fulfill a prerequisite course. The following prerequisite courses and credits are required:

Requirements	Credits
Chemistry 1 and 2 (1 lab)	7
General biology 1 and 2 (1 lab)	7
Calculus	3
Organic chemistry 1 and 2 (w/labs)	8
Biochemistry	3
Human physiology 1 and 2	8
Physics	3
Arts/humanities/social studies	4

Direct entry into the first professional year of the PharmD program offers students a four-year graduate course of study that fully integrates campus-based learning with experiential learning, including the university's signature cooperative education program, to provide students with the knowledge, skills, and abilities necessary to succeed in the pharmacy profession. Our students promote and ensure the safe and effective use of drugs and provide medication therapy management services. In addition to preparing and dispensing prescribed medications, our students provide information to patients about medications and their uses; advise physicians, other prescribers, and other healthcare practitioners on medication selection, dosages, interactions, and adverse effects; and monitor patient responses to drug therapy.

Our students are well equipped to provide patient care services in a variety of settings. Most of our graduates work in community pharmacies or in healthcare facilities such as hospitals and ambulatory clinics. Additional practice opportunities exist in health maintenance organizations, private practice groups, long-term-care facilities, home healthcare, the Public Health Service, the armed services, and law enforcement and regulatory agencies such as the Federal Drug Administration or Drug Enforcement Administration. Graduates may also find employment in drug development, marketing and research within the pharmaceutical industry, colleges of pharmacy, and professional association management. In addition, many of our graduates go on to pharmacy practice residencies, fellowships, and leading graduate programs.

PharmD students are admitted with the expectation that by working with faculty, staff, and each other, they will develop the knowledge, skills, and attitudes necessary for academic and professional success. Students follow academic progression plans for their respective years of graduation. Any deviation from the prescribed curriculum will require faculty/staff permission and an approved plan of study from the SOPPS Academic Standing Committee.

The curriculum includes both Introductory Pharmacy Practice Experiences (fulfilled with co-op) and Advanced Pharmacy Practice Experiences. These pharmacy practice experiences are provided primarily under the direct supervision of qualified pharmacist preceptors and occasionally with other qualified healthcare professionals. The school is affiliated with many world-class practice sites throughout the United States, providing students with access to experienced clinicians and scholars. Although every effort is made to accommodate individual circumstances and requests, students should be prepared to travel outside the Boston area to complete some of their pharmacy practice experiences. Availability of a car may be required, as some sites are not accessible by public transportation. All expenses associated with pharmacy practice experiences, including travel and housing, are the responsibility of the student.

IPPEs are competitive placements that are based on job availability in a geographic region. The placements are facilitated by SOPPS cooperative education coordinators. Students are required to earn satisfactory (S) grades on one IPPE in a community setting and on one IPPE in an institutional/hospital practice setting.

APPE placements are provided based on site/preceptor availability and the final approval of the SOPPS Office of Experiential and Continuing Profession Education. Students may be able to petition the OECPE for out-of-system APPEs; however, availability for such requests is limited.

To be eligible for a PharmD, a student must successfully complete all courses in the curriculum, including the IPPEs/co-op and APPEs; meet the academic progression standards of the program; meet the technical standards of the program; and satisfy all other requirements as stated. The pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education (https://www.acpe-accredit.org/) and adheres to the standards established by ACPE.

Pharmacy graduates must meet specific requirements to qualify for professional licensure in the state where they plan to practice as a registered pharmacist. These requirements include graduating from an accredited school of pharmacy, passing national and state board examinations, and completing internship hours. The internship is a period of practical experience conducted under the supervision of a registered pharmacist. Massachusetts requires 1,500 internship hours, all of which are satisfied through completion of IPPEs (co-op) and APPEs.

Professional and/or legal exigencies arise from time to time, which may necessitate changes in a pharmacy course, progression, and/or graduation requirements. Students should review their status with academic advisors on a timely basis and refer to current publications for updated information.

Requirements for the PharmD Pharmacy Practice Experiences

Requirements for the successful completion of the PharmD PPEs include:

1. Evidence of health clearance from University Health and Counseling Services before placements at any PPE site.

2. Satisfactory completion of any additional site-specific requirements including, but not limited to, criminal record information (CORI), urine drug screens, and verification of immunization status. All fees associated with these requirements are the responsibility of the student.

Management of Positive Urine Drug Screens

If the student learns the urine drug screen (test #1) is positive, the student will notify the OEE (pharmacyoee@northeastern.edu) and immediately complete a second urine screen (test #2). A professional concern form will be completed based on test #1 results.

If urine screen test #2 is negative (-), the student will be allowed to continue the PPEs. However, the student will be asked to complete a random urine screen (test #3) at a time determined by the OEE. If this urine screen (test #3) is positive (+), the student will be administratively removed from the active PPEs and graduation may be delayed. A second professional concern form will be completed, based on test #3 results. The return to PPEs will occur once a repeat urine test is negative. That repeat negative test will be followed up by a random urine screen at a time determined by the OEE.

If the urine screen (test #2) is positive (+), the student will be administratively removed from the PPEs and graduation may be delayed. The return to PPEs will occur once a repeat urine screen is negative. That negative screen will be followed up by a random urine screen at a time determined by the OEE. A second professional concern form will be completed based on a positive test #3 result.

3. Adherence to the school's code of professional conduct and university's code of conduct policies while off-campus.

4. Maintenance of an active pharmacy intern license in every state where the student completes an experience.

5. Compliance with site-specific requirements (via site descriptions) and completion of site requests within specified deadlines. Students who fail to complete these requirements as directed will likely incur grade penalties and may experience a delay of graduation or dismissal from the pharmacy program.

PROGRAM POLICIES

Students are expected to adhere to the policies and standards of their program major as stated to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major must present a petition before the SOPPS Academic Standing Committee.

Given programmatic requirements, coupled with concerns over the loss of therapeutic knowledge, requests for a General Leave of Absence (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/), other than Medical or Emergency Leave of Absence:

- Must comply with all stated Northeastern general policies, regardless of the academic year.
- May be made at any time period during the P1 or P2 years.
- During the P3 academic year, any request for a general leave must be made no later than February 1 of the given academic year. Requests after this date will not be permitted.
- During the P4 academic year, requests for a general leave cannot be made at any time.

SOPPS—Professional Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf)

Preprofessional and professional-year students are expected to adhere to the Code of Professional Conduct. (https://bouve.northeastern.edu/assets/uploads/sites/5/2014/08/sop-code-professional-conduct.pdf)

Students are eligible to begin APPEs following successful completion of all didactic coursework. Completing didactic coursework during P4 year is prohibited.

TECHNICAL STANDARDS FOR THE DOCTOR OF PHARMACY PROGRAM

The PharmD program at Northeastern is a rigorous and challenging academic program that requires students to possess specific characteristics and abilities within the cognitive, affective, and psychomotor domains, referred to here as technical standards. To successfully progress in and ultimately complete the didactic, laboratory, and experiential components of the PharmD program, students must meet the standards described below.

Intellectual Abilities

Students must have well-developed problem-solving and critical-thinking skills. Cognitive function must be appropriate to integrate, evaluate, and apply information gained through measurement, analysis, calculation, and reasoning. Students must have the capacity to learn efficiently in classroom, laboratory, small group and experiential settings, and through independent study. Students are required to demonstrate the ability to integrate course content knowledge with clinical practice applications to optimize medication therapy management.

Communication Skills
Students must be able to communicate effectively with colleagues, professors, patients, families, and healthcare providers. This includes efficiently comprehending, speaking, reading, and writing in English. Students must be able to process and use appropriate nonverbal cues and be proficient in the use of electronic communication media.

Behavioral and Social Attributes
Students must demonstrate professionalism, maturity, integrity, honesty, compassion, and respect when relating to others. Students must have sufficient mental and emotional health to complete work and responsibilities using good judgment. Students must be able to tolerate and adapt to stressful workloads and situations and modify behavior based on constructive criticism. Students must be able to function in accordance with the legal, ethical, and professional standards of practice.

Observation and Motor Skills
Students must have functional use of visual, auditory, and tactile senses. Students must be able to observe and perform experiments, physical assessments, patient interviews, and medication order processing. Students must be able to distinguish physical characteristics of medications by inspection. Students must have coordination of gross and fine muscular movements sufficient to perform pharmacy-related tasks including compounding and dispensing medications, administering medications, and using computers and other technology necessary for learning and professional practice.

ACADEMIC DISMISSAL FROM MAJOR

PharmD students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Failure to earn a grade of C or better in three professional courses, regardless of remediation. Within the PharmD program, each specific professional course (with separate registration number) will be counted as a separate failure even if content is related.
- Failure to earn the minimum required grade in the same course twice.
- Failure to maintain a GPA of 3.000 after one semester of probation.
- The expected graduation date may not change more than twice.

The PharmD program monitors and promotes the development of professional behaviors in its students in order to ensure appropriate professionalism in the classroom, local and global communities, and clinical settings. Breach of adherence to these standards may result in dismissal from the program.

ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Refer to the Bouvé College of Health Sciences Academic Affairs Appeals Process (p. 579) and the Northeastern University Academic Appeals Policies and Procedures (https://catalog.northeastern.edu/undergraduate/academic-policies-procedures/academic-appeals-policies-procedures/).

PROGRAM STUDENT LEARNING OUTCOMES

Please visit Bouvé College Program Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Pharmacy Major (PharmD) Grade and Progression Requirement

To progress into the subsequent semester of professional courses, students must receive a grade of C or better in all PHMD and PHSC courses, as well as in any course completed to fulfill the professional elective requirement.

For pharmacy students, an unsatisfactory grade (U) in a co-op will be counted as a professional course deficiency.

Students who incur an incomplete grade in a prerequisite course may not progress into the subsequent courses(s). Any exceptions will be determined by protocols established by the program, after consultation with the student's academic advisor.

Core Requirements

Code	Title	Hours
YEAR 1		
PHMD 5115	Integrated Science and Therapeutics 2	4
PHMD 5120	Principles of Pharmacy Practice	4
PHMD 5140	Integrated Social and Administrative Sciences 1	4
PHMD 5182	Integrated Learning Lab 2	1
PHMD 5191	Concepts in Practice 1	1
PHMD 5192	Concepts in Practice 2	1
PHMD 6964	Co-op Work Experience (Introductory Pharmacy Practice Experience) [1]	0

PHSC 5110	Integrated Science and Therapeutics 1	4
PHSC 5130	Foundations of Pharmaceutical Sciences 1	4
PHSC 5181	Integrated Learning Lab 1	1
YEAR 2		
PHMD 5210	Integrated Science and Therapeutics 4	4
PHMD 5215	Integrated Science and Therapeutics 5	4
PHMD 5220	Integrated Science and Therapeutics 6	4
PHMD 5240	Integrated Social and Administrative Sciences 2	4
PHMD 5245	Integrated Social and Administrative Sciences 3	4
PHMD 5283	Integrated Learning Lab 3	1
PHMD 5284	Integrated Learning Lab 4	1
PHMD 5285	Integrated Learning Lab 5	1
PHMD 5293	Concepts in Practice 3	1
PHMD 5294	Concepts in Practice 4	1
PHMD 5295	Concepts in Practice 5	1
PHSC 5205	Integrated Science and Therapeutics 3	4
PHSC 5230	Foundations of Pharmaceutical Sciences 2	4
YEAR 3		
PHMD 5320	APPE Readiness	4
PHMD 5335	Integrated Science and Therapeutics 7	4
PHMD 5345	Integrated Social and Administrative Sciences 4	4
PHMD 5386	Integrated Learning Lab 6	1
PHMD 5396	Concepts in Practice 6	1
PHMD 6964	Co-op Work Experience (Introductory Pharmacy Practice Experience) [1]	0
YEARS 3 and 4		
Complete 36 semester hours of Advanced Pharmacy Practice Experience (APPE) from the following:		36
PHMD 6440	Internal Medicine Advanced Pharmacy Practice Experience	
PHMD 6441	Acute Care Advanced Pharmacy Practice Experience	
PHMD 6442	Ambulatory Care Advanced Pharmacy Practice Experience	
PHMD 6443	Community Advanced Pharmacy Practice Experience	
PHMD 6445	Ambulatory Care Elective Advanced Pharmacy Practice Experience	
PHMD 6446	Psychiatry Advanced Pharmacy Practice Experience	
PHMD 6447	Community Elective Advanced Pharmacy Practice Experience	
PHMD 6448	Long Term Care Advanced Pharmacy Practice Experience	
PHMD 6449	Geriatrics Advanced Pharmacy Practice Experience	
PHMD 6450	Pediatrics Advanced Pharmacy Practice Experience	
PHMD 6451	Neonatology Advanced Pharmacy Practice Experience	
PHMD 6452	Critical Care Advanced Pharmacy Practice Experience	
PHMD 6453	Surgery Advanced Pharmacy Practice Experience	
PHMD 6454	Cardiology Advanced Pharmacy Practice Experience	
PHMD 6456	Drug Information Advanced Pharmacy Practice Experience	
PHMD 6457	Oncology Advanced Pharmacy Practice Experience	
PHMD 6461	Infectious Disease Advanced Pharmacy Practice Experience	
PHMD 6462	Pharmacy Industry Advanced Pharmacy Practice Experience	
PHMD 6463	Pharmacy Administration Advanced Pharmacy Practice Experience	
PHMD 6464	Regulatory Advanced Pharmacy Practice Experience	
PHMD 6465	Managed Care Advanced Pharmacy Practice Experience	
PHMD 6466	Transplantation Advanced Pharmacy Practice Experience	
PHMD 6467	Directed Practice Advanced Pharmacy Practice Experience	
PHMD 6468	International Advanced Pharmacy Practice Experience	
PHMD 6469	Management Advanced Pharmacy Practice Experience	
PHMD 6470	Education Advanced Pharmacy Practice Experience	

PHMD 6471	Research 1 Advanced Pharmacy Practice Experience
PHMD 6473	Radiopharmacy Advanced Pharmacy Practice Experience

[1] For pharmacy students, an unsatisfactory grade (U) in a co-op will be counted as a professional course deficiency.

Elective Requirements

Code	Title	Hours
Open Electives		
A minimum of 8 semester hours of open electives is required.		8
Professional Electives		
Complete at least 2 semester hours from the following:		2
CAEP 6203	Understanding Culture and Diversity	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6404	Patient Engagement Informatics and Analytics	
HLTH 5002	Mindfulness: Theory and Practice	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHMD 3600	Leadership and Advocacy in Health Professions	
PHMD 4350	Exploring Academic Careers	
PHMD 4581	Cancer Chemotherapy	
PHMD 4585	Research Methods in Health Systems	
PHMD 4700	Principles in General Medicine	
PHMD 4890	Contemporary Issues in Geriatric Pharmacy	
PHMD 5223	Evidence-Based Medicine	
PHMD 5575	Pharmaceutical Industry	
PHMD 5675	Ambulatory Care Pharmacy Practice in Urban Health	
PHMD 5900	Self-Care and Nonprescription Medications: A Team-Based Approach	
PHSC 4991	Research	
PHSC 5100	Concepts in Pharmaceutical Science	
PHSC 5400	Principles of Drug Design	
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies	
PHSC 5555	Pharmaceutical Toxicology	
PHSC 6222	The Chemistry and Biology of Drugs of Abuse	
PHSC 6224	Behavioral Pharmacology and Drug Discovery	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 6320	Qualitative Methods in Health and Illness	
PMST 6250	Advanced Physical Pharmacy	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	

Progression Requirements

To progress into the subsequent semester of professional courses, students must receive a grade of C or better in all PHMD and PHSC courses, as well as any course completed to fulfill the professional elective requirements.

Program Credit/GPA Requirements

118 total semester hours required

Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional Year 1 (P1)		Professional Year 1 (P1)		Professional Year 1 (P1)		Professional Year 1 (P1)	
PHMD 5120	4	PHMD 6964 (IPPE)	0	PHMD 6964	0	PHMD 5115	4
PHMD 5140	4					PHMD 5182	1
PHMD 5191	1					PHMD 5192	1
PHSC 5110	4					Elective	2-4
PHSC 5130	4						
PHSC 5181	1						
	18		**0**		**0**		**8-10**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional Year 2 (P2)		Professional Year 2 (P2)		Professional Year 2 (P2)		Professional Year 2 (P2)	
PHMD 5240	4	PHMD 5210	4	PHMD 5220	4	PHMD 6964	0
PHMD 5283	1	PHMD 5215	4	PHMD 5285	1		
PHMD 5293	1	PHMD 5245	4	PHMD 5295	1		
PHSC 5205	4	PHMD 5284	1	Elective	2-4		
PHSC 5230	4	PHMD 5294	1				
Elective	2-4	Elective	2-4				
	16-18		**16-18**		**8-10**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional Year 3 (P3)		Professional Year 3 (P3)		Professional Year 4 (P4)		Professional Year 4 (P4)	
PHMD 6964	0	PHMD 5320	4	APPE (choose from PHMD 6440-PHMD 6474)	6	APPE (choose from PHMD 6440 - PHMD 6474)	6
		PHMD 5335	4				
		PHMD 5345	4				
		PHMD 5386	1				
		PHMD 5396	1				
		Elective	2-4				
	0		**16-18**		**6**		**6**

Year 4

Fall	Hours	Spring	Hours
APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
	12		**12**

Total Hours: 118-128

Biomedical Science, MS

The science and research surrounding human health and disease are becoming more interdisciplinary. In response to this trend, the biomedical science MS program allows students to focus on areas across the biomedical sciences to gain training in human (patho)physiology and the application of existing and potential therapeutic approaches to treat disease. The Master of Science in Biomedical Science curriculum is particularly appropriate both for those entering as well as those currently employed in the field, including research technicians, clinical laboratory workers, science teachers, and science administrators. For those currently employed, the program can enhance performance in a present position or open new employment opportunities. Graduates of the program will be well prepared to enter related PhD programs at the university.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in industry and hospitals.

1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
6. Students must not accept more than one position. They must honor the first offer accepted.
7. In order to receive a grade for the course, students must write at least two learning goals and a paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
8. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
9. Students receive 1 academic credit per semester for Pharmaceutical Science Internship (PHSC 6401). If students want to do an internship for a fourth semester they may do so, but students will only receive a maximum of 3 credits for Pharmaceutical Science Internship (PHSC 6401). The 4th credit for Pharmaceutical Science Internship (PHSC 6401) will not be added to the student's degree.
10. Taking internship must not extend international students' visas.

General Policies Common to all MS Programs in the Department of Pharmaceutical Sciences

GRADING POLICY

Students are expected to maintain a GPA of 3.000 (B) or higher in all coursework. Students whose cumulative GPA falls below 3.000 will receive written notification from the Bouvé Office of Graduate Student Services that they have been placed on academic probation. A student must clear the deficiency and return to nonprobationary status within one semester, unless the course that must be retaken is not offered during the probationary semester. In such a case, the course to be retaken must be completed during the next semester that it is offered, and the GPA must be restored to at least 3.000. Failure to remediate the deficiencies and return to nonprobationary status within the established time limit will result in dismissal from the MS program. Refer to the Bouvé College of Health Sciences policy on Academic Dismissal (p. 581) and Academic Probation Policy (p. 582) for full details.

PROGRESSION REQUIREMENT

Bouvé College of Health Sciences policy specifies that students register for coursework or continuation credit each semester of the academic year (fall and spring semesters) after they are matriculated as full- or part-time students. Moreover, international students are required to maintain full-time student status during each academic term; consult the Office of Global Services (https://international.northeastern.edu/ogs/) for specific requirements. Domestic students who are not able to register for courses during a particular semester must petition the director of graduate studies in the department for exemption in writing and state the reasons for the exemption and their plan for resuming their studies. Approval of the petition will preserve student status in the MS program.

All MS students are expected to complete the degree requirements within two years if enrolled on a full-time basis, or within three to five years if enrolled on a part-time basis. If progress toward the degree is slowed or interrupted for personal reasons, the student so affected must petition the School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee for an extension, detailing the anticipated time to completion. If

an extension is approved, the student will be directed to meet with the graduate program director to devise a formal plan to achieve completion of the degree.

Course credits earned in the Bouvé College of Health Sciences Graduate School or accepted for transfer from another institution and not applied to obtain a previous degree are valid for a maximum of seven years. Refer to the Bouvé College of Health Sciences Academic Progression policies and procedures (p. 583) for details.

ACADEMIC HONESTY AND RESEARCH INTEGRITY

The Department of Pharmaceutical Sciences has a zero-tolerance policy regarding academic dishonesty and violations of research integrity. It is each student's responsibility to understand and adhere to the School of Pharmacy and Pharmaceutical Sciences Code of Professional Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf) and to Northeastern University's Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/). Definitions of plagiarism, cheating, fabrication, falsification, unauthorized collaboration, and actions that facilitate academic or research dishonesty can be found on the Office of Student Conduct and Conflict Resolution website (http://www.northeastern.edu/osccr/). The lack of knowledge of these definitions does not excuse the student's responsibility for upholding them. Offenses of academic honesty and research integrity are egregious violations of ethical standards and may result in disciplinary actions, including the student's immediate dismissal from the graduate program.

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES PROFESSIONAL CODE OF CONDUCT

All SOPPS students (BS Pharmaceutical Sciences, Preprofessional, MS, and PhD) are expected to adhere to the SOPPS Code of Professional Conduct.

MASTER OF SCIENCE THESIS OPTION

Students who undertake a thesis are expected to report the results of extended research in a written thesis document and make an original contribution to their field. This work should give evidence of the students' abilities to conduct independent research and interpret their research results in an acceptable manner. Arrangements are made by students interested in the thesis option with individual laboratory directors as to the availability of MS-student research positions and the specific research focus.

Thesis Registration

Students may receive a maximum of 4 semester hours of credit for MS thesis research. Students should register for Thesis (PHSC 6990), twice for 2 SH each during the fall and spring semesters of their second full year of study, or after completing 15 credits of study. If completion of the thesis requires additional time, students should register for Thesis Continuation (PHSC 6996)(0 SH).

Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

The thesis proposal must be defended orally before the thesis committee and signed by all thesis committee members before the student undertakes the planned research. The signed cover page of the proposal should be submitted to the director of graduate studies, pharmaceutical sciences department, and to the Bouvé College of Health Sciences Graduate Office.

Thesis Final Defense

The final defense is taken after the student completes the thesis research and all other requirements for the MS degree. The defense deals with the subject matter of the thesis, significant developments in the field, and student's background knowledge in their field of specialization. The thesis committee conducts the final defense.

At least two weeks prior to the expected date of the oral defense, the written thesis must be circulated to the student's thesis committee. After initial committee evaluation, recommendation may be made that the student clarify or rewrite portions of the thesis before scheduling the final defense. After the thesis committee concurs that the thesis is acceptable, a date is chosen for the final oral examination. At least two weeks prior to the defense, the student should inform the director of graduate studies in the pharmaceutical sciences department so that an announcement can be distributed to faculty and students. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student, and responses to audience and committee questions, the student's committee meets in executive session to decide whether the student has successfully defended the thesis. The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and the thesis is signed off and passed on to the director of graduate studies in the department. Requests for a second defense are unusual but may be permitted if the original oral defense was judged significantly inadequate.

Thesis Deadline
The thesis should be written, defended, and signed at least two weeks before the university commencement deadline. Students must submit signed copies of the thesis to the online site designated by the university.

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
PHSC 5300	Pharmaceutical Biochemistry [1]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 5310	Cellular Physiology	2
PHSC 6214	Experimental Design and Biostatistics	2
PHSC 6216	Human Physiology and Pathophysiology	2

Electives

Code	Title	Hours
Complete 17–19 semester hours in the following subject areas: [1]		17-19
PHSC, PMCL, PMST, BIOL, CHEM, NNMD, BIOT		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Complete the following (repeatable) course twice:		4
PHSC 6990	Thesis	2
The following course may be taken if additional time is needed to complete the thesis:		
PHSC 6996	Thesis Continuation	

[1] Students who opt to complete 4-credit Pharmaceutical Sciences Laboratory (PHSC 7010) in the core requirements may complete the degree with 17 elective credits; all other students must complete 19 elective credits.

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Medicinal Chemistry and Drug Discovery, MS

The Medicinal Chemistry & Drug Discovery MS program integrates aspects of contemporary medicinal chemistry and pharmacology, emphasizing topics most relevant to therapeutics design, discovery, and action. The core curriculum focuses on a combination of synthetic organic chemistry, bioorganic chemistry, analytical chemistry, and pharmacology courses. Specialized, in-depth electives are offered in these areas. The program is designed to develop students' knowledge of medicinal chemistry through design, synthesis, and pharmacological profiling of novel pharmacotherapeutics as applied to helping solve unmet medical needs. For this purpose, many program graduates have established research careers in the pharmaceutical/biotech industry. Undergraduate prerequisites are general chemistry, organic chemistry, and biochemistry or cell/molecular biology.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in industry and hospitals.

1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
6. Students must not accept more than one position. They must honor the first offer accepted.
7. In order to receive a grade for the course, students must write at least two learning goals and a paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
8. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
9. Students receive 1 academic credit per semester for Pharmaceutical Science Internship (PHSC 6401). If students want to do an internship for a fourth semester they may do so, but students will only receive a maximum of 3 credits for Pharmaceutical Science Internship (PHSC 6401). The 4th credit for Pharmaceutical Science Internship (PHSC 6401) will not be added to the student's degree.
10. Taking internship must not extend international students' visas.

General Policies Common to all MS Programs in the Department of Pharmaceutical Sciences

GRADING POLICY

Students are expected to maintain a GPA of 3.000 (B) or higher in all coursework. Students whose cumulative GPA falls below 3.000 will receive written notification from the Bouvé Office of Graduate Student Services that they have been placed on academic probation. A student must clear the deficiency and return to nonprobationary status within one semester, unless the course that must be retaken is not offered during the probationary semester. In such a case, the course to be retaken must be completed during the next semester that it is offered, and the GPA must be restored to at least 3.000. Failure to remediate the deficiencies and return to nonprobationary status within the established time limit will result in dismissal from the MS program. Refer to the Bouvé College of Health Sciences policy on Academic Dismissal (p. 581) and Academic Probation Policy (p. 582) for full details.

PROGRESSION REQUIREMENT

Bouvé College of Health Sciences policy specifies that students register for coursework or continuation credit each semester of the academic year (fall and spring semesters) after they are matriculated as full- or part-time students. Moreover, international students are required to maintain full-time student status during each academic term; consult the Office of Global Services (https://international.northeastern.edu/ogs/) for specific requirements. Domestic students who are not able to register for courses during a particular semester must petition the director of graduate studies in the department for exemption in writing and state the reasons for the exemption and their plan for resuming their studies. Approval of the petition will preserve student status in the MS program.

All MS students are expected to complete the degree requirements within two years if enrolled on a full-time basis, or within three to five years if enrolled on a part-time basis. If progress toward the degree is slowed or interrupted for personal reasons, the student so affected must petition the

School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee for an extension, detailing the anticipated time to completion. If an extension is approved, the student will be directed to meet with the graduate program director to devise a formal plan to achieve completion of the degree.

Course credits earned in the Bouvé College of Health Sciences Graduate School or accepted for transfer from another institution and not applied to obtain a previous degree are valid for a maximum of seven years. Refer to the Bouvé College of Health Sciences Academic Progression policies and procedures (p. 583) for details.

ACADEMIC HONESTY AND RESEARCH INTEGRITY

The Department of Pharmaceutical Sciences has a zero-tolerance policy regarding academic dishonesty and violations of research integrity. It is each student's responsibility to understand and adhere to the School of Pharmacy and Pharmaceutical Sciences Code of Professional Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf) and to Northeastern University's Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/). Definitions of plagiarism, cheating, fabrication, falsification, unauthorized collaboration, and actions that facilitate academic or research dishonesty can be found on the Office of Student Conduct and Conflict Resolution website (http://www.northeastern.edu/osccr/). The lack of knowledge of these definitions does not excuse the student's responsibility for upholding them. Offenses of academic honesty and research integrity are egregious violations of ethical standards and may result in disciplinary actions, including the student's immediate dismissal from the graduate program.

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES PROFESSIONAL CODE OF CONDUCT

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MASTER OF SCIENCE THESIS OPTION

Students who undertake a thesis are expected to report the results of extended research in a written thesis document and make an original contribution to their field. This work should give evidence of the students' abilities to conduct independent research and interpret their research results in an acceptable manner. Arrangements are made by students interested in the thesis option with individual laboratory directors as to the availability of MS-student research positions and the specific research focus.

Thesis Registration

Students may receive a maximum of 4 semester hours of credit for MS thesis research. Students should register for Thesis (PHSC 6990), twice for 2 SH each during the fall and spring semesters of their second full year of study, or after completing 15 credits of study. If completion of the thesis requires additional time, students should register for Thesis Continuation (PHSC 6996)(0 SH).

Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

The thesis proposal must be defended orally before the thesis committee and signed by all thesis committee members before the student undertakes the planned research. The signed cover page of the proposal should be submitted to the director of graduate studies, pharmaceutical sciences department, and to the Bouvé College of Health Sciences Graduate Office.

Thesis Final Defense

The final defense is taken after the student completes the thesis research and all other requirements for the MS degree. The defense deals with the subject matter of the thesis, significant developments in the field, and student's background knowledge in their field of specialization. The thesis committee conducts the final defense.

At least two weeks prior to the expected date of the oral defense, the written thesis must be circulated to the student's thesis committee. After initial committee evaluation, recommendation may be made that the student clarify or rewrite portions of the thesis before scheduling the final defense. After the thesis committee concurs that the thesis is acceptable, a date is chosen for the final oral examination. At least two weeks prior to the defense, the student should inform the director of graduate studies in the pharmaceutical sciences department so that an announcement can be distributed to faculty and students. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student, and responses to audience and committee questions, the student's committee meets in executive session to decide whether the student has successfully defended the thesis. The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and the thesis is signed off and passed on to the director of graduate studies in the department. Requests for a second defense are unusual but may be permitted if the original oral defense was judged significantly inadequate.

Thesis Deadline

The thesis should be written, defended, and signed at least two weeks before the university commencement deadline. Students must submit signed copies of the thesis to the online site designated by the university.

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
Medicinal Chemistry & Drug Discovery		
CHEM 5626	Organic Synthesis 1	3
CHEM 5628	Principles of Spectroscopy of Organic Compounds	3
CHEM 5672	Organic Synthesis 2	3
CHEM 5676	Bioorganic Chemistry	3
PHSC 5400	Principles of Drug Design	3
PHSC 6222	The Chemistry and Biology of Drugs of Abuse	2
PHSC 6224	Behavioral Pharmacology and Drug Discovery	2
PHSC 6290	Biophysical Methods in Drug Discovery	2

Electives

Code	Title	Hours
Complete 6 semester hours in the following subject areas:		6
BIOL, BIOT, CHEM, NNMD, PHSC, PMCL, PMST		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Thesis research should be taken twice.		4
PHSC 6990	Thesis	2
Thesis continuation may be taken if additional time is needed to complete the thesis.		
PHSC 6996	Thesis Continuation	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Pharmaceutical Engineering, MS

The Master of Science in Pharmaceutical Engineering is offered jointly by Northeastern University's College of Engineering and Bouvé College of Health Sciences. The program prepares students with a fundamental understanding of pharmaceutical sciences and principles of engineering to develop the depth needed for advanced study of pharmaceutical engineering.

This program is generally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields in engineering, sciences, or mathematics. The program was designed in collaboration with the Department of Pharmaceutical Sciences to develop the depth needed for advanced study of pharmaceutical engineering. Students wishing to pursue the master's degree with undergraduate educational backgrounds other than engineering are required to demonstrate completion of mathematics coursework through differential equations or the equivalent to be admitted. Students are advised to work closely with their advisors and instructors to determine the electives that would meet their career goals.

Part-Time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit.

Master of Science students wishing to change their status from part time to full time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7600	Pharmaceutical Engineering I	4
CHME 7601	Pharmaceutical Engineering II	4
CHME 7602	Pharmaceutical Engineering Laboratory	2
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 7010	Pharmaceutical Sciences Laboratory	4

Restricted Elective Courses

Code	Title	Hours
At least 3 semester hours of total elective courses are required from pharmaceutical sciences (PHSC, PMST) and from chemical engineering (CHME). These semester hours could come from any elective group, as appropriate.		
Regulatory		
Complete 3 semester hours from the following:		3
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5500	Concepts in Regulatory Science	
BIOT 6320	Quality Management Systems and Validation	
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6002	Introduction to Regulatory Compliance and Practice	
Quality/Statistics		
Complete 4 semester hours from the following:		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
PHSC 6214	Experimental Design and Biostatistics	
Depth Electives		
Complete 7 semester hours from the following:		7
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6340	Sterile Manufacturing Operations	
BIOT 7250	Advanced Biotechnology Applications Laboratory	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5160	Drug Delivery: Engineering Analysis	

CHME 5179	Complex Fluids and Everyday Materials
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 7330	Chemical Engineering Thermodynamics
CHME 7350	Transport Phenomena
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5310	Cellular Physiology
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5555	Pharmaceutical Toxicology
PHSC 5560	Nanotoxicity
PHSC 5619	Mass Spectrometry in Drug Development
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Pharmaceutics and Drug Delivery, MS

Just as cars are useless without roads, drugs are useless without effective delivery systems. This is especially important in contemporary pharmaceutical research, as new chemical entities may be either too hydrophobic (e.g., many anticancer drugs) or hydrophilic and highly labile (e.g., nucleic acids). The Bouvé College of Health Sciences School of Pharmacy Pharmaceutics and Drug Delivery students and faculty are developing the routes for bringing small-molecule drugs and biological therapies directly to target cells responsible for major diseases.

Our comprehensive Pharmaceutics and Drug Delivery MS program includes faculty members in pharmaceutics and drug development specializing in the use and delivery of therapeutics. The program faculty seeks to improve the understanding and description of how chemical and physical properties of drugs and dosage forms affect drug performance in healthy and diseased systems. Graduate students may choose from programs concentrating in:

- Novel drug delivery systems
- Biopharmaceutics and pharmacokinetics
- Physical pharmacy and polymeric dosage form development
- Drug metabolism

With a strong focus on nanotechnology-based advanced delivery systems that address contemporary therapeutic needs, the pharmaceutical sciences program also gives students opportunities to study with some of the world's top pharmaceutics researchers. Students in the Pharmaceutics and Drug Delivery MS program have the option of performing industrial internships (typically during the summer) in some of the most prestigious pharmaceutical and biotechnology companies in the Boston area.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in industry and hospitals.

1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
6. Students must not accept more than one position. They must honor the first offer accepted.
7. In order to receive a grade for the course, students must write at least two learning goals and a paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
8. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
9. Students receive 1 academic credit per semester for Pharmaceutical Science Internship (PHSC 6401). If students want to do an internship for a fourth semester they may do so, but students will only receive a maximum of 3 credits for Pharmaceutical Science Internship (PHSC 6401). The 4th credit for Pharmaceutical Science Internship (PHSC 6401) will not be added to the student's degree.
10. Taking internship must not extend international students' visas.

General Policies Common to all MS Programs in the Department of Pharmaceutical Sciences

GRADING POLICY

Students are expected to maintain a GPA of 3.000 (B) or higher in all coursework. Students whose cumulative GPA falls below 3.000 will receive written notification from the Bouvé Office of Graduate Student Services that they have been placed on academic probation. A student must clear the deficiency and return to nonprobationary status within one semester, unless the course that must be retaken is not offered during the probationary

semester. In such a case, the course to be retaken must be completed during the next semester that it is offered, and the GPA must be restored to at least 3.000. Failure to remediate the deficiencies and return to nonprobationary status within the established time limit will result in dismissal from the MS program. Refer to the Bouvé College of Health Sciences policy on Academic Dismissal (p. 581) and Academic Probation Policy (p. 582) for full details.

PROGRESSION REQUIREMENT

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MASTER OF SCIENCE THESIS OPTION

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Thesis Registration

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Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

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Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
Complete the following courses:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
PHSC 5300	Pharmaceutical Biochemistry [1]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 5310	Cellular Physiology [1]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 6214	Experimental Design and Biostatistics	2
PHSC 6216	Human Physiology and Pathophysiology	2
Pharmaceutics and Drug Delivery		
PMST 6250	Advanced Physical Pharmacy	2
PMST 6252	Pharmacokinetics and Drug Metabolism	3
PMST 6254	Advanced Drug Delivery Systems	3

Electives

Code	Title	Hours
Complete 9–11 semester hours from the following subject areas: [1]		9-11
BIOL, BIOT, CHEM, NNMD, PHSC, PMCL, PMST		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Thesis research should be taken twice.		4
PHSC 6990	Thesis	2
Thesis continuation may be taken if additional time is needed to complete the thesis.		
PHSC 6996	Thesis Continuation	

[1] Students who opt to complete 4-credit Pharmaceutical Sciences Laboratory (PHSC 7010) in the core requirements may complete the degree with 9 elective credits; all other students must complete 11 elective credits.

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Pharmacology, MS

Graduate education in pharmacology embodies the principles and mechanisms of drug action in biological systems. Through coursework, seminars, and conferences, students in the pharmacology MS program gain exposure to both classical and recent approaches that have led to the development of current theories of drug action and therapeutic application. Pharmacology should not be confused with pharmacy programs or training, which lead to professional licensure as a pharmacist and involve medication management.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

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2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
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MASTER OF SCIENCE THESIS OPTION

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Students may receive a maximum of 4 semester hours of credit for MS thesis research. Students should register for Thesis (PHSC 6990), twice for 2 SH each during the fall and spring semesters of their second full year of study, or after completing 15 credits of study. If completion of the thesis requires additional time, students should register for Thesis Continuation (PHSC 6996)(0 SH).

Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

The thesis proposal must be defended orally before the thesis committee and signed by all thesis committee members before the student undertakes the planned research. The signed cover page of the proposal should be submitted to the director of graduate studies, pharmaceutical sciences department, and to the Bouvé College of Health Sciences Graduate Office.

Thesis Final Defense

The final defense is taken after the student completes the thesis research and all other requirements for the MS degree. The defense deals with the subject matter of the thesis, significant developments in the field, and student's background knowledge in their field of specialization. The thesis committee conducts the final defense.

At least two weeks prior to the expected date of the oral defense, the written thesis must be circulated to the student's thesis committee. After initial committee evaluation, recommendation may be made that the student clarify or rewrite portions of the thesis before scheduling the final defense. After the thesis committee concurs that the thesis is acceptable, a date is chosen for the final oral examination. At least two weeks prior to the defense, the student should inform the director of graduate studies in the pharmaceutical sciences department so that an announcement can be distributed to faculty and students. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student, and responses to audience and committee questions, the student's committee meets in executive session to decide whether the student has successfully defended the thesis. The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and the thesis is signed off and passed on to the director of graduate studies in the department. Requests for a second defense are unusual but may be permitted if the original oral defense was judged significantly inadequate.

Thesis Deadline

The thesis should be written, defended, and signed at least two weeks before the university commencement deadline. Students must submit signed copies of the thesis to the online site designated by the university.

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
Complete the following courses:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
PHSC 5300	Pharmaceutical Biochemistry [3]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 5310	Cellular Physiology	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 6214	Experimental Design and Biostatistics	2
PHSC 6216	Human Physiology and Pathophysiology	2
Pharmacology		
PMCL 6260	Pharmacology 1 [1]	2
PMCL 6261	Pharmacology 2 [2]	2
PMCL 6262	Receptor Pharmacology [1]	2

Electives

Code	Title	Hours
Complete 11–13 semester hours from the following subject areas: [3]		11-13
BIOL, BIOT, CHEM, NNMD, PHSC, PMCL, PMST		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Thesis research should be taken twice.		4
PHSC 6990	Thesis	2
Thesis continuation may be taken if additional time is needed to complete the thesis.		
PHSC 6996	Thesis Continuation	

1. Pharmacology 1 (PMCL 6260) and Receptor Pharmacology (PMCL 6262) are only offered in even-numbered years in the spring semester (example: Spring 2020).
2. Pharmacology 2 (PMCL 6261) is only offered in odd-numbered years in the spring semester (example: Spring 2021). Pharmacology 1 does not have to be taken before Pharmacology 2.
3. Students who opt to complete 4-credit Pharmaceutical Sciences Laboratory (PHSC 7010) in the core requirements may complete the degree with 11 elective credits; all other students must complete 13 elective credits.

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Pharmacy, PharmD—Direct Entry / Public Health, MPH

The School of Pharmacy and Pharmaceutical Sciences and the Department of Health Sciences offer a combined Doctor of Pharmacy (PharmD) and Master of Public Health (MPH) program.

The combined PharmD/MPH program recognizes and reinforces the importance of public health in pharmacy practice. Central to addressing public health concerns, and in particular those associated with racial and ethnic health disparities, the program is committed to building a strong, diverse, and activist public health workforce. The goal of the program is to graduate professionals who are well educated in the complex issues associated with disparate health status and healthcare access. The combined PharmD/MPH program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree while also completing their PharmD.

Refer to the School of Pharmacy and Pharmaceutical Sciences PharmD—Direct Entry (p. 720) and Department of Health Sciences Master of Public Health (p. 650) pages of this catalog for program requirements and technical standards. Students must adhere to all PharmD and MPH program standards, policies, and requirements as listed in the catalog, unless otherwise specified.

The Northeastern University Master of Public Health Program is accredited by the Council of Education for Public Health. CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

School of Law

James R. Hackney, JD, Dean

Rashmi Dyal-Chand, JD, Associate Dean for Academic Affairs
Julian M. Fray, JD, LLM, Associate Dean for Digital Strategy
Greg Houghton, Associate Dean for Administration and Finance
Hemanth Gundavaram, JD, Associate Dean for Experiential Education
Sarah Rethage, JD, Associate Dean of Strategic Initiatives and Enrollment
Lua Yuille, JD, Associate Dean for Research and Interdisciplinary Education

Northeastern University School of Law (https://www.northeastern.edu/law/)
416 Huntington Avenue
Boston, MA 02115
617.373.5149

Today's legal environment demands that attorneys be nimble, entrepreneurial, and savvy; in all of these regards, graduates of the Northeastern University School of Law excel. Our curriculum, taught by nationally recognized faculty, provides students with a superior understanding of how the law applies in real settings, a strong ethical framework, and the experience to strategically pursue their professional objectives. Our co-op program sets us apart from all other law schools—our JD students complete many hours of work in law offices, judges' chambers, corporations, nonprofit organizations, and government. As a result of their co-op experiences, Northeastern JD students are not just sitting in classes hearing about the rapid changes in the legal world—they live them.

Our community also provides a refreshing refutation of the law school stereotype as a place of ruthless competition and blind ambition. Instead, we cultivate an atmosphere that is collaborative, collegial, and supportive. Our students' eagerness to work in teams, help one another, and share their experiences reflects that ethos. Our faculty and staff are exceptionally supportive of students—not only because our small community encourages extensive student-faculty interaction but also because they share their students' passion for justice.

In addition to offering both full-time and part-time JD programs, the School of Law offers on-campus and online LLM programs for lawyers, a Master of Legal Studies program for nonlawyers, and a number of other programs. Our suite of LLM opportunities is offered for both those who hold a U.S. law degree and those who hold a first professional law degree from a law school outside of the United States.

Programs

Juris Doctor (JD)

- Law (p. 746)

Master of Laws (LLM)

- Law (p. 749)
- Law (p. 751)—Experiential
- Law—Online

Master of Legal Studies (MLS)

- Legal Studies—Online (p. 755)

Master of Science (MS)

- Media Advocacy (p. 143)

Graduate Certificates

- Business Law (p. 759)
- Healthcare Compliance (p. 760)
- Health Law (p. 761)
- Human Resources Law (p. 764)
- Intellectual Property Law (p. 766)
- United States Law (p. 772)

FOR JD STUDENTS ONLY:

- Health Law and Policy (p. 762)
- Hu (p. 762)man Rights Law (p. 765)
- Legal Design (p. 767)
- Poverty Law and Economic Justice (p. 769)

- Privacy Law (p. 771)
- Women, Gender, Sexuality, and the Law (p. 773)

Dual Degrees

- Law, JD / Accounting and Business Administration, MSAMBA (p. 232)
- Law, JD / Business Administration, MBA—Full-Time (p. 233)
- Law, JD / Criminology and Justice Policy, PhD (p. 778)
- Law, JD / Criminology and Criminal Justice, MS (p. 779)
- Law, JD / Public Health, MPH (p. 602)
- Law, JD / Public Policy, MPP (p. 781)
- Law, LLM / Business Administration, MBA—Full-Time (p. 234)

Academic Policies and Procedures

Below, you will find select policies pertaining to the Juris Doctor program. For a comprehensive document with all policies and procedures, see the JD Student Handbook (https://www.northeastern.edu/lawstudentaffairs/student-handbooks/).

- Grades (p. 745)

Grades

Grades

Students will receive credit for courses in which they receive a grade of “High Honors,” “Honors,” “Pass,” or “Marginal Pass,” but not for courses in which they receive a grade of “Fail.” If any class is designated as offered on a pass/fail basis, students will receive credit for a passing grade but not for a grade of “Fail.”

Incomplete Grades

The School of Law follows university policy on incomplete grades (p. 61).

Law, JD

Overview

Students at Northeastern University School of Law gain unparalleled networking opportunities from the moment they walk in the door. While many law schools talk about offering work experience, Northeastern Law has been the nation's leader in experiential legal education for five decades. Northeastern launched its Cooperative Legal Education Program in 1968 and today offers the largest and most extensive hands-on professional program in the country. Students devote several of their upper-level terms to working full-time as legal professionals. Through the co-op program, students have the opportunity to experience various fields of law in multiple practice settings.

Northeastern Law students gain real work experience and networking opportunities that far exceed the offerings of other law schools. With more than 1,500 employers in more than 40 states and a number of countries around the world, Northeastern students create professional networks in legal offices ranging from large firms in Boston to government agencies in Washington, D.C., to human rights organizations in Geneva. Through these connections and with access to the more than 8,000 alumni, Northeastern Law students graduate with not only a resumé packed full of experience but also a network that is unrivaled.

The School of Law offers a curriculum that provides students the tools they will need to pursue a successful legal career. In their first year, JD students complete required coursework. In their second and third years, they explore areas of interest by completing multiple full-time co-ops and taking courses that provide insight into many areas of the law.

Interdisciplinary Graduate Certificates

The School of Law offers JD students the option to pursue one of the following interdisciplinary graduate certificates:

- Health Law and Policy (p. 762)
- Human Rights Law (p. 765)
- Legal Design (p. 767)
- Poverty Law and Economic Justice (p. 769)
- Privacy Law (p. 771)
- Women, Gender, Sexuality, and the Law (p. 773)

Dual Degrees

The School of Law offers multiple dual degrees (p. 775).

For a more comprehensive description of policies, procedures, and requirements pertaining to the JD program, please refer to the School of Law's website *(*https://www.northeastern.edu/lawstudentaffairs/*).*

Full-Time Option

Complete all courses and requirements described below.

Milestones

Code	Title	Hours
Public Interest Requirement [1]		
Upper-Level Rigorous Writing Requirement [2]		
Experiential Education Requirement [2]		
Co-op Requirement: Co-ops corresponding to three terms [3]		

Note: All courses used to satisfy JD requirements must be completed with a passing grade. Students must satisfactorily complete all JD requirements, including the public interest requirement, the upper-level rigorous writing requirement, the experiential education requirement, and the co-op requirement.

First-Year Course Requirements

Code	Title	Hours
Fall Term		
LAW 6100	Civil Procedure	5
LAW 6105	Property	4
LAW 6106	Torts	4
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2
Spring Term		
LAW 6101	Constitutional Law	4
LAW 6102	Contracts	5

LAW 6103	Criminal Justice	4
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2

Upper-Level Course Requirements

Code	Title	Hours
Professional Responsibility		
LAW 7443	Professional Responsibility	3
Electives		
Complete 46 credits of elective coursework.		46

Rules and policies applicable to elective coursework are described in the School of Law Student Information Handbook.

Program Credit Requirement

83 total credits required.

1 Information about the public interest requirement is provided in the Student Information Handbook.
2 The same course cannot be used to satisfy both the rigorous writing and experiential education requirements.
3 Transfer students should consult the Student Information Handbook for applicable requirements. All students with questions about satisfying co-op requirements should consult the Center for Co-op and Career Development.

Part-Time Option

Complete all courses and requirements described below.

Milestones

Code	Title	Hours
Public Interest Requirement [1]		
Upper-Level Rigorous Writing Requirement [2]		
Experiential Education Requirement [2]		
Two practical experiences during separate terms when the student is not registered for coursework other than the practical experience(s), including at least one co-op in the form of a field placement with a related seminar; and 1,000 hours of relevant work experience. [3]		

Note: All courses used to satisfy JD requirements must be completed with a passing grade. Students must satisfactorily complete all JD requirements, including the public interest requirement, the upper-level rigorous writing requirement, the experiential education requirement, and the co-op, field placement, practical experience, and relevant work experience requirement.

First-Year Course Requirements

Code	Title	Hours
Students will take the following courses during their first four semesters:		
LAW 6100	Civil Procedure	5
LAW 6101	Constitutional Law	4
LAW 6102	Contracts	5
LAW 6103	Criminal Justice	4
LAW 6105	Property	4
LAW 6106	Torts	4
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2

Upper-Level Course Requirements

Code	Title	Hours
Field Placement		
LAW 7945	Field Placement Seminar	1
or LAW 7947	Public Interest Field Placement Seminar	
LAW 7946	Field Placement	7

or LAW 7948	Public Interest Field Placement	
Professional Responsibility		
LAW 7443	Professional Responsibility	3
Electives		
Complete 38 credits of LAW courses not already taken to fulfill another requirement.		38

Rules and policies applicable to upper-level courses are described in the School of Law Student Information Handbook.

Program Credit Requirement

83 total credit hours required.

1 Information about the public interest requirement is provided in the Student Information Handbook.
2 The same course cannot be used to satisfy both the rigorous writing and experiential education requirements.
3 Transfer students should consult the Student Information Handbook for applicable requirements. All students with questions about the nature of these requirements should consult the Student Information Handbook and the Center for Co-op and Career Development.

Law, LLM

LLM Program Requirements

The LLM program offers a rigorous curriculum that will provide you with a comprehensive foundation in legal theory and practice as well as the freedom to explore and refine your career interests. LLM students may choose the general program, which offers maximum flexibility to let you take the courses you want and need — to qualify for a US bar exam or to do whatever you choose as a lawyer who wants to make a difference — or one of our concentrations, which provide a competitive advantage in specific fields of interest.

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Courses

These foundational courses are required for any student who obtained their first law degree outside the United States:

Code	Title	Hours
LAW 6301	Introduction to American Law and Legal Institutions	2
LAW 6302	Introduction to Legal Research and Writing for LLM Students	2

Electives

Code	Title	Hours
Students must take at least 20 credits of LAW electives if they took the foundational courses; they must take at least 24 credits of LAW electives if not required to take foundational courses. Courses taken to fulfill concentration requirements count toward the elective requirement.		20 or 24

Concentration Options

Students may choose to pursue a concentration by completing the listed requirements. Courses taken to fulfill concentration requirements count toward the elective requirement for the LLM degree.

- Health Policy and Law (p. 749)
- Human Rights and Economic Development (p. 749)
- Intellectual Property and Innovation (p. 750)
- International Business Law (p. 750)

Health Policy and Law

Code	Title	Hours
Core Course		
Complete the following course:		
LAW 7335	Health Law	3
Relevant Elective Courses		
Complete at least two of the following:		6-7
LAW 7494	Bioethics and the Law	
LAW 7512	Problems in Public Health Law	
LAW 7527	Public Health Legal Clinic	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7606	Drug Law and Policy	
LAW 7619	Healthcare Fraud and Abuse Law	
LAW 7681	Law and Biotechnology	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a paper related to health law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Human Rights and Economic Development

Code	Title	Hours
Core Courses		
Complete one of the following courses:		3
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7525	Law and Economic Development	

LAW 7651	Human Rights in the United States
LAW 7666	Human Rights, the Environment, Development and Community Resilience
LAW 7685	Human Rights, IP, and Access to Medicines
Relevant Elective Courses	
Complete at least two additional courses from the core course list or the following list:	5-16
LAW 7336	Immigration Law
LAW 7358	Social Welfare Law
LAW 7550	Refugee and Asylum Law
LAW 7559	International Trade
LAW 7569	International and Foreign Legal Research
LAW 7588	Reproductive and Sexual Rights and Health
LAW 7597	Civil Rights and Restorative Justice Clinic
LAW 7610	Community Business Law Clinic
LAW 7657	Immigrant Justice Clinic

Students must also complete a paper related to human rights and/or economic development. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Intellectual Property and Innovation

Code	Title	Hours
Core Courses		
Choose 2 courses from the following list:		6-7
LAW 7369	Intellectual Property	
LAW 7501	Patent Law	
LAW 7590	Copyright Law	
LAW 7638	Trademark Law	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or the following list:		6-11
LAW 7303	Antitrust	
LAW 7417	Entertainment Law	
LAW 7633	Intellectual Property Law Clinic	
LAW 7640	Information Security Law	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a clinic or paper related to Intellectual Property and Innovation. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement. A clinic that counts toward the four-course requirement may not be used to also satisfy this requirement.

International Business Law

Code	Title	Hours
Core Courses		
Complete one course from the following list:		3
LAW 7525	Law and Economic Development	
LAW 7559	International Trade	
LAW 7603	International Business Transactions	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or the following list:		4-7
LAW 7323	Corporations	
LAW 7336	Immigration Law	
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7554	International Investment Arbitration and Litigation Practice	
LAW 7569	International and Foreign Legal Research	

Students must also complete a paper related to international business law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Program Credit Requirement

24 total hours required.

For additional information regarding the LLM program and its requirements, please see the LLM Student Information Handbook.

LLM Experiential Program Requirements

The Experiential LLM program offers a rigorous curriculum that is designed to provide you with a comprehensive foundation in legal theory and practice as well as the freedom to explore and refine your career interests. Experiential LLM students may choose the general program, which offers maximum flexibility to let you take the courses you want and need—to qualify for a U.S. bar exam or to do whatever you choose as a lawyer who wants to make a difference—or one of our concentrations, which provide a competitive advantage in specific fields of interest. Students in the full-time Experiential LLM program deepen their knowledge and expand their expertise by taking a full-time co-op or equivalent experiential alternative during one quarter.

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Courses

These foundational courses are required for any student who obtained their first law degree outside the United States:

Code	Title	Hours
LAW 6301	Introduction to American Law and Legal Institutions	2
LAW 6302	Introduction to Legal Research and Writing for LLM Students	2
LAW 6315	Legal Research and Writing for LLM Students: Preparing for Co-op	2

Electives

Code	Title	Hours
Students must take at least 18 credits of LAW electives if they took the foundational courses; they must take at least 24 credits of LAW electives if not required to take foundational courses. Courses taken to fulfill concentration requirements count toward the elective requirement.		18-24

Concentration Options

Students may choose to pursue a concentration by completing the listed requirements. Courses taken to fulfill concentration requirements count toward the elective requirement for the LLM degree.

- Health Policy and Law (p. 751)
- Human Rights and Economic Development (p. 751)
- Intellectual Property and Innovation (p. 752)
- International Business Law (p. 752)

Health Policy and Law

Code	Title	Hours
Core Course		
LAW 7335	Health Law	3
Relevant Elective Courses		
Complete at least two of the following:		6-7
LAW 7494	Bioethics and the Law	
LAW 7512	Problems in Public Health Law	
LAW 7527	Public Health Legal Clinic	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7606	Drug Law and Policy	
LAW 7619	Healthcare Fraud and Abuse Law	
LAW 7681	Law and Biotechnology	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a paper related to health law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Human Rights and Economic Development

Code	Title	Hours
Core Courses		
Complete one of the following:		3

LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7525	Law and Economic Development	
LAW 7651	Human Rights in the United States	
LAW 7666	Human Rights, the Environment, Development and Community Resilience	
LAW 7685	Human Rights, IP, and Access to Medicines	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or from the following:		5-16
LAW 7336	Immigration Law	
LAW 7358	Social Welfare Law	
LAW 7550	Refugee and Asylum Law	
LAW 7559	International Trade	
LAW 7569	International and Foreign Legal Research	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7597	Civil Rights and Restorative Justice Clinic	
LAW 7610	Community Business Law Clinic	
LAW 7657	Immigrant Justice Clinic	

Students must also complete a co-op or paper related to human rights and/or economic development. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Intellectual Property and Innovation

Code	Title	Hours
Core Courses		
Complete two of the following:		6-7
LAW 7369	Intellectual Property	
LAW 7501	Patent Law	
LAW 7590	Copyright Law	
LAW 7638	Trademark Law	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or from the following:		6-11
LAW 7303	Antitrust	
LAW 7417	Entertainment Law	
LAW 7633	Intellectual Property Law Clinic	
LAW 7640	Information Security Law	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a co-op, clinic, or paper related to intellectual property and innovation. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement. A clinic that counts toward the four-course requirement may not be used to also satisfy this requirement.

International Business Law

Code	Title	Hours
Core Courses		
Complete one of the following:		3
LAW 7525	Law and Economic Development	
LAW 7559	International Trade	
LAW 7603	International Business Transactions	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or from the following:		4-7
LAW 7323	Corporations	
LAW 7336	Immigration Law	
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	

LAW 7554	International Investment Arbitration and Litigation Practice
LAW 7569	International and Foreign Legal Research

Students must also complete a co-op or paper related to international business law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Experiential Requirement

Students must take one full-time co-op or equivalent experiential alternative of at least 12 weeks (or an equivalent period over multiple terms, for part-time students).

Program Credit Requirement

24 total hours required.

For additional information regarding the Experiential LLM program and its requirements, please see the LLM Student Information Handbook.

Law, LLM—Online

The online LLM program offers students an opportunity to receive specialized legal training beyond the training they have already received in a JD program or an equivalent law degree program outside the United States. The elective courses in the program will provide insight into legal issues in areas such as intellectual property, privacy, and business. Students interested in taking a bar exam will be able to strengthen their foundational knowledge of U.S. law by taking courses with content tested on bar examinations. The asynchronous online format affords flexibility with respect to the times and location at which students complete their work.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Course

This foundational course is required for any student who obtained their first law degree outside the United States.

Code	Title	Hours
LAW 6400	Introduction to U.S. Law and Legal System	3

Electives

Code	Title	Hours
Students must take at least 21 credits of LAW electives if they took the foundational course; they must take at least 24 credits of LAW electives if not required to take the foundational course.		21-24

Program Credit

24 total hours required.

Legal Studies, MLS—Online

The Master of Legal Studies program is designed for professionals who want a deeper understanding of law and legal concepts. Such professionals may be found in nonprofit organizations, foundations, financial services firms, pharmaceutical companies, insurance firms, compliance departments, or a host of other commercial and noncommercial settings. Examples of the professionals who would be interested in this degree are human resource professionals, claims representatives for insurance companies, professionals in healthcare organizations, bank loan officers, real estate brokers, risk managers, government affairs officers, management consultants advising organizations, development officers working on planned giving, and software entrepreneurs. They desire to know more about the law and to be able to deal more effectively with the lawyers with whom they interact during their professional lives. The degree includes concentrations in human resources law, business law, intellectual property law, health law, and public law and policy.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundation Courses

Code	Title	Hours
LS 6101	Introduction to Legal Studies 1: Law and Legal Reasoning	3
LS 6102	Introduction to Legal Studies 2	3

Core Courses

Code	Title	Hours
Complete at least four of the following:		12-18
LS 6110	Law of Information and Records	
LS 6120	Law and Strategy	
LS 6130	Negotiation and Advocacy	
LS 6140	Data Regulation and Compliance	
LS 6150	Law and Organizational Management	
LS 6155	Legal Foundations of Public Policy	

Electives

Code	Title	Hours
Students who do not take a concentration must take 6–12 semester hours from this list to complete the degree:		6-12
LS 6160	Regulation and Global Business Strategies	
LS 6170	Financial Transactions	
LS 6180	Health Law Survey	
LS 6181	Healthcare Regulation and Compliance	
LS 6182	Patient Records, Privacy, and Security	
LS 6210	Special Topics in Employee Rights and Employer Obligations	
LS 6211	Antidiscrimination Law	
LS 6212	Wages and Benefits	
LS 6230	Intellectual Property Survey	
LS 6231	Identifying and Securing Intellectual Property Rights	
LS 6232	Intellectual Property and Media	
LS 6235	Current Issues in Law and Public Policy	

Concentration Options

Students may choose to complete one of the concentrations described below. Students who pursue a concentration must take the two required foundation courses, at least four core courses, the courses listed in the concentration, and at least one additional course from the list of electives.

CONCENTRATION IN BUSINESS LAW

Code	Title	Hours
LS 6160	Regulation and Global Business Strategies	3
LS 6170	Financial Transactions	3
LS 6230	Intellectual Property Survey	3
or LS 6210	Special Topics in Employee Rights and Employer Obligations	

CONCENTRATION IN HEALTH LAW

Code	Title	Hours
LS 6180	Health Law Survey	3
LS 6181	Healthcare Regulation and Compliance	3
LS 6182	Patient Records, Privacy, and Security	3

CONCENTRATION IN HUMAN RESOURCES LAW

Code	Title	Hours
LS 6210	Special Topics in Employee Rights and Employer Obligations	3
LS 6211	Antidiscrimination Law	3
LS 6212	Wages and Benefits	3

CONCENTRATION IN INTELLECTUAL PROPERTY LAW

Code	Title	Hours
LS 6230	Intellectual Property Survey	3
LS 6231	Identifying and Securing Intellectual Property Rights	3
LS 6232	Intellectual Property and Media	3

CONCENTRATION IN PUBLIC LAW AND POLICY

Code	Title	Hours
LS 6155	Legal Foundations of Public Policy	3
LS 6235	Current Issues in Law and Public Policy	3
Complete one of the following:		4
LPSC 7311	Strategizing Public Policy	
PPUA 6500	Principles of Public Administration	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6507	Institutional Leadership and the Public Manager	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Media Advocacy, MS

The Master of Science in Media Advocacy places particular focus on developing direct and indirect advocacy skills: that is, to influence government decision makers directly and to change minds indirectly through shifting public opinion. The program uniquely combines grounding in governmental structures and the legal system with sophisticated training in the latest communication techniques including social media, web communications, and videography, as well as data analytics and data-driven storytelling. Successful graduates will be empowered to promote the public agenda of employers ranging from mission-driven organizations, such as the ACLU or the Sierra Club, to industry leaders, such as hospitals and technology companies, to lobbying and strategic communications groups and political consulting firms.

Program Requirements

Core Requirements

Code	Title	Hours
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 5480	Research for Media Strategy	4
LW 6400	Law, Policy and Legal Argument	4
LW 7667	Law and Ethics of Advocacy	3

Electives

Code	Title	Hours
A minimum of 17 credits of electives is required. No more than 8 semester hours can be taken outside of the College of Arts, Media, and Design or the School of Law.		17
	Complete a minimum of 4 semester hours of coursework from the College of Arts, Media, and Design. Choose from recommended focus areas of JRNL, ARTD, ARTG, COMM, and INAM (additional areas may be chosen in consultation with your adviser).	
	Complete a minimum of 5 semester hours of coursework from the School of Law.	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample One-and-a-Half Years with No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 5400	4	JRNL 5480	4	Vacation	0	Vacation	0
LW 6400	4	Elective 2	3-4				
Elective 1	3-4	Elective 3	3-4				
	11-12		**10-12**		**0**		**0**

Year 2

Fall	Hours
LW 7667	3
Elective 4	3-4
Elective 5	3-4
Elective 6	3-4
	12-15

Total Hours: 33-39

Graduate Certificates

- Business Law (p. 759)
- Healthcare Compliance (p. 760)
- Health Law (p. 761)
- Human Resources Law (p. 764)
- Intellectual Property Law (p. 766)
- United States Law (p. 772)

The School of Law also offers the following interdisciplinary certificates (https://law.northeastern.edu/academics/programs/jd/jdx-certificates/) to students enrolled in its JD program:

- Health Law and Policy (p. 762)
- Human Rights Law (p. 765)
- Legal Design (p. 767)
- Poverty Law and Economic Justice (p. 769)
- Privacy Law (p. 771)
- Women, Gender, Sexuality, and the Law (p. 773)

Business Law, Graduate Certificate

The Graduate Certificate in Business Law is designed to provide professionals in large and small enterprises with an ability to recognize, navigate, and leverage the laws that regulate business organizations and transactions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6160	Regulation and Global Business Strategies	3
or LW 6160	Regulation and Global Business Strategies	
LS 6170	Financial Transactions	3
or LW 6170	Financial Transactions	
Complete one of the following:		3
LS 6210	Special Topics in Employee Rights and Employer Obligations	
or LW 6210	Special Topics in Employee Rights and Employer Obligations	
LS 6230	Intellectual Property Survey	
or LW 6230	Intellectual Property Survey	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Healthcare Compliance, Graduate Certificate

The Graduate Certificate in Healthcare Compliance is designed to give law students, MBA students, and working professionals tools they need to successfully navigate the world of healthcare compliance. This 15-credit, one-year program jointly offered by the School of Law and the D'Amore-McKim School of Business gives students the opportunity to learn about the laws that govern the healthcare system while developing the business knowledge and skills critical to healthcare compliance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Required Courses		
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6182	Patient Records, Privacy, and Security	3
or LW 6182	Patient Records, Privacy, and Security	
Complete one of the following:		3
HINF 5105	The American Healthcare System (MBA students should take this course)	
LAW 7335	Health Law (Law students should take this course)	
or LW 7335	Health Law	
LS 6180	Health Law Survey	
or LW 6180	Health Law Survey	
Elective		
Complete three of the following:		9
FINA 6200	Value Creation through Financial Decision Making	
HRMG 6220	Health Organization Management	
LAW 7344	Accounting/Finance for Lawyers	
LAW 7494	Bioethics and the Law	
or LW 7494	Bioethics and the Law	
LAW 7619	Healthcare Fraud and Abuse Law	
LS 6110	Law of Information and Records	
or LW 6110	Law of Information and Records	
LS 6120	Law and Strategy	
or LW 6120	Law and Strategy	
LS 6140	Data Regulation and Compliance	
or LW 6140	Data Regulation and Compliance	
PHTH 5232	Evaluating Healthcare Quality	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Health Law, Graduate Certificate

Healthcare is a complex legal arena, as it encompasses several key stakeholders, from providers to patients to insurers. The Graduate Certificate in Health Law can help individuals recognize and navigate the varying legal needs in this space; an introductory course is paired with three courses tailored to the health industry.

The program helps to prepare graduates with the knowledge and skills to:

- Summarize and apply the appropriate statutes and regulations to concrete situations
- Examine legal regulations governing the provision and financing of healthcare services
- Gain an in-depth overview of health and compliance programs and the code of conduct for particular fields

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6180	Health Law Survey	3
or LW 6180	Health Law Survey	
LS 6181	Healthcare Regulation and Compliance	3
or LW 6181	Healthcare Regulation and Compliance	
LS 6182	Patient Records, Privacy, and Security	3
or LW 6182	Patient Records, Privacy, and Security	

Program Credit/GPA Requirements

12 total credits required
Minimum 3.000 GPA required

Health Law and Policy, Graduate Certificate

The Graduate Certificate in Health Law and Policy, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of health law and policy.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Law Courses

Code	Title	Hours
LAW 7335	Health Law	3

Code	Title	Hours
In addition, complete one of the following:		3-8
LAW 7410	Domestic Violence Clinic	
LAW 7469	Disability Law	
LAW 7494	Bioethics and the Law	
LAW 7512	Problems in Public Health Law	
LAW 7527	Public Health Legal Clinic	
LAW 7536	Employment Law - Safety and Health	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7606	Drug Law and Policy	
LAW 7619	Healthcare Fraud and Abuse Law	
LAW 7681	Law and Biotechnology	
LAW 7685	Human Rights, IP, and Access to Medicines	

Required Non-Law Courses

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following:		6-8
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6350	Public Health Surveillance and Informatics	
HRMG 6220	Health Organization Management	
PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
PHTH 6208	Urban Community Health Assessment	
PHTH 6224	Social Epidemiology	
PPUA 5240	Health Policy and Politics	
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	
STRT 6220	Strategic Management for Healthcare Organizations	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's Student Information Handbook.

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 semester hours of LAW courses and at least 6 semester hours of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Human Resources Law, Graduate Certificate

The workplace has drastically changed in the past decade and keeps on evolving. This leads to many new human resources legal and regulation challenges. The Graduate Certificate in Human Resources Law is designed to provide professionals who work in human resources with the skills needed to recognize and navigate the many legal issues that arise within this heavily regulated field.

The program helps to prepare graduates with the knowledge and skills to:

- Summarize and apply the appropriate statutes and regulations to concrete situations
- Examine laws and regulations governing the management of people resources
- Gain an in-depth overview of human resources compliance programs and policies
- Leverage specialized knowledge in human resources law and regulations to achieve personal and institutional goals

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6210	Special Topics in Employee Rights and Employer Obligations	3
or LW 6210	Special Topics in Employee Rights and Employer Obligations	
LS 6211	Antidiscrimination Law	3
or LW 6211	Antidiscrimination Law	
LS 6212	Wages and Benefits	3
or LW 6212	Wages and Benefits	

Program Credit/GPA Requirements

12 total credits required
Minimum 3.000 GPA required

Human Rights Law, Graduate Certificate

The Graduate Certificate in Human Rights Law, open to JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of human rights law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required LAW Courses

Code	Title	Hours
Complete one of the following:		3
LAW 7491	International Human Rights and the Global Economy	
LAW 7651	Human Rights in the United States	

Code	Title	Hours
In addition, complete one of the following:		3
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7525	Law and Economic Development	
LAW 7651	Human Rights in the United States	
LAW 7685	Human Rights, IP, and Access to Medicines	

Required Non–LAW Courses

Code	Title	Hours
Complete two of the following:		6-8
PHIL 5001	Global Justice	
PHTH 5230	Global Health	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7387	Global Governance	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7287	Social Movements in Health	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic. Consult an advisor about the applicability of the JD co-op.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's *Student Information Handbook.*

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 credits of LAW courses and at least 6 credits of non–LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Intellectual Property Law, Graduate Certificate

The Graduate Certificate in Intellectual Property Law is designed to provide professionals who work in intellectual property, technology transfer, licensing, or related areas, as well as inventors and entrepreneurs, with the skills they need to recognize and protect intellectual property rights.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6230	Intellectual Property Survey	3
or LW 6230	Intellectual Property Survey	
LS 6231	Identifying and Securing Intellectual Property Rights	3
or LW 6231	Identifying and Securing Intellectual Property Rights	
LS 6232	Intellectual Property and Media	3
or LW 6232	Intellectual Property and Media	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Legal Design, Graduate Certificate

The Graduate Certificate in Legal Design, open to JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of legal design.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required LAW Courses

Requires 6 semester hours of LAW courses.

Code	Title	Hours
Complete one of the following:		3-4
LAW 7635	Laboratory Seminar in Applied and Critical Legal Design	
LAW 7662	Master Class in Legal Design	

Code	Title	Hours
Complete one of the following:		2-4
LAW 7369	Intellectual Property	
LAW 7501	Patent Law	
LAW 7614	Law Practice Management: Access to Justice	
LAW 7620	Human Behavior, Legal Doctrine, and Policy Design	
LAW 7624	Advanced Legal and Interdisciplinary Research	
LAW 7669	Law and Technology	

Required Non–LAW Courses

Requires 6 semester hours of non–LAW courses.

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following:		6-8
ARTG 5110	Information Design History	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5310	Visual Cognition	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
ARTG 6600	Experience Design Studio 2: Group and Interpersonal	
COMM 6304	Communication and Inclusion	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
INAM 6100	Critical Foundations of Creative Practice	
JRNL 5500	Coding for Digital Storytelling	
JRNL 6341	Telling Your Story with Data	
THTR 6100	Advanced Creative Storytelling for Social Engagement	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and has a clear connection to the certificate topic or significantly advances a legal innovation project using legal design methods.

For additional information on requirements associated with this certificate, please consult the JD program's *Student Information Handbook*.

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 semester hours of LAW courses and at least 6 semester hours of non–LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Poverty Law and Economic Justice, Graduate Certificate

The Graduate Certificate in Poverty Law and Economic Justice, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of poverty law and economic justice.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Law Courses

Code	Title	Hours
Complete one of the following:		3-8
LAW 7358	Social Welfare Law	
LAW 7362	Poverty Law and Practice Clinic	
LAW 7525	Law and Economic Development	
LAW 7561	Private Litigation in the Public Interest	
LAW 7664	Law and Inequality	
LAW 7665	Housing Law	
LAW 7684	Anatomy of Autonomy	

Code	Title	Hours
In addition, complete one of the following:		3-8
LAW 7333	Family Law	
LAW 7335	Health Law	
LAW 7336	Immigration Law	
LAW 7350	Negotiation	
LAW 7358	Social Welfare Law	
LAW 7362	Poverty Law and Practice Clinic	
LAW 7410	Domestic Violence Clinic	
LAW 7428	State Local Government	
LAW 7448	Employment Discrimination	
LAW 7463	Nonprofit Organizations	
LAW 7469	Disability Law	
LAW 7488	Sexuality, Gender, and the Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7512	Problems in Public Health Law	
LAW 7525	Law and Economic Development	
LAW 7527	Public Health Legal Clinic	
LAW 7530	Education Law	
LAW 7535	Legal Interviewing and Counseling	
LAW 7540	Employment Law—Compensation, Benefits, and Retirement	
LAW 7550	Refugee and Asylum Law	
LAW 7561	Private Litigation in the Public Interest	
LAW 7582	Elder Law	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7597	Civil Rights and Restorative Justice Clinic	
LAW 7606	Drug Law and Policy	
LAW 7607	Consumer Law	
LAW 7608	American Legal Thought: Traditional and Critical	
LAW 7610	Community Business Law Clinic	
LAW 7657	Immigrant Justice Clinic	
LAW 7664	Law and Inequality	
LAW 7665	Housing Law	
LAW 7679	Race and the Law	

LAW 7684	Anatomy of Autonomy
LAW 7685	Human Rights, IP, and Access to Medicines

Required Non-Law Courses

Code	Title	Hours
Complete one of the following:		4
PPUA 5245	Education Policy in the United States	
PPUA 5270	Food Systems and Public Policy	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	
SOCL 7263	Social Psychology of Stratification	
SOCL 7287	Social Movements in Health	

Code	Title	Hours
In addition, complete one of the following:		4
LPSC 5201	Law and the City	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5245	Education Policy in the United States	
PPUA 5270	Food Systems and Public Policy	
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	
SOCL 7263	Social Psychology of Stratification	
SOCL 7287	Social Movements in Health	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's *Student Information Handbook*.

Program Credit/GPA Requirements

12 total credits required, including at least 6 credits of LAW courses and at least 6 credits of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Privacy Law, Graduate Certificate

The Graduate Certificate in Privacy Law, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of privacy law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required LAW Courses

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following:		6
LAW 7640	Information Security Law	
LAW 7672	Data Privacy Compliance in the 21st Century	
LAW 7675	Information Privacy Law	

Required Non-LAW Courses

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following list:		6
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 6240	Special Topics in Privacy Law	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5102	Data Management in Healthcare	
HINF 5300	Personal Health Interface Design and Development	
JRNL 6202	Perspective on Journalism Ethics	
MKTG 6210	Marketing Research	
MKTG 6222	Digital Marketing	
MKTG 6226	Consumer Behavior	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
POLS 7334	Social Networks	
POLS 7341	Security and Resilience Policy	
POLS 7441	Cyberconflict	
PPUA 5262	Big Data for Cities	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's Student Information Handbook.

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 semester hours of LAW courses and at least 6 semester hours of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

United States Law, Graduate Certificate

The Graduate Certificate in United States Law offers an introduction to U.S. law for students who have completed their law degree in countries other than the United States. The asynchronous, online format provides flexibility for students seeking to expand their knowledge of law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Course

Code	Title	Hours
LAW 6400	Introduction to U.S. Law and Legal System	3

Electives

Code	Title	Hours
Complete at least 10 credits of electives from the following:		10
LAW 6401	Contracts	
LAW 6402	Torts	
LAW 6403	Constitutional Law	
LAW 6404	Civil Procedure	
LAW 6405	California Professional Responsibility	
LAW 7000	Copyright	
LAW 7001	Corporate Finance	
LAW 7002	Intellectual Property	
LAW 7004	Trademark	
LAW 7005	Mergers and Acquisitions	
LAW 7006	Secured Transactions	
LAW 7007	Securities Regulation	
LAW 7009	Intellectual Property and Technology Law	
LAW 7010	Insurance Law	
LAW 7011	Personal Income Tax	
LAW 7012	Introduction to Business Organizations	
LAW 7672	Data Privacy Compliance in the 21st Century	

Program Credit

13 total hours required

Women, Gender, Sexuality, and the Law, Graduate Certificate

The Graduate Certificate in Women, Gender, Sexuality, and the Law, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the area of women, gender, sexuality, and the law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Law Courses

Code	Title	Hours
Take at least two courses totaling at least 6 semester hours from the following list:		6
LAW 7410	Domestic Violence Clinic	
LAW 7488	Sexuality, Gender, and the Law	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7651	Human Rights in the United States	
LAW 7679	Race and the Law	

Required Non-Law Courses

Code	Title	Hours
Take at least two courses totaling at least 6 semester hours from the following list:		6
ECON 5292	Gender and Development Economics	
SOCL 7273	Gender and Social Policy	
SOCL 7287	Social Movements in Health	
WMNS 5240	Feminist Resistance	
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7100	Queer Theory: Sexualities, Genders, Politics	
WMNS 7615	Feminist Inquiry	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's Student Information Handbook.

Program Credit/GPA Requirements

12 total credit hours required, including at least 6 credit hours of LAW courses and at least 6 credit hours of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Accelerated Degrees

The School of Law offers a PlusJD pathway that allows students to accelerate the attainment of the JD degree by applying School of Law coursework completed as an undergraduate toward both the undergraduate and JD degrees. In most circumstances, all undergraduate degree requirements must be completed before the student begins their first-year JD coursework. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the JD. Interested students should consult their advisor during their freshman or sophomore years. See the PlusJD program (https://law.northeastern.edu/admissions/jd/application-process/plusjd/) for additional information.

Dual Degrees

- Law, JD / Accounting and Business Administration, MSAMBA (p. 232)
- Law, JD / Business Administration, MBA—Full-Time (p. 233)
- Law, JD / Criminology and Justice Policy, PhD (p. 778)
- Law, JD / Criminology and Criminal Justice, MS (p. 779)
- Law, JD / Public Health, MPH (p. 602)
- Law, JD / Public Policy, MPP (p. 781)
- Law, LLM / Business Administration, MBA—Full-Time (p. 234)

Law, JD / Accounting and Business Administration, MSAMBA

The Northeastern University School of Law and the D'Amore-McKim School of Business offer a combined degree that results in a Juris Doctor and Master of Science in Accounting and Business Administration. Students without a previous accounting background study how to operate effectively in specialized fields such as taxation law, corporate finance, or mergers and acquisitions. Students have an opportunity to gain advanced legal expertise alongside future-forward accounting and business knowledge.

Our combined degree program is a full-time, four-year course of study. Students usually complete two years of the law curriculum, followed by 15 months of the combined accounting and business administration curriculum, before returning to finish their studies at the School of Law.

Students gain valuable work experience in law and public accounting before they graduate. They can make a real impact during two co-ops in legal departments, law firms, government agencies, judges' chambers, or other legal settings. Students also experience working as an accounting associate during the busy tax season through a corporate residency at Big 4 or other globally known accounting firms.

Students concurrently pursue the two degrees and may count 12 semester hours of nonlaw coursework from the accounting and business administration curriculum toward the law curriculum. The corporate residency at an accounting firm may fulfill the requirement for the third co-op required for the law curriculum. Students are encouraged to consult their law advisor to select accounting and business classes that satisfy JD requirements.

Law, JD / Business Administration, MBA—Full-Time

The JD/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to operate in increasingly interdependent legal and business spheres. As new technology disrupts industries and data availability and sophisticated use shifts the business landscape, our JD/MBA (https://damore-mckim.northeastern.edu/programs/jd-mba/) students prepare to guide corporate-level strategy and become the leaders businesses need.

Our JD/MBA program is a full-time, four-year course of study that includes three semester-long co-op work experiences arranged through Northeastern Law. Students complete three years of law school, taking a break after either year one or two to complete a year of business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they may add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may count 9 semester hours of nonlaw coursework from the JD curriculum toward the interdisciplinary and elective requirements of the MBA degree and up to 12 semester hours from the MBA curriculum toward the JD degree. Students should work with their MBA advisor to select JD courses that will fulfill MBA requirements and with their law advisor to choose MBA courses that will satisfy JD requirements.

Law, JD / Criminology and Justice Policy, PhD

The JD/PhD program will expand the knowledge base and career options of students. The disciplines of criminology and justice policy and law share common interests in identifying opportunities to create conditions for justice, equality, and societal well-being. The dual degree will provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the sociopolitical, legal, and economic context in which they are found. Solving problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the PhD degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the law school. Students will take criminology courses during semesters spent in SCCJ. Please consult the School of Law (https://www.northeastern.edu/law/) for more information about JD requirements. Additionally, please consult SCCJ (https://cssh.northeastern.edu/sccj/) for more information about PhD requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Criminology and Criminal Justice, MS

The JD/MS program will expand the knowledge base and career options of students. The disciplines of criminal justice and law share common interests in identifying opportunities to create the conditions for justice, social equality, and societal well-being. The dual degree is designed to provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the social, political, legal, economic context in which they are found. Solving these problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the MS degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the School of Law. Students will take criminology courses during semesters spent in in the School of Criminology and Criminal Justice. Please consult the School of Law for more information about JD requirements. Additionally, please consult SCCJ for more information about MS requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Public Health, MPH

Northeastern University's School of Law and Bouvé College of Health Sciences offer a JD/MPH dual degree. Given the worldwide trend toward urbanization, the Master of Public Health (MPH) recognizes the growing need for professionals trained to respond to unique public health challenges and opportunities facing urban populations. The MPH program brings together interdisciplinary faculty (from the School of Law, D'Amore-McKim School of Business, College of Social Sciences and Humanities, Khoury College of Computer Sciences, and the Bouvé College of Health Sciences) with expertise in collaborating with diverse urban populations to offer students an opportunity to obtain practice-based knowledge, skills, and experience needed to address public health problems.

Up to 9 credit hours of coursework in the JD program may count toward the MPH, while up to 12 credit hours of coursework in the MPH program may count toward the JD. See the JD/MPH program page (https://law.northeastern.edu/academics/programs/jd/dual-degrees/public-health-bouve/) for more information.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Public Policy, MPP

The JD/Master of Public Policy (MPP) is designed to equip graduates with a unique blend of skills for navigating a complex and rapidly changing policy landscape. The program builds on students' legal training with a compelling blend of skills in applied public policy analysis, policy design, and strategic policy formation. Students also gain career-relevant experience through internships, small group capstone projects, and other interactions with professionals in the field. All are part of a learning process designed to enable the Northeastern law and public policy graduates to navigate, and to redefine, diverse policy areas.

Ideally, students would apply to Northeastern's JD and MPP programs simultaneously. Those who apply and are admitted to both programs take MPP classes after completing their first year in the School of Law. Applicants may also be considered after they have enrolled in the JD program; interested JD students should consult the School of Law's Office of Academic and Student Affairs and the School of Public Policy and Urban Affairs graduate program director for more information.

Students enrolled in this dual-degree program will be able to count 8 JD credit hours toward their MPP degree and 12 MPP credit hours toward their JD degree. Students should consult advisors in each program if they have questions about which courses may be shared between degrees.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, LLM / Business Administration, MBA—Full-Time

Law, LLM / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to harness legal and business skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, 20-month course of study. Students start taking classes in business school, take law courses next, and finish with business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by choosing an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

Law, LLM—Experiential / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern Law and the D'Amore-McKim School of Business to position students to harness business and legal skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, two-year course of study that includes a semester-long co-op work experience arranged through Northeastern Law. During the course of their studies, students take classes in business school and the School of Law and complete a law co-op.

Students specialize their degree by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students will concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

College of Professional Studies

Website (https://cps.northeastern.edu)

Jared Auclair, PhD, Interim Dean of the College of Professional Studies

Joseph Griffin, DMin, PMP ®, Senior Associate Dean of Academic Affairs

Sara Ewell, **PhD**, Associate Dean of Faculty Affairs

Corliss Thompson, PhD, Associate Dean of Graduate School of Education

Christopher Bolick, EdD, Associate Dean of Graduate Programs

Erin Clair, PhD, Associate Dean of Undergraduate Programs

877.668.7727
617.373.2400

Academic Policies and Procedures

- Academic Progression Standards (p. 785)
- Academic Resources (p. 786)
- Active-Duty Military Personnel (p. 787)
- Attendance Verification (p. 788)
- Completing Degree Requirements (p. 789)
- Degrees, Majors, and Concentrations (p. 790)
- Full-Time Status (p. 791)
- Global Partnership Programs (p. 793)
- Graduate Campus (p. 794)
- Graduation Requirements (p. 795)
- Master's Degree Admission Requirements (p. 796)
- New Student Orientation (On-Ground and Online) (p. 797)
- Personal Professional Enrichment (PPE) (p. 798)
- Readmission to Program (p. 799)
- Reentry to Program (p. 800)
- Registration and Taking Courses (p. 801)
- Reinstatement after Academic Dismissal (p. 803)
- Seeking More than One Certificate or Degree (p. 804)
- Special Student Status (p. 805)
- Student Evaluation of Courses (p. 806)
- Transfer Credit Policies (p. 807)

Academic Progression Standards

Academic Progress/Standing

To be in good standing, a graduate student must continuously maintain a minimum cumulative grade-point average of 3.000 on a 4.000 scale and must also make continuous satisfactory academic progress. To make SAP, a student must earn at least 66% of their cumulative attempted credits. Nonmatriculated students are required to be in good academic standing to be allowed to register for any subsequent classes.

Students are responsible for reviewing their grades and academic standing at the end of each term through the Student Hub. If there are any discrepancies, students should immediately contact the instructor(s) directly. Students who want to appeal a grade have 30 calendar days from the date the grade is posted to do so.

Academic Probation and Dismissal

Notation of academic probation appears on a student's internal record but not on their permanent transcript.

With exception as specified by the program, a graduate (nondoctoral) student is placed on academic probation if their cumulative GPA is below 3.000 and/or if they do not earn at least 66% of their cumulative attempted credits. The student is strongly encouraged to consult with their academic and career advisor to develop an individualized success plan to improve their academic standing. Otherwise, a registration hold may be placed on the student's account.

A student whose cumulative GPA remains below 3.000, and/or does not earn at least 66% of their cumulative attempted credits in the term of enrollment subsequent to the one after they were placed on academic probation, will be academically dismissed. A student who has been academically dismissed from the college is automatically dismissed from their program of study.

Dismissal Notification

A student will be notified about their dismissal within one week following the end of the term and has the right to appeal the dismissal decision to the college's Academic Standing Committee if they can provide documented evidence supporting an appeal. The notification of dismissal will include the appeal deadline.

Students appealing a dismissal decision may not be eligible to enroll in classes the term following their dismissal to allow time for the appeal process.

Students are responsible for reviewing their grades and academic standing at the end of each term through the Student Hub.

Academic Resources

Interactive Academic Integrity Checklist

The Citation and Academic Integrity Checklist (https://www.northeastern.edu/oepd/demo/CPS_AIRS/Citation%20and%20Academic%20Integrity%20Checklist/story_html5.html) is a tool students can use before they turn in every assignment to ensure that they have not accidentally committed any of the most common violations of the Academic Integrity Policy. Additionally, the IAIC contains links to examples of APA- and MLA-style formatting.

Global Student Success

10 Belvedere
617.373.2455
gss@northeastern.edu

Website (https://international.northeastern.edu/gss/)

Global Student Success is committed to supporting the success of international students at Northeastern University through cross-cultural, linguistic, and academic support services. We also partner with faculty, staff, and administrators to integrate global dimensions and cross-cultural understanding into the Northeastern experience.

International Tutoring Center

Basement of Snell Library
617.373.2455
gss@northeastern.edu (gss@northeastern.edu)

Website (https://international.northeastern.edu/gss/)

Tutors provide high-quality ESL writing instruction and tutoring for international students who need assistance with papers, assignments, TOEFL writing, and research projects. Students can meet one-on-one with an ESL tutor for 50-minute appointments. This is a free service for Northeastern University international students.

Online Writing Lab

Website (https://cps.northeastern.edu/academics/online-writing-center/)

To provide students with guided writing support, the College of Professional Studies created the Online Writing Lab (https://cps.northeastern.edu/academics/online-writing-center/) as laboratory courses and attached them to six undergraduate courses and one graduate course. Students submit all of their essays to their writing specialists in the labs and then receive sophisticated revision and editing strategies to help them improve their essays before submission for a final grade. Students obtain strategies to help them focus, develop, edit, and refine their writing.

Tutoring Services

Website (https://cps.northeastern.edu/academic-resources/tutoring-services/)

Tutoring can benefit skilled professionals and beginning students alike. Whether you're struggling with organic chemistry, working on a long paper, or putting the finishing touches on a presentation, Northeastern University offers many opportunities for you to enhance your academic work and professional skills through free one-on-one academic support on and off campus.

Active-Duty Military Personnel

As a member of the Service Member Opportunity Colleges, the College of Professional Studies' academic residency requirement is different for active-duty service members. Active-duty service members are required to complete 30% of the graduate certificate/degree program at the College of Professional Studies.

Attendance Verification

"I Am Here" Process

After course registration, students are required to verify their intent to enroll in College of Professional Studies class(es) through the Student Hub (https://me.northeastern.edu) during the first week of each class start. This verification process is called "I Am Here." Students who fail to complete this process on time will be dropped from the class(es), which may impact their financial aid or international student visa eligibility.

Students are responsible for ensuring completion of the IAH process, which requires that they do not log out of the system early. Students who do not receive a “Successful Completion” message have not reached the end of the procedure and must start again. Sometimes it may take 24 hours before students can restart the procedure.

A student who registers for a course and completes the IAH process but does not officially drop the course by the deadline, regardless of their level of participation or attendance/nonattendance, is responsible for paying 100% of the tuition charges and applicable fees and the final earned grade. A student in this situation may earn an F grade that will be part of their permanent academic record.

Students registering for the first time after the start of classes will have access to complete IAH the following day.

Students who experience difficulty with the process or have questions should email the Office of the University Registrar at registrar@northeastern.edu.

Completing Degree Requirements

Graduate and Doctoral Degree Programs

To earn a graduate or doctoral degree, students must complete all courses as prescribed in the curriculum; the required number of credits as per the curriculum; applicable thesis or dissertation; the residency requirement; and maintain a minimum cumulative grade-point average of 3.000 or as outlined by the specific program.

Graduate Certificate Programs

To earn a graduate certificate, students must complete all courses as prescribed in the curriculum; the required number of credits as per the curriculum; the residency requirement; and maintain a minimum cumulative GPA of 3.000 or as outlined by the specific program.

Time Limit on Courses

Graduate course credits earned in the academic program or accepted by transfer are valid for a maximum of seven years.

Time Limit on Program Completion

- Graduate certificate students have up to three full years from the time of the first term of enrollment to complete the program.
- Master's degree students have up to seven full years from the time of the first term of enrollment to complete the program.
- Doctoral degree students, with the exception of the Transitional Doctor of Physical Therapy, have up to seven full years from the time of the first term of enrollment to complete the program.
- Transitional Doctor of Physical Therapy students have up to four full years from the time of the first term of enrollment to complete the program.

Note: The College of Professional Studies makes adjustments to its academic program offerings and curricula to stay current and to be able to offer students the most relevant courses and knowledge in the field. Examples of such changes include adding new programs, adding/adjusting course requirements, adding/adjusting courses, and adding/adjusting curriculum requirements.

When there is a change to a curriculum or program requirement, students already matriculated and actively enrolled in the program may continue to follow the program requirements at the time of matriculation or to follow the new curriculum/program requirements, unless it is otherwise specified by the academic program at the time of the announcement of said changes.

Degrees, Majors, and Concentrations

Change of Major/Program of Study

A graduate (nondoctoral) student matriculated in a certificate/degree program who would like to enroll in a different graduate program, after consulting with their academic advisor, must apply to the intended program by submitting the Change of Major form.

Previously awarded transfer credit awards are subject to change as a result of a program change. Students on financial aid or an international student visa are responsible for understanding the impact that results from a program change.

Doctoral students must consult with their program director or designee.

Concentrations

Only university-approved concentrations are noted on a student's official academic record. If a student pursues a customized specialization, no concentration will be noted on their official academic transcript. Students who wish to pursue a customized specialization must consult with their academic advisor and seek approval from the academic program.

Full-Time Status

A graduate (nondoctoral) student is considered a full-time student if they are enrolled in 9 quarter hours of graduate credit for the quarter. An exception is made for students matriculated in master's degree programs that only require 4 credit courses, in which case full-time student status is attained with enrollment in 8 quarter hours of graduate credit for the quarter.

A doctoral student's full-time status is determined by the structure of the program.

Note that full-time status may be defined differently for federal loan purposes. International students have other considerations/requirements to maintain their visa eligibility.

Course Load

Federal financial aid recipients must be enrolled in and successfully complete a minimum number of credits each term to maintain eligibility. For more information, contact your financial aid counselor.

Course Overload

A maximum course load (different from full-time status) for a graduate (nondoctoral) student is 16 credits taken across a 12-week term, with no more than 8 credits per 6-week session.

To be eligible for a course overload (greater than 16 credits per 12-week term or greater than 8 credits per 6-week session), a graduate (nondoctoral) student must:

- Have a record of successful study with 12 or more credits a term at Northeastern University
- Have a minimum cumulative grade-point average of 3.500
- Provide a rationale to support the request

Students need to complete the appropriate form and return it to their career and academic advisor. Course overload is approved per term.

Each doctoral program has its own enrollment and course load requirements. Doctoral students who wish to seek a course overload must consult with the program director or designee.

International Student Enrollment Requirements

IMPORTANCE OF MAINTAINING F-1 STATUS

International students studying at Northeastern are responsible for maintaining compliance with U.S. federal regulations. Failure to maintain full-time enrollment, in accordance with these regulations, can result in consequences. Regular consultation with college academic advisors, as well as Office of Global Services international student advisors, is required before taking any action that may impact immigration status and educational endeavors in the United States.

ACHIEVING FULL-TIME ENROLLMENT STATUS

Full-time enrollment status must be maintained by F-1 students throughout the academic year. To achieve full-time status, graduate students must be enrolled in 8–9 credits throughout each academic term. Students can consult with their college academic advisor prior to each term to develop a course schedule to maintain full-time status. F-1 students are expected to study on-ground and cannot enroll in an online course without first speaking to a college academic advisor to confirm eligibility. If approved, F-1 students who need to withdraw/drop from a course must withdraw/drop from the additional online course first and not from any of the on-ground core courses in order to maintain full-time status.

COLLEGE OF PROFESSIONAL STUDIES ACADEMIC TERM

In CPS, each academic term in fall, winter, and spring is defined as a quarter term consisting of 12 weeks. Some courses are scheduled for the entire 12 weeks, while others are scheduled for either the first 6 weeks or the last 6 weeks (parts of a term). A full summer term consists of 8 weeks. Some courses are scheduled for the entire 8 weeks of a term, while others are scheduled for parts of a term.

FINAL TERM

F-1 students are required to maintain full-time enrollment status, except in the final academic term of degree completion. If the course requirements for degree completion are less than 8–9 credits, they must be completed on-ground throughout the entire final term.

ELIGIBILITY FOR SUMMER TERM OFF

All students, regardless of the term in which they begin studies, (e.g., CPS winter or spring quarter terms) are eligible to take the summer term off as their standard vacation term, as long as they confirm enrollment in the following fall term and they are not starting or ending their program of study in that same summer term.

Directed Study

Directed studies are offered when a course is required for a student's program of study but said course is not available in a given academic term and there is immediacy for a student to complete said course. Academic deans/directors will make the decision if there is a compelling need to run a course as a directed study.

Independent Study

Independent study is an opportunity for a degree student to work independently under the supervision of an instructor to undertake special research, literature review, or experimental study projects in areas related to their program of study that they cannot accomplish as part of a standard course in the curriculum. A degree student may take up to two independent studies. The work to be done for an independent study is usually crafted by the student, with faculty input. Independent studies are entirely optional and not needed to graduate. A completed Request for Independent Study form, signed by both the student and the faculty member, must be submitted to the academic program for review and approval.

Global Partnership Programs

Students enrolled in a College of Professional Studies' global partnership or a combined major program are required to abide by the policies and procedures of both institutions or as specified in their program.

Combined major candidates must apply to graduate at each institution by following each institution's policies and procedures.

Graduate Campus

Students enrolled in a Northeastern University graduate (regional) campus are also required to abide by the policies and procedures specific to that campus.

Graduation Requirements

Graduation Procedures

Only students who complete the graduation application process by specified deadlines will be considered for graduation and included in the graduation ceremony program. All qualified students must submit a graduation application in order to receive their diploma, regardless of whether they plan to attend the graduation ceremony.

Note important definitions: “Degree conferral date” and “graduation ceremony date” do not mean the same thing. Degree conferral date refers to the date of the university’s official recognition of degree completion. For the purposes of the graduation application, that is accessed via the Student Hub. The “expected graduation date” (EGD) is the same as the degree conferral date. Northeastern University confers degrees four times each academic year: winter, spring, summer, and fall. The graduation ceremony date is the date that the college hosts the annual graduation ceremony.

Doctoral candidates must be mindful of additional deadlines to complete their dissertation/thesis in time to be eligible for degree conferral and participation in a doctoral hooding and a graduation ceremony.

Each fall, the Office of the University Registrar sends an email notification to students who may be eligible to graduate that academic year about applying to graduate. This email notification informs and instructs students to complete the “Apply to Graduate” process, accessed via the Student Hub. Students are prompted to verify and provide critical information, e.g., spelling of the student’s name on the diploma, intent to participate in the graduation ceremony, and mailing address.

An accurate EGD is required to gain access to the graduation application. The EGD is also used by clearinghouses to determine loan deferment schedules. If your EGD is not correct, contact your designated learner services specialist.

Diploma

The following rules apply to the diploma.

- Information that will be printed on diplomas:
  - The major will be printed on diplomas for nonspecified degrees only (Master of Science, Master of Arts, Master of Professional Studies, Certificate of Advanced Graduate Study, Doctor of Philosophy).
- Changes made to a student’s name after the diploma has been printed may be subject to a $50 fee and take more than one month to reprint.
- Changes made to a student’s degree information and name submitted after the program deadline will not be noted in the graduation ceremony program. If a diploma was previously printed, it will need to be reprinted and can take more than one month.

Master's Degree Admission Requirements

Note that all master's degrees offered through the College of Professional Studies have the following admission requirements:

- Online application
- Statement of purpose (500–1,000 words)
- Professional resumé
- Official undergraduate transcript(s) noting conferral of a bachelor's degree
- Two letters of recommendation
- English-language proficiency proof (for non-native English-language speakers)
- TOEFL, IELTS, or TOEIC scores

Some programs have additional requirements.

The college reserves the right to rescind an offer of acceptance if the student is no longer considered in good academic or disciplinary standing between the time of acceptance and matriculation.

New Student Orientation (On-Ground and Online)

New students taking courses on-ground receive an invitation to the on-ground orientation. The purpose of New Student Orientation is to provide information and tools for each student's success from the point of program entry to degree completion. All new students are expected to attend the on-ground orientation. If students cannot attend the on-ground orientation, they should thoroughly review the New Admitted Students (http://www.orientation.cps.northeastern.edu) site.

Personal Professional Enrichment (PPE)

Students interested in taking graduate-level (nondoctoral) courses for personal or professional enrichment need to complete an online application (http://www.cps.neu.edu/admissions/graduate/) as PPE students. Once approved, students will be able to register through the Student Hub (https://me.northeastern.edu).

- Students on PPE status are expected to satisfy applicable course prerequisites before enrolling in a course.
- Students taking courses while on PPE status may elect to apply to a graduate certificate or degree program by completing the formal application process (http://www.cps.neu.edu/admissions/graduate/). Up to two qualifying courses (or 8 credits) completed while on PPE status may be applied to the intended program of study. To be eligible, the minimum earned grade for the course(s) must be B.
- Students taking courses under PPE status are not eligible for financial aid.

PPE status is not an option for students seeking an F-1 visa.

Readmission to Program

A new admission application is required of students whose studies are interrupted voluntarily for more than three years.

Students are expected to meet the requirements of the program curriculum current at the time of the approved readmission. If the program into which the student is seeking readmission is no longer offered, the student may apply to another program and must meet the admissions requirements for that program. Contact the Office of Admissions (http://www.cps.neu.edu/admissions/) for assistance and to complete the admission application.

If readmitted, transfer credits that a student was previously awarded will be reevaluated following the transfer credit award rules current at the time of readmission. It is at the discretion of the academic program to determine applicability of courses previously completed.

Reentry to Program

Application for reentry into any academic program is required of students whose studies are interrupted voluntarily for a period of one to three years. Students who are dismissed academically must wait at least one academic term before applying for reinstatement.

Students are expected to meet the requirements of the program curriculum current at the time of the approved reentry. If a student does not enroll in the term in which they were approved for reentry, they must follow the curriculum requirements for the term in which they resume coursework with approval. If a student waits for more than one year to resume their studies after being approved for reentry, they will have to apply for reentry again.

If the program into which the student is seeking reentry is no longer offered, the student may choose to enroll in another program if they meet the admissions requirements for that program. Contact the Office of Academic Advising (https://cps.northeastern.edu/academic-resources/advising/) for assistance and to complete the appropriate form.

Registration and Taking Courses

Course Registration

For course registration information, visit the College of Professional Studies webpage (http://www.cps.neu.edu/class-registration/).

Course registration procedures are as follows:

- Newly accepted and returning students add or drop courses through the Student Hub any time during the registration period.
- Certificate- and degree-seeking students whose studies have been interrupted voluntarily for one to three years or more need to first apply for reentry through the Office of Academic Advising before registering for course(s).
- Global program students should consult with their program to determine if they need to register on their own or if the program will register them.

All students need to be mindful of the college's course add/drop policies and deadlines to register as early as possible with the intent to secure a spot in the preferred course and to avoid being charged in full for missing the course drop/withdrawal deadline.

Auditing a Course

Graduate (nondoctoral) students are permitted to audit graduate (nondoctoral) courses, but they must complete the usual registration process and pay regular tuition fees. There is no reduction in fees for auditing.

An auditor may participate in class discussions, complete papers and projects, and take tests and examinations for informal evaluation. Regardless of the amount or quality of work completed, however, no academic credit will be granted at any time for audited courses. In addition, audited courses may not be used in the determination of enrollment status for financial aid purposes and do not count toward program completion.

The student's decision to audit a course must be communicated in writing to the Office of the University Registrar before the fourth class meeting for 12-week courses. For 4-, 6-, and 8-week courses, requests must be received by the second class meeting. No exception to this procedure may be approved without the authorization of the college's academic standing committee.

If approved, the student should inform the instructor of their status as auditor of the course.

Course Selection and Planning

Students should refer to their degree audits for program curriculum information, to select courses, and to monitor their progress toward degree completion. Students should access their degree audits through the Student Hub or request an audit from their academic advisor. Degree audits are unofficial records of academic progress. Students are encouraged to consult with their academic advisor about their academic planning.

Course Prerequisites

Course prerequisites are courses that are required to have been completed prior to enrolling in another course. Before registering for a course through the Student Hub, students, regardless of matriculation status, should consult the academic catalog to determine whether they have satisfied the course prerequisites.

Course Corequisites

Course corequisites are courses that are required to be taken concurrently. Before registering for a course through the Student Hub, students, regardless of matriculation status, should read the course description to determine if there is a corequisite requirement and register for both courses.

Retaking a Course

If a student wishes to improve their cumulative grade-point average by retaking a course, they may do so. Only the grade earned in the last attempt is used to compute the GPA while all grades remain part of the student's permanent academic record. A student is required to pay the normal tuition charges for all retaken courses. A student may not retake more than two nonrepeatable courses or 8 quarter hours of credit, whichever is greater, to satisfy the requirements of the degree.

Financial aid recipients must be mindful that retaking a course could impact their aid eligibility. Students with questions about this possible impact should contact their financial aid counselor.

Course Waiver

A course waiver may be awarded to a student who has completed the equivalent course at an accredited institution other than the College of Professional Studies in the past five years. The waiver will exempt the student from completing the required course. The student will complete another course, as approved by the program, to satisfy the number of credits required for the program.

Doctoral students must consult with their academic program to determine if course waivers are permitted.

Duration of Courses

Each full fall, winter, and spring term runs for 12 weeks. Each full summer term runs for 8 weeks.

Course durations are as follows:

- During the fall, winter, and spring terms, courses are scheduled for either 6 or 12 weeks.
- During the summer term, courses are scheduled for 4, 6, or 8 weeks.

Course Add/Drop Policy

Refer to the academic calendar (http://www.northeastern.edu/registrar/calendars.html) for specific dates. Students should consult with their academic advisor before adding or dropping classes.

Students may add a 4-week or 6-week course within the first week of the course. For 8- and 12-week courses, students may add a course within the first 2 weeks of the course. Students who add a class during the add/drop period are responsible for all assignments missed prior to enrolling. Enrolled students are responsible to attend classes during the add/drop period, and absences will be held accountable to the instructor's attendance policy.

Students who drop a course before the add/drop deadline will not be charged for the course and will not have a W (withdrawal) on their transcript. Thereafter, students are responsible for 100% of the tuition charges and applicable fees and the earned grade will be on the students' permanent academic record. All such dates are specified in the academic calendar.

Students must add/drop courses using the Student Hub.

A reduction in a student's course load could affect a student's international student visa status or financial aid eligibility.

Students who experience difficulty adding or dropping a course should promptly email (registrar@northeastern.edu) the Office of the University Registrar. If it is determined that there is an issue with the student's Student Hub account or access, they need to contact the Service Desk at 617.373.4357 (HELP); help@northeastern.edu.

Students with holds (e.g., financial, judicial) may have restricted access to add, drop, or withdraw from a course. In such instances, students are responsible for resolving the hold immediately and to meet the established course registration deadlines.

Course Withdrawal Policy

Refer to the academic calendar (http://www.northeastern.edu/registrar/calendars.html) for specific dates. All students are encouraged to consult with their academic advisor prior to withdrawing from a course.

Students who withdraw from a course after the add/drop deadline and before the last day to withdraw will receive a W grade and will be responsible for 100% of the tuition charges and applicable fees. The W grade does not affect the calculation of the GPA but it does impact a student's academic progression, which may result in the student being placed on academic probation or dismissal.

Students must withdraw from courses using the Student Hub.

A reduction in a student's course load could affect a student's international student visa status or financial aid eligibility.

Students who experience difficulty withdrawing from a course should promptly contact the Service Desk at 617.373.4357 (HELP); help@northeastern.edu.

Students who fail to withdraw from a course by the deadline, regardless of their level of class participation or attendance, are financially and academically responsible. A student's lack of participation/attendance will likely result in a final grade of F.

Withdrawals may impact a student's time to degree completion.

Reinstatement after Academic Dismissal

A student who is academically dismissed from the College of Professional Studies is not eligible to register again for courses at CPS until they are approved for reinstatement. A student may apply for reinstatement after a minimum of one academic term if they can provide documented evidence supporting the application (e.g., completed two graduate courses with a grade of B or higher at another accredited college or relevant professional development opportunities during the one-term absence). The application must be made in writing by submitting the appropriate form and providing supporting documentation to the Office of Academic Advising (https://cps.northeastern.edu/academic-resources/advising/).

If reinstatement to the college is approved, a student is expected to meet the most current program admissions and curriculum requirements.

A student approved for reinstatement but who does not meet the admissions requirements for the intended program of study, or if the intended program of study is no longer available, may apply to another program.

Students reinstated must achieve good academic standing in the first term of reinstatement.

Seeking More than One Certificate or Degree

A graduate (nondoctoral) student can be enrolled in only one graduate program at a time.

Graduate (nondoctoral) students seeking more than one certificate or degree after having completed a program should note that graduate credits earned toward:

1. A degree at any institution may not be used to satisfy the requirements of another graduate program.
2. A degree earned at the College of Professional Studies may be used to satisfy the requirements of a graduate certificate with a cap of 50% of the required credits of a graduate certificate, if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the certificate.
   a. If the same course is required in the degree and certificate programs and the student has exceeded the maximum number of credits that can be applied in the certificate program, they may request a course substitution to be permitted to take another course instead of repeating the course.
3. With specified exception, a certificate earned at the College of Professional Studies may be used to satisfy the requirements of a graduate degree, if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the degree.
4. A certificate earned at the College of Professional Studies may be used to satisfy the requirements of a second certificate with a cap of one course of no more than 4 credits, if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the certificate.
   a. If the same course is required in both certificate programs and the student has exceeded the maximum number of credits that can be applied in the second certificate program, the student will request a course waiver to be permitted to take another course instead of repeating the course. See Course Waiver (p. 801) section.
5. A certificate earned at another accredited institution may be accepted as transfer credits to satisfy the requirements of a graduate degree with a cap of four 3-credit courses or three 4-credit courses (no more than 12 credits), if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the degree.

A graduate (nondoctoral) degree student who wishes to pursue a graduate certificate concurrently may seek admission in the certificate program by the end of their first term of matriculation in the degree program. Courses that satisfy requirements for both the degree and certificate will count for each.

- When the certificate is identical to a concentration in a degree program, only the certificate credential will be earned. The student's transcript will not indicate completion of a concentration.

Special Student Status

Graduate applicants to the College of Professional Studies may be eligible to take up to 16 graduate (nondoctoral) quarter hours toward their program while completing the formal application process by seeking special student status (http://www.cps.neu.edu/admissions/graduate/special-students.php).

- Students taking courses under special student status are expected to satisfy applicable course prerequisites before enrolling in a course.
- Students taking courses under special student status are not eligible for financial aid.
- Special student status does not guarantee acceptance.
- The maximum number of courses students may take under special student status is two. After completing two courses, students will be blocked from further course registration until they have been officially accepted into a program.

The following programs are not available for special student status: Master of Arts in Teaching (MAT); Master of Education, Special Education Concentration; Master of Science in Applied Nutrition; Doctor of Education; Doctor of Law and Policy.

Special student status is not an option for students seeking an F-1 visa.

Student Evaluation of Courses

Students play a critical role in the university's commitment to quality teaching and academic excellence when they participate in the evaluation of courses, an online survey students complete anonymously. Students are expected to participate in the course evaluation process with constructive feedback that is relevant to teaching and course content.

Students may access the course evaluation summary results from previous terms via the Student Hub (https://me.northeastern.edu/). Courses with three or fewer students enrolled are not surveyed.

Transfer Credit Policies

All graduate transfer credit awards are made on a case-by-case basis. Transfer credit awards are made for eligible courses successfully completed at regionally and programmatically accredited institutions. The Council for Higher Education Accreditation provides information about the organizations responsible for these two forms of accreditation. Official transcripts from all institutions should be sent directly to the College of Professional Studies Office of Admissions at the time of application.

Students seeking transfer credits earned at institutions outside the United States should submit an official English evaluation completed by an approved credential evaluator. Course descriptions and/or syllabi also should be translated into English and submitted to the College of Professional Studies Office of Admissions.

A maximum of 12 quarter hours or four 3-credit courses or three 4-credit courses obtained at another institution may be accepted as transfer toward the degree, provided the credits consist of work taken at the graduate level for graduate credit, carry minimum grades of B (or 3.000 on a 4.000 scale), have been earned at an accredited institution or equivalent, and have not been used toward any baccalaureate or advanced degree or certificate of advanced graduate study at another institution.

Transfer credits must be no more than five academic years old at the time the student is admitted to graduate study. Courses older than five years will be accepted only in rare circumstances.

Prior Learning Assessment

Students may be eligible for PLA credit if they have accrued a foundation of knowledge and skills equivalent to the content of courses offered by the College of Professional Studies.

Awarded credits are incorporated into a student's degree plan as transfer credits and are subject to the university's residency requirement. PLA credit is limited to a maximum of 12 quarter hours for graduate students. Acceptable credits for PLA review are credits from certificates, training, and a portfolio review of prior work experience. As part of consideration for PLA credits, faculty will evaluate and map learning outcomes and achievement in alignment with NECHE accreditation requirements.

Potential PLA credits should be considered and discussed as part of a student's transfer credits at the time of enrollment. Interested students should contact their academic advisor for more information.

Graduate Certificate Transfer Credit Policies

- A maximum of 4 quarter hours of transfer credit

Master's Degree Transfer Credit Policies

- A maximum of 12 quarter hours of transfer credit

Doctoral Degree Transfer Credit Policies

- A maximum of 9 quarter hours of transfer credit for Doctor of Education students
- A maximum of 8 quarter hours of transfer credit for Transitional Doctor of Physical Therapy students
- No transfer credit is awarded for students in the Doctor of Law and Policy program

Doctoral Degree Programs

Designed to provide you with the skills and knowledge needed to succeed, Northeastern University's College of Professional Studies doctoral programs are guided by industry-leading faculty and built on a foundation of experience in policy, research, and administration. Reach the top of your field with coursework and research projects that are relevant to today's professional on a schedule that fits your lifestyle.

Programs

Doctor of Education (EdD)

- Education (p. 809)

Doctor of Law and Policy (DLP)

- Law and Policy (p. 813)

Transitional Doctor of Physical Therapy (DPT)

- Transitional Doctor of Physical Therapy (p. 814)

Education, EdD

The Doctor of Education (EdD) empowers students to bring about solutions to complex problems of practice in their local context, while leveraging a global network to magnify students' boundless experiential learning to build a more socially just world. The Dissertation in Practice, the culminating component of the degree, is designed to prepare leaders who can construct and apply knowledge to transform their organizations and communities through laboratories of practice where students implement change and then measure and analyze the impact to improve their professional practice. This knowledge is the start of students' potential for meaningful change work. Students magnify their ability to generate socially just change by leveraging Northeastern University's global network of students, alumni, employers, and entrepreneurs.

Admission Requirements

Note that all Doctor of Education degrees offered through the College of Professional Studies have the following admission requirements:

- Online application
- Academic transcripts (undergraduate **and** graduate)
- Admissions statement (1,000–1,200 words)
- Minimum of three years of professional work experience in a related field
- Professional resumé
- Faculty recommendation
- Two professional recommendations
- English-language proficiency proof (for non-native English-language speakers)

HIGHER EDUCATION ADMINISTRATION CONCENTRATION

The Higher Education Administration concentration provides an opportunity for experienced higher education professionals to examine new and deepen previous understanding of practices within all sectors of postsecondary education. Sectors examined include community colleges, four-year colleges, for-profit institutions, and research universities. The increased globalization of higher education is addressed throughout the program. The concentration courses allow experienced higher education professionals to advance their professional practice by developing and deepening their understanding of the roles of colleges and universities in our society. Specifically, this concentration provides the opportunity to:

1. Be well-grounded in areas essential to understanding and articulating the educational roles of colleges and universities that include:
   - Cultural, ethical, and societal issues that affect higher education
   - History of higher education worldwide
   - Organization, governance, leadership, and administrative theories and practices
   - Higher education finance, law, and planning
2. Develop skills and knowledge for establishing and sustaining initiatives in higher education.
3. Address the challenge of ensuring educational equity through an evaluation of the roles, functions, and interrelationships among a college's or university's major constituents, including students, faculty, staff, and alumni.
4. Conduct research at the worksite that contributes to the resolution of an urgent and complex problem of practice.

INNOVATIVE TEACHING AND LEARNING

The Innovative Teaching and Learning concentration focuses on transforming education through innovation, justice, and policy by providing engaging opportunities for current and aspiring teaching and learning specialists working in a variety of educational spaces. In a global, ever-changing educational environment, cultivating strong teaching and learning specialists is critical to building strong, safe, and equitable learning spaces. The concentration focuses on teaching and learning both inside and outside the bounds of P–20 schools. Through a focus on developing and leading innovative curriculum and professional development, the coursework and programmatic experiences are experiential—offers opportunity for learning and growth in connection with partners in the field; modular—develops specialized professional knowledges; and justice-oriented—enables an understanding of change processes that deconstruct systemic injustice at all educational levels. Specifically, the Innovative Teaching and Learning concentration provides the opportunity to:

- Develop the ability to improve teaching and learning through innovation
- Design classroom, curriculum, and professional development that lead to greater achievement and equity
- Design systems to address race, class, and gender inequities in education
- Leverage partnerships with business and community to expand networks and experiences

INTEGRATIVE STUDIES CONCENTRATION

The Integrative Studies Concentration provides an opportunity for students to design a program of study that includes the program-required foundation and research courses, concentration courses from any EdD concentration, and electives from the Doctor of Education or Doctor of Law and Policy programs.

TRANSFORMATIVE SCHOOL LEADERSHIP

The Transformative School Leadership concentration provides innovative opportunities for experienced education professionals who are current and aspiring leaders of early childhood centers, public or private schools, or school districts. In a global, ever-changing educational environment, cultivating strong educational leaders is critical to building strong, safe, and equitable learning spaces. In preparing to meet complex and nuanced

educational challenges, school leaders need to be knowledgeable and innovative, capable of facilitating the generation and advancement of new ideas and strategic initiatives, and equipped to shape the needs of education in K–12, higher education, organizational contexts, and beyond. Through deeper engagement with these components, the Transformative School Leadership concentration prepares students to lead and transform educational spaces P–12. The coursework and programmatic experiences are experiential—offers opportunity for learning and growth in connection with partners in the field; modular—develops specialized professional knowledges; and justice-oriented—enables an understanding of change processes that deconstruct systemic injustice at all educational levels. Specifically, this concentration provides the opportunity to:

- Develop the ability to shape a vision of academic success for all students
- Develop leadership capacity in others
- Manage people, data, and processes to develop innovative skills and knowledge
- Design systems to address race, class, and gender inequities in education
- Leverage partnerships with business and community to expand networks and experiences

WORKPLACE LEARNING

The Workplace Learning concentration embraces the value of equity through instruction grounded in the concept of enabling people of all backgrounds, networking across the globe, to achieve their potential and the belief that social issues matter in workplace learning and development. This doctoral concentration in Workplace Learning helps learning professionals gain a deeper understanding of, recognize, and influence real-life social inequalities marginalized populations face in the workplace. The concentration courses allow experienced learning professionals to advance their professional practice by developing and deepening their understanding of workplace learning, organizational dynamics, learning strategy, and ethics. Specifically, this concentration provides the opportunity to:

- Articulate the issues facing workplace learning
- Develop skills and knowledge for establishing and sustaining initiatives and partnerships in workplace learning
- Conduct research in the workplace that contributes to the resolution of an urgent and complex problem of practice

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Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal CAGS Education Leadership Management *(*https://catalog.northeastern.edu/graduate/professional-studies/doctoral-degree-programs/education-leadership-management-cags/#text*). Note that no students will be admitted directly into the* CAGS Education Leadership Management *(*https://catalog.northeastern.edu/graduate/professional-studies/doctoral-degree-programs/education-leadership-management-cags/#text*) program.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Note: A minimum of 51 quarter hours must be taken at the College of Professional Studies.

Required Foundation Courses

Code	Title	Hours
EDU 7207	Foundations of Doctoral Studies	3
EDU 7218	Leadership for Social Justice	3
EDU 7219	Foundations of Collaboration, Leadership, and Change	3

Required Research Courses

Code	Title	Hours
EDU 7225	Fundamentals of Research	3
EDU 7226	Research Design	3
EDU 7294	Advanced Research Design 1	3
EDU 7295	Dissertation in Practice Seminar	3
EDU 7310	Advanced Research Design 2	3

Concentrations

Complete one of the following concentrations:

- Higher Education Administration
- Innovative Teaching and Learning
- Integrative Studies
- Transformative School Leadership (p. 812)
- Workplace Learning (p. 812)

Dissertation in Practice

Code	Title	Hours
EDU 8750	Proposal, Action Step, and Evaluation	6
EDU 8760	Action Research Results and Dissemination	6

Residency Requirement: Each student is required to attend two residency events. Dates and other event information are released annually. Seattle and Charlotte students will satisfy residency requirements through regional campus hybrid coursework.

Elective List

Complete four courses from the EDU 7000 level. Below is a list of courses regularly offered as electives within the Doctor of Education program.

Code	Title	Hours
EDU 7227	The Power of Experiential Learning	
EDU 7228	Bringing Experiential Learning, Assessment, and Reflection to Life	
EDU 7229	The Experiential Learning Leader	
EDU 7230	Current and Emerging Practice in STEM Education	
EDU 7245	Urban Education	
EDU 7251	Student Engagement in Higher Education	
EDU 7256	Financial Decision Making in Higher Education	
EDU 7260	Comparative International/Global Higher Education	
EDU 7261	International Student Markets	
EDU 7266	Contemporary Issues in Community Colleges	
EDU 7274	Doctoral Seminar in Organizational Leadership and Communication	
EDU 7314	Collaboration and Networks in Educational Leadership	
EDU 7317	Collaboration and Networks in Teaching and Learning	
EDU 7510	Data-Driven Decision Making	
EDU 7511	Digital Workplace Learning	

Doctor of Education Advanced Graduate Credit (https://cps.northeastern.edu/admissions-aid/graduate-admissions/graduate-transfer-credit/doctor-of-education-advanced-graduate-credit/)

Program Credit/GPA Requirements

60 total quarter hours required
Minimum 3.000 GPA required

HIGHER EDUCATION ADMINISTRATION

Code	Title	Hours
EDU 7204	Global and Historical Perspectives on Higher Education	3
EDU 7250	Organizational Systems and Institutional Governance	3
EDU 7253	The Legal Environment of Higher Education	3
EDU 7258	Strategic Management in Higher Education	3

INNOVATIVE TEACHING AND LEARNING

Code	Title	Hours
EDU 7217	Educational Systems: The Dynamics of Policy, Power, and Practice	3
EDU 7311	Designing Educational Systems for Justice and Equity	3
EDU 7315	Landscape of Teaching and Learning	3
EDU 7316	Designing Transformative Curriculum and Professional Development	3

INTEGRATIVE STUDIES

Code	Title	Hours
Required Courses		
Complete EDU courses from any other program concentration.		12
Elective Courses		
Complete EDU 7000 courses from the program elective list and any LWP 7000-level course.		12

TRANSFORMATIVE SCHOOL LEADERSHIP

Code	Title	Hours
EDU 7217	Educational Systems: The Dynamics of Policy, Power, and Practice	3
EDU 7311	Designing Educational Systems for Justice and Equity	3
EDU 7312	Landscape of Educational Leadership	3
EDU 7313	Leading and Managing Change	3

WORKPLACE LEARNING

Code	Title	Hours
EDU 7501	Designing Workplace Learning	3
EDU 7502	The Dynamics of Workplace Learning	3
EDU 7503	Leading the Learning Strategy	3
EDU 7504	Diversity, Equity, and Inclusion in Workplace Learning	3

Law and Policy, DLP

Public servants, executives, and managers operate in an increasingly complex global environment. A doctoral education seeks to provide the policy, analytic, and research skills necessary to advance one's career.

Developed jointly by the College of Professional Studies and Northeastern's Public Policy program, the Doctor of Law and Policy program (DLP) is designed for experienced professionals who are interested in the origins, development, implementation, and analysis of legal and public policy decisions in government and related institutions. The program prepares students to advance their careers within a variety of fields while focusing their thesis research on a precise law and policy topic.

Students undertake the DLP in order to understand the ways in which public and related institutions formulate and execute policy. Students have the opportunity to develop the ability to interpret and assess the research of others, to acquire skills as researchers, and to communicate their knowledge to a wide range of audiences. Those who successfully complete the degree are equipped to bring their skills and knowledge to senior policy and management positions in government, nonprofit agencies, research organizations, consulting firms, and corporations.

The DLP program is structured so course work and the doctoral thesis can be completed in two years. Classes meet one weekend per month in Boston, and the learning continues online throughout the rest of the month.

Northeastern University also offers a traditional PhD in Public Policy. To learn more, visit the Public Policy program website (https://cssh.northeastern.edu/policyschool/program/phd-in-public-policy/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LWP 6118	Historical Foundations of American Law	3
LWP 6119	Current Law and Policy Debates: Our Nation's Capital and Beyond	3
LWP 6120	Law and Legal Reasoning 1	3
LWP 6401	Law and Policy Concepts 1: The Policymaking Process	3
LWP 6424	Research Methods	3
LWP 6121	Law and Legal Reasoning 2	3
LWP 6402	Law and Policy Concepts 2: Strategizing for Public Policy	3
LWP 6423	Qualitative Methods	3
LWP 6122	Law and Legal Reasoning 3	3
LWP 6403	Law and Policy Concepts 3: Policy Case Studies	3
LWP 6420	Quantitative Methods	3
LWP 6123	Law and Legal Reasoning 4	3
LWP 6410	Economics for Policy Analysis	3
LWP 6404	Evaluation Research	3
LWP 6431	Political and Moral Ethics and Dilemmas	3
LWP 6500	Doctoral Research Design 1	3
LWP 6450	Public Policy Theory and Practice 1	3
LWP 6501	Doctoral Research Design 2	3
LWP 6451	Public Policy Theory and Practice 2	3
LWP 6502	Doctoral Research Design 3	3
LWP 6452	Public Policy Theory and Practice 3	3
LWP 6503	Doctoral Research Design 4	6

Program Credit/GPA Requirements

69 total quarter hours required
Minimum 3.000 GPA required

Transitional Doctor of Physical Therapy, DPT

Designed for practicing physical therapists, the Transitional Doctor of Physical Therapy (tDPT) is an innovative, 100 percent online program. Integrating art and science, as well as professional and experiential learning, this curriculum provides the necessary coursework to earn a terminal doctoral degree in physical therapy. Students who have earned a bachelor's degree in physical therapy will enter the program as Direct Entry students and will be required to take a core of six courses plus two electives (33 quarter hours). Students who have previously earned a master's degree in physical therapy will be required to take five core courses and one elective (24 quarter hours). All students will culminate their tDPT curriculum with the capstone course, Comprehensive Case Analysis (PTH 6900). Students have an opportunity to prepare a comprehensive and publishable case report or other scholarly work in partial fulfillment of the requirement for a tDPT degree.

Upon entrance to the Transitional Doctor of Physical Therapy program, students will select either the educational or clinical track to follow. Selecting the educational track will enable the student to focus their coursework within the educational realm. Selecting the clinical track will allow the student to focus on current clinical practice in their elective(s) as well as completing a capstone project within their clinical domain.

One of the two elective requirements may be waived in certain circumstances, i.e., if the physical therapist holds an ABPTS or similar certifications. In certain circumstances, other elective options may be considered with program director approval. Students work with their advisor and the program director for their individual course plan of study.

Direct Entry Program Requirements (BS)

Note: 33 quarter hours are required for students entering with a Bachelor of Science in Physical Therapy.

Required Courses

Code	Title	Hours
PTH 6110	Diagnostic Imaging	4
PTH 6101	Medical Screening and Nutrition for Physical Therapists	5
PTH 6130	Pharmacology	3
PTH 6140	Motor Control	4
PTH 6200	Research Methods and Statistical Analysis	5
PTH 6900	Comprehensive Case Analysis	4

Upon entrance to the Transitional Doctor of Physical Therapy program, students will select either the educational or clinical track.

Educational Track

Code	Title	Hours
PTH 6430	Educational Strategies for Effective Healthcare Delivery	4
PTH 6235	Administrative and Management Keys for Contemporary Physical Therapist Practice	4

Clinical Track

Code	Title	Hours
Complete two of the following:		8
PTH 6480	Evidence-Based Exercise for the Older Adult	
PTH 6490	Pediatric Physical Therapy: Emerging Topics and Evidence-Based Practice	
PTH 6563	Evidence-Based Examination and Outcomes for Lumbar Spine and Sacroiliac Joint	
PTH 6564	Evidence-Based Examination and Outcomes for Lower Extremity: Hip, Knee, Foot, and Ankle	

Program Credit/GPA Requirements

33 total quarter hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements (MS)

Note: 24 quarter hours are required for students entering with a Master of Science in Physical Therapy.

Required Courses

Code	Title	Hours
Required Core		
PTH 6101	Medical Screening and Nutrition for Physical Therapists	5
PTH 6110	Diagnostic Imaging	4

PTH 6130	Pharmacology	3
PTH 6140	Motor Control	4
PTH 6900	Comprehensive Case Analysis	4

Upon entrance to the Transitional Doctor of Physical Therapy program, students will select either the educational track or clinical track.

Educational Track

Code	Title	Hours
PTH 6430	Educational Strategies for Effective Healthcare Delivery	4

Clinical Track

Code	Title	Hours
Complete one of the following:		4
PTH 6480	Evidence-Based Exercise for the Older Adult	
PTH 6490	Pediatric Physical Therapy: Emerging Topics and Evidence-Based Practice	
PTH 6563	Evidence-Based Examination and Outcomes for Lumbar Spine and Sacroiliac Joint	
PTH 6564	Evidence-Based Examination and Outcomes for Lower Extremity: Hip, Knee, Foot, and Ankle	

Program Credit/GPA Requirements

24 total quarter hours required
Minimum 3.000 GPA required

Master's Degree Programs

Our master's degree programs are grounded in theory and applied in practice, representing today's in-demand fields like education, technology, project management, and regulatory affairs. Gain the knowledge and credentials that employers seek with courses designed to accommodate your life. Programs are led by industry professionals and are offered both full- or part-time online, on campus, or in a hybrid format.

Programs

Master of Arts (MA)

- Security and Intelligence Studies (p. 817)

Master of Arts in Teaching (MAT)

- Teaching, Elementary Licensure (p. 819)
- Teaching, Secondary Licensure (p. 821)

Master of Education (MEd)

- Education (p. 824)
- Higher Education Administration (p. 826)

Master of Professional Studies (MPS)

- Analytics (p. 827)
- Applied Logistics (p. 829)
- Applied Machine Intelligence (p. 831)
- Digital Media (p. 833)
- Digital Media—Connect (p. 836)
- Geospatial Services (p. 839)
- Informatics (p. 841)
- Insurance Analytics and Management (p. 844)
- Learning Experience Design and Technology (p. 846)

Master of Science (MS)

- Applied Nutrition (p. 848)
- Commerce and Economic Development (p. 851)
- Corporate and Organizational Communication (p. 853)
- Global Studies and International Relations (p. 861)
- Human Resources Management (p. 857)
- Nonprofit Management (p. 864)
- Organizational Leadership (p. 868)
- Project Management (p. 871)
- Regulatory Affairs (p. 874)

Master of Sports Leadership (MSLD)

- Sports Leadership (p. 877)

Security and Intelligence Studies, MA

The Master of Arts in Security and Intelligence Studies aims to prepare professionals working in the security industry, and other related industries, for success as leaders in the field of security in an ever-changing, challenging global environment. This program will serve the mounting need for talent in the security field in both the government and private sectors.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CJS 6125	National Security—Law and Policy	3
HLS 6000	Introduction to Homeland Security	3
HLS 6010	Contemporary Threats to Homeland Security	3
SIA 6040	The Intelligence Community and Interagency Collaboration	3
SIA 6140	Civil Liberties and Security	3
SIA 6980	Capstone	3

Concentrations

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list.

- Corporate Security Management (p. 817)
- Homeland Security and Emergency Management (p. 817)
- Strategic Intelligence and Analysis (p. 817)

Electives

Code	Title	Hours
Complete courses in the following subjects areas at the 5000 level or above to reach 45 quarter hours: CJS, GST, HLS, LDR, PJM, SIS.		

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

CORPORATE SECURITY MANAGEMENT

Code	Title	Hours
CJS 6430	Risk Management	3
HLS 6080	Continuity of Operations and Planning	3
HLS 6150	Essentials of Emergency Management	3
SIA 6150	Corporate Security and Investigations	3
SIA 6160	Information Systems Policy	3

HOMELAND SECURITY AND EMERGENCY MANAGEMENT

Code	Title	Hours
HLS 6040	Critical Infrastructure and Protection	3
HLS 6060	Strategic Planning and Budgeting	3
HLS 6080	Continuity of Operations and Planning	3
HLS 6150	Essentials of Emergency Management	3
HLS 6160	Advanced Emergency Management	3

STRATEGIC INTELLIGENCE AND ANALYSIS

Code	Title	Hours
SIA 6010	Intelligence Operations Management	3
SIA 6020	Globalization and Intelligence Issues	3
SIA 6030	Intelligence Analysis and Policy Relationship	3

SIA 6050	All-Source Intelligence	4
SIA 6170	Counterintelligence	3

Elementary Education, MAT

Designed for Massachusetts-based aspiring teachers and career changers, the Master of Arts in Teaching in Elementary Education (MAT)[1] offers an appreciation for and an understanding of the diverse educational needs, social concerns, and cultural values of today's elementary and secondary schools. This graduate degree in teaching seeks to enhance your foundational skills, broaden your perspectives, and strengthen your ability to inspire and educate. The master's degree, which includes a full term of student teaching and prepracticum experiential fieldwork, seeks to produce graduates well positioned to make a meaningful impact in their school, in their community, and in the lives of their students.

The Elementary MAT+ provides qualifying students with the opportunity to complete a Master of Arts in Teaching (MAT) with further study in a selected area of expertise. Currently, students can take additional coursework to earn either endorsement for an additional license in special education (Teacher of Students of Moderate Disabilities, PreK–8) or endorsement for an additional license in ESL (Teacher of English as a Second Language, Pre-K–6) to the Massachusetts Department of Elementary and Secondary Education. Teacher candidates may also plan a program of study that allows for triple licensure in consultation with the program director.

A formal application for approval or placement of field-based experiences for prepracticum and practicum requirements must be filed with the Office of Licensure and Field Experience before a student may enroll in a course requiring fieldwork. Deadline for fall placements and approvals must be completed by April 1st (of the previous spring quarter), October 1st for winter placements and approvals, and February 1st for spring placements and approvals.

1 The MAT Elementary (grades 1–6) has been approved at the initial licensure level by the Massachusetts Department of Elementary and Secondary Education.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6086	Foundations of Literacy Development and Instruction	4
EDU 6101	Critical Issues in Education: Past and Present	2
EDU 6102	Reflection, Community Engagement, and Agency in Education	2
EDU 6104	Child and Adolescent Development, Learning, and Teaching	4
EDU 6107	Inclusion, Equity, and Diversity [1]	4
EDU 6154	Inquiry in the Sciences and Humanities	4
EDU 6155	Inquiry in Mathematics [2]	4
EDU 6183	Collaborative Strategies for Effective Classroom Management	3
Complete one of the following:		
For students pursuing emergency elementary teaching licenses or ESL+ licensure in Massachusetts		
EDU 6513	Sheltered English Immersion in the General Classroom	4
For students not pursuing emergency elementary licenses and ESL+ licensure in Massachusetts		
EDU 6185	English-Language Learners in the General Education Classroom	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6866	Teaching Practicum and Seminar	6

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Program Credit/GPA Requirements

45 total quarter hours required (additional hours may be required for endorsement for Massachusetts licensure)
Minimum 3.000 GPA required

ELEMENTARY MAT+ SPECIAL EDUCATION

The special education course requirements are:

Code	Title	Hours
EDU 6425	Special Education: Role of Special Educators in an Inclusive School [1]	4
EDU 6429	Variations in Child and Adolescent Development	4

EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	4
EDU 6569	Differentiated Instruction and Assessment in Mathematics	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

[1] For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

MAT+ IN ENGLISH AS A SECOND LANGUAGE (ESL)

This Commonwealth of Massachusetts-approved MAT+ program consists of five courses, some of which may be taken as electives in the MAT program.

The English as a Second Language course requirements are:

Code	Title	Hours
EDU 6300	Introduction to Language and Linguistics	4
EDU 6310	Literacy Development and the Academic Domains [1]	4
EDU 6429	Variations in Child and Adolescent Development	4
EDU 6517	Foundations of Teaching English as a Second Language: Research and Practice [2]	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

[1] For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

[2] For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Secondary Education, MAT

Designed for Massachusetts-based aspiring teachers and career changers, the Master of Arts in Secondary Education (MAT)[1] offers an appreciation for and an understanding of the diverse educational needs, social concerns, and cultural values of today's secondary schools.

This MAT in Secondary Education seeks to enhance your foundational skills, broaden your perspectives, and strengthen your ability to inspire and educate. This master's degree, which includes a full term of student teaching, seeks to produce graduates well positioned to make a meaningful impact in their school, in their community, and in the lives of their students.

- Gain political, social, and historical perspectives on education
- Explore the richly complex environments of schools and communities
- Develop a working understanding of teaching and learning in diverse settings
- Investigate how humans learn, acquire knowledge, and make sense of their experiences
- Examine theories of teaching and explore how best to teach for understanding and learning achievement
- Research methods and materials, pedagogies, and assessment strategies that foster integrated learning

Options for endorsement to licensure include history, 5–12; biology, 8–12; social science, 5–12; English, 5–12; mathematics, 8–12; chemistry, 8–12; earth and space science, 8–12; political science/political philosophy, 8–12; or physics, 8–12. Determination of program of study to be made by faculty review at time of admission.

The MAT+ offers qualifying students the opportunity to complete a MAT with further study in a selected area of expertise. Currently, students can take additional coursework to earn either endorsement for an additional license in special education (Teacher of Students of Moderate Disabilities, 5–12) or an endorsement for an additional license in ESL (Teacher of English as a Second Language, 5–12) to the Massachusetts Department of Elementary and Secondary Education.

A formal application for approval or placement of field-based experiences for prepracticum and practicum requirements must be filed with the Office of Licensure and Field Placement before a student may enroll in a course requiring fieldwork. Deadline for fall placements and approvals must be completed by April 1 (of the previous spring quarter), October 1 for winter placements and approvals, and February 1 for spring placements and approvals.

1 The Master of Arts in Teaching Secondary Education (grades 5–12 or 8–12 dependent on content area) has been approved at the initial licensure level by the Massachusetts Department of Elementary and Secondary Education.

2 For students who do not pass or complete their Gateway Performance Task I in this course, complete Project (EDU 6995) to meet programmatic and endorsement requirements.

3 For students who do not pass or complete their Gateway Performance Task II in this course, complete Project (EDU 6995) to meet programmatic and endorsement requirements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6064	Curriculum and Assessment	4
EDU 6101	Critical Issues in Education: Past and Present	2
EDU 6102	Reflection, Community Engagement, and Agency in Education	2
EDU 6104	Child and Adolescent Development, Learning, and Teaching	4
EDU 6107	Inclusion, Equity, and Diversity [1]	4
EDU 6162	Language, Culture, and Literacy in Middle and High Schools	4
Complete one of the following:		
For students pursuing emergency secondary teaching licenses or ESL+ licensure in Massachusetts		
EDU 6513	Sheltered English Immersion in the General Classroom	
For students not pursuing emergency secondary licenses and ESL+ licensure in Massachusetts		
EDU 6185	English-Language Learners in the General Education Classroom	
Complete the following:		
EDU 6183	Collaborative Strategies for Effective Classroom Management	3
EDU 6866	Teaching Practicum and Seminar	6
Complete one of the following:		4
EDU 6122	Teaching the Language Arts [2]	

EDU 6124	Teaching History and the Social Sciences [2]
EDU 6127	Teaching Science [2]
EDU 6129	Teaching Mathematics [2]

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Elective Courses

Code	Title	Hours
Complete 4 quarter hours from the following:		4
EDU 6184	Interdisciplinary Foundations	
EDU 6300	Introduction to Language and Linguistics	
EDU 6425	Special Education: Role of Special Educators in an Inclusive School	
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	
EDU 6429	Variations in Child and Adolescent Development	
EDU 6438	Teachers as Curriculum Leaders	
EDU 6465	Critical and Creative Thinking	
EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	
EDU 6569	Differentiated Instruction and Assessment in Mathematics	

Program Credit/GPA Requirements

45 total quarter hours required (additional hours may be required for endorsement for Massachusetts licensure)
Minimum 3.000 GPA required

LOOKING TO DEEPEN YOUR KNOWLEDGE AND EXPERTISE?

The MAT+ offers qualifying students the opportunity to complete a MAT with further study in a selected area of expertise. Currently, students can take additional coursework to earn either an additional license in special education (Teacher of Students of Moderate Disabilities, pre-K–8 or 5–12) or an additional license in ESL (Teacher of English as a Second Language, pre-K–6 or 5–12).

MAT+ IN SPECIAL EDUCATION

The MAT+ provides qualifying students with the opportunity to complete a Master of Arts in Teaching (MAT) with further study in a selected area of expertise. Currently, students can take additional coursework to earn either an additional license in special education (Teacher of Students of Moderate Disabilities, pre-K–8 or 5–12) or an additional license in ESL (Teacher of English as a Second Language, pre-K–6 or 5–12). Teacher candidates may also plan a program of study that allows for triple licensure in consultation with the program director.

The special education course requirements are:

Code	Title	Hours
EDU 6425	Special Education: Role of Special Educators in an Inclusive School [1]	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	4
EDU 6569	Differentiated Instruction and Assessment in Mathematics	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

MAT+ IN ENGLISH AS A SECOND LANGUAGE (ESL)

This Commonwealth of Massachusetts-approved MAT+ program consists of five courses, some of which may be taken as electives in the MAT program.

The English as a Second Language course requirements are:

Code	Title	Hours
EDU 6300	Introduction to Language and Linguistics	4
EDU 6310	Literacy Development and the Academic Domains [1]	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6517	Foundations of Teaching English as a Second Language: Research and Practice [2]	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Education, MEd

Learning and Instruction Concentration

The learning and instruction concentration in the MEd program is designed for teachers and leaders in K–12-focused schools and community organizations that want to lead change and expand equity in their classrooms, schools, or educational communities. Graduate students examine the impact of local, national, and global changes on educational policy and practice. They deepen their ability to effectively engage diverse students in meaningful learning through coursework focused on curriculum and assessment, teaching and learning, and experiential education.

Students pursuing Massachusetts ESL, pre-K–12, initial licensure: This program meets Massachusetts Department of Elementary and Secondary Education standards and competencies for licensure as an English as a Second Language Teacher, pre-K–6 and 5–12.

Special Education Concentration

Demand for graduate-level-prepared special education practitioners is on the rise, driven by heightened degree requirements and a shortage of licensed, qualified teachers. In response, the College of Professional Studies is pleased to offer the Master of Education with Concentration in Special Education. Designed for educators who are licensed in Massachusetts at the initial or professional level in another discipline, this innovative master's degree program seeks to prepare you to meet the special needs of students across a variety of school environments.

This program meets Massachusetts Department of Elementary and Secondary Education standards and competencies for licensure as a Teacher of Students with Moderate Disabilities, pre-K–8 and 5–12.

In this advanced program, you have an opportunity to explore specific topics on modifying curriculum, designing curriculum-based assessments, managing severe behaviors, developing individualized education programs, leveraging community resources, and improving literacy. As a result, you have an opportunity to enhance your ability to meet the needs of a diverse student population and to achieve the competencies required for this specialized license.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6050	Education as an Advanced Field of Study	5
EDU 6051	Introduction to Social Justice in Educational Settings	4

Concentration

Complete one of the following concentrations. Students must successfully complete all licensure courses with a grade of B or better in order to progress into their next licensure course.

- Learning and Instruction
- Special Education

Program Credit/GPA Requirements

45 total quarter hours required (additional hours may be required for endorsement for Massachusetts licensure)
Minimum 3.000 GPA required

CONCENTRATION IN LEARNING AND INSTRUCTION

Code	Title	Hours
Required Courses		
EDU 6319	How People Learn	4
EDU 6336	Data Literacy for Data-Driven Decision Making	4
EDU 6410	Instructional Leadership [5]	4
EDU 6415	Law, Policy, and the Ecosystem of Education	4
Capstone		
EDU 6225	Capstone (to be taken last) [1]	4
or EDU 6874	Practicum, Portfolio, and Panel Review	
Electives		
Complete 16 quarter hours at the EDU 6000 level. Below is a list of elective options.		16
Experiential Teaching and Learning Electives		
EDU 6001	Experiential Learning Theory and Practice	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	

EDU 6003	Applied Research in Experiential Teaching and Learning
EDU 6004	Leading Experiential Teaching and Learning
Learning Experience Design Technology Electives	
EDU 6331	E-Learning Design as a Collaborative Profession
EDU 6332	Open Learning
EDU 6333	Social Media and Beyond
Generalist Electives	
EDU 6182	Educational Statistics
EDU 6227	The New Supervisor
EDU 6228	Supervising Through Change
EDU 6229	Challenges in Supervision
EDU 6231	Crisis Management
EDU 6329	Connecting Theory and Practice
EDU 6340	Learning Analytics Concepts and Theories
EDU 6558	Issues in Education
ESL Massachusetts Licensure Pathway	
EDU 6300	Introduction to Language and Linguistics
EDU 6310	Literacy Development and the Academic Domains [2]
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction
EDU 6513	Sheltered English Immersion in the General Classroom [4]
or EDU 6185	English-Language Learners in the General Education Classroom
EDU 6517	Foundations of Teaching English as a Second Language: Research and Practice [3]

1 Complete EDU 6874 Practicum, Portfolio, and Panel Review instead of EDU 6225 Capstone, if pursuing Massachusetts ESL Licensure Pathway courses.

2 For students who do not pass or complete their Gateway Performance Task I in EDU 6310 Literacy Development and the Academic Domains, complete EDU 6995 Project to meet programmatic and licensure requirements.

3 For students who do not pass or complete their Gateway II assessment in EDU 6517 Foundations of Teaching English as a Second Language: Research and Practice, or early fieldwork, complete EDU 6995 Project to meet programmatic and licensure requirements.

4 EDU 6513: For students pursuing emergency secondary teaching licenses or ESL+ licensure in Massachusetts.

5 Required for nonlicensure and licensure programs of study except ESL Massachusetts Licensure Pathway. ESL Massachusetts Licensure Pathway students may substitute EDU 6410 Instructional Leadership with the completion of all ESL Massachusetts Licensure Pathway courses .

CONCENTRATION IN SPECIAL EDUCATION

Code	Title	Hours
Required Courses		
EDU 6425	Special Education: Role of Special Educators in an Inclusive School [1]	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6438	Teachers as Curriculum Leaders	4
EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	4
EDU 6569	Differentiated Instruction and Assessment in Mathematics [2]	4
EDU 6874	Practicum, Portfolio, and Panel Review	4
Electives		
Complete 12 quarter hours at the EDU 6000 level.		12

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Higher Education Administration, MEd

Institutions of higher education around the world are facing considerable pressures that range from changing demographics to financial strain amid disruptions unimaginable 20 years ago. Administrators must develop foundational skills to create conditions that allow their students and institutions to thrive in a constantly changing world. The Master of Education in Higher Education Administration prepares practitioners for the unique and difficult challenges facing the next generation of higher education professionals. This program allows students the flexibility to build upon their skills in a customized manner with a focus on practical skills and course designs firmly grounded in experiential learning.

The Master of Education in Higher Education Administration degree program seeks to prepare student with the knowledge to understand the structure, governance, and operation of various higher education organizations. Within the context of classes, students have an opportunity to develop solutions to real world problems. This innovative master's degree program explores complex industry issues such as student demographics, financial concerns, legal and policy requirements, technology, and competitive forces.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

General Requirements

Code	Title	Hours
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6204	The Foundations of Higher Education	5

Required Courses

Code	Title	Hours
EDU 6205	The Demographics of the New College Student	4
EDU 6217	The History of Colleges and Universities	4
EDU 6218	Money Matters: Financial Management in Higher Education	4
EDU 6219	Higher Education Law and Policy	4
EDU 6234	Program Evaluation, Assessment, and Accreditation in Higher Education	4

Capstone

Code	Title	Hours
EDU 6222	Contemporary Issues Capstone	4

Electives

Code	Title	Hours
Complete 12 quarter hours at the EDU 6000 level or choose from the following courses:		12
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	
EDU 6202	Faculty, Curriculum, and Academic Community	
EDU 6216	The College Student Experience	
EDU 6224	Strategic Leadership in Enrollment Management	
EDU 6227	The New Supervisor	
EDU 6228	Supervising Through Change	
EDU 6229	Challenges in Supervision	
EDU 6231	Crisis Management	
EDU 6319	How People Learn	
EDU 6329	Connecting Theory and Practice	
LDR 6100	Developing Your Leadership Capability	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Analytics, MPS

With the proliferation of data across all sectors of the global economy, there is an immediate need for individuals to be knowledgeable in how to harness this data for continuous analysis and study. This spectrum spans from commercial to nonprofit, from higher education to government, and is constantly expanding with new sectors as data mining becomes the standard for knowledge gathering in the digital age.

The Master of Professional Studies in Analytics helps to meet the demand from employers with a graduate program that provides students with an end-to-end analytics education through a core curriculum with integrated experiential learning opportunities. The program is designed to prepare students with a deep understanding of the mechanics of working with data (i.e., its collection, modeling, and structuring), along with the capacity to identify and communicate data-driven insights that ultimately influence decisions.

Not only will students graduate with a portfolio of work samples that demonstrate their range and depth of skill, they will be part of a larger network of analytics professionals who will serve them now and in the future.

- Build portfolios of real-world projects demonstrating competency with key technologies, visualization and communication techniques, and the ability to translate information into recommended actions.
- Gain a core analytical skill set upon which to layer more specialized technical skill sets or industry-specific applications.
- Develop a relationship to industry leaders and peers so that you may leverage your Northeastern education long after your formal education ends.
- Choose from a host of flexible programming options—all of which share an industry-defined core curriculum and a required, credit-bearing experiential requirement.
- Anticipate and contribute to the future direction of data analytics.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Note: ITC 6000 is for students without prior educational or professional experience with data and database structures. Students who do not complete ITC 6000 must complete a third elective course to reach 45 quarter hours.		
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6050	Introduction to Enterprise Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
ITC 6000	Database Management Systems	3

Experiential Learning Course

Code	Title	Hours
ALY 6080	Integrated Experiential Learning	3

Experiential Capstone Course

Code	Title	Hours
ALY 6980	Capstone	3

The remaining quarter hours of the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and elective list.

Concentrations

- Applied Machine Intelligence (p. 828)
- Evidence-Based Management (p. 828)
- Statistical Modeling (p. 828)

Electives

Code	Title	Hours
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6060	Decision Support and Business Intelligence	
ALY 6110	Data Management and Big Data	
ALY 6120	Leadership in Analytics	

ALY 6130	Risk Management for Analytics
ALY 6140	Python and Analytics Systems Technology
ALY 6150	Healthcare/Pharmaceutical Data and Applications
ALY 6160	Business Intelligence in Healthcare/Pharmaceutical
ALY 6983	Topics
CED 6230	Quantitative Methods
CMN 6005	Foundations of Professional Communication
COP 6940	Personal and Career Development
EAI 6000	Fundamentals of Artificial Intelligence
EAI 6010	Applications of Artificial Intelligence
EAI 6020	AI System Technologies
EAI 6400	Data Governance and Responsible AI
EDU 6184	Interdisciplinary Foundations
GIS 5201	Advanced Spatial Analysis
ITC 6020	Information Systems Design and Development
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility
ITC 6310	Information Security Governance
LDR 6110	Leading Teams Strategically in a Global Environment
LDR 6135	Ethical Leadership
PJM 6015	Project Risk Management
PJM 6125	Project Evaluation and Assessment
PJM 6180	Project Stakeholder Management

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

APPLIED MACHINE INTELLIGENCE

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6110	Data Management and Big Data	3
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6010	Applications of Artificial Intelligence	3
EAI 6020	AI System Technologies	3

EVIDENCE-BASED MANAGEMENT

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6060	Decision Support and Business Intelligence	3
ALY 6120	Leadership in Analytics	3
ALY 6130	Risk Management for Analytics	3
PJM 6005	Project Scope Management	3

STATISTICAL MODELING

Code	Title	Hours
ALY 6020	Predictive Analytics	3
ALY 6030	Data Warehousing and SQL	3
ALY 6040	Data Mining Applications	3
ALY 6110	Data Management and Big Data	3
ALY 6140	Python and Analytics Systems Technology	3

Applied Logistics, MPS

The Master of Professional Studies in Applied Logistics is built to prepare students to be agile in the changing warehousing and distribution industry. As a central pillar of the program, students will study how to handle challenges that arise quickly and develop leadership and project management skills to help communicate to customers, avoid reactionary responses, work collaboratively to find a solution, and to effectively communicate across the supply chain and with customers. By integrating systems thinking with training in the technical applications in logistics, students will gain well-rounded experience that allows them to understand and adapt to strategic imperatives while also being able to execute in detail. The program aims to develop proficiency in descriptive analytics and the use of real-time data to optimize routing among distribution centers and fulfill orders in response to changing customer profiles, shifting product sales, disruptions in the supplier network, and customer demand for packaging changes.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Courses

Code	Title	Hours
APL 6000	Foundations of Applied Logistics Execution	3
APL 6010	Warehouse Management	3
APL 6020	Freight Management	3
APL 6030	ERP Systems for Inventory Management	3

Capstone

Code	Title	Hours
APL 6980	Applied Logistics Capstone	3

The remaining quarter hours may be completed by a combination of completing a concentration and electives or selecting any courses listed in the concentrations and elective lists.

Concentrations

- Analytics (p. 829)
- Applied Machine Intelligence (p. 830)
- Leadership (p. 830)
- Project Management (p. 830)

Electives

Code	Title	Hours
APL 6050	Supplier Management	
APL 6100	Advanced Technology in Logistics and Distribution	
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6060	Negotiation, Mediation, and Facilitation	
INT 6943	Integrative Experiential Learning	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
PJM 5900	Foundations of Project Management	
PJM 6185	Managing Innovation Projects	
PJM 6210	Communication Skills for Project Managers	
SMT 6060	Decision Support and Sales Analytics	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

ANALYTICS CONCENTRATION

Code	Title	Hours
Required Courses		
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3

ALY 6070	Communication and Visualization for Data Analytics	3
Complete one of the following:		3
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

APPLIED MACHINE INTELLIGENCE CONCENTRATION

Code	Title	Hours
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6010	Applications of Artificial Intelligence	3
EAI 6020	AI System Technologies	3
ALY 6040	Data Mining Applications	3
ALY 6110	Data Management and Big Data	3

LEADERSHIP CONCENTRATION

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6150	Innovation and Organizational Transformation	3
Elective		
Complete one of the following:		3
LDR 6135	Ethical Leadership	
LDR 6140	Leadership Strategy, Design, and Practice	

PROJECT MANAGEMENT CONCENTRATION

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Elective		
Complete 3-6 quarter hours from the following:		3-6
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute any project management electives to satisfy the required program hours.

Applied Machine Intelligence, MPS

Humankind is on the threshold of a new era—an age of artificial intelligence (AI) as revolutionary in its global impact as the Industrial Revolution. With the proliferation of machine learning and AI across all sectors of the global society, and fields such as financial services, healthcare, and robotics, GEOINT and cybersecurity are already changing as intelligent computers take on once-indispensably human tasks. There is an immediate need for individuals to be knowledgeable in how to manage, analyze, communicate, visualize, and lead in the area of AI by being data, technology, and human literate. The experiential AI curricula includes an introductory core, as well as an advanced core with an end-to-end AI education in the areas of finance, HR, business ventures, and healthcare/pharmaceuticals. The goal is to proactively and thoughtfully prepare students for the evolving technology and the challenges it presents. The curricula framework adopts a multidisciplinary approach to problem solving by combining computer science and analytical skills with functional government and industry expertise, creativity, and leadership with program offerings on-ground and online.

The degree program is distinguished from others by:

- Focusing on the specific but widespread field of AI that exists within a variety of industries and applications
- Northeastern faculty experts, who have extensive and proven experience in computer science, analytics, geospatial science, information technology, etc.
- Courses that focus on providing critical skills in data management, data analysis, data visualization, problem solving, and advanced analytical tools, creating AI-driven decision making in fields like healthcare/pharmaceuticals, finance, HR, and business ventures

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ALY 6110	Data Management and Big Data	3
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6010	Applications of Artificial Intelligence	3
EAI 6020	AI System Technologies	3
EAI 6400	Data Governance and Responsible AI	3

Experiential Network and Capstone

Code	Title	Hours
EAI 6980	Integrated Experiential Capstone	3
Choose one of the following:		
ALY 6080	Integrated Experiential Learning	
INT 6940	Experiential Learning Projects for Professionals	

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and elective list.

Concentrations

- AI for Business Ventures (p. 832)
- AI for Finance (p. 832)
- AI for Healthcare (p. 832)
- AI for Human Resources (p. 832)

Electives

Code	Title	Hours
ALY 6140	Python and Analytics Systems Technology	
CMN 6000	Introduction to Organizational Communication	
CED 6050	Commerce and Economic Development	
EAI 6080	Advanced Analytical Utilization	
EDU 6184	Interdisciplinary Foundations	
GIS 5201	Advanced Spatial Analysis	
GIS 6360	Spatial Databases	
LDR 6135	Ethical Leadership	
PJM 6005	Project Scope Management	

PJM 6015	Project Risk Management
PJM 6205	Leading and Managing Technical Projects

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

AI FOR BUSINESS VENTURES

Code	Title	Hours
ALY 6040	Data Mining Applications	3
CED 6230	Quantitative Methods	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3
ITC 6015	Enterprise Information Architecture	3

AI FOR FINANCE

Code	Title	Hours
ALY 6040	Data Mining Applications	3
EAI 6050	Finance Information Processing	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3
FIN 6101	Accounting Fundamentals for Financial Institutions	3

AI FOR HEALTHCARE

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6150	Healthcare/Pharmaceutical Data and Applications	3
EAI 6060	Healthcare Information Processing	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3

AI FOR HUMAN RESOURCES

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6120	Leadership in Analytics	3
EAI 6070	Human Resources Information Processing	3
EAI 6120	AI Communication and Visualization	3
HRM 6025	Workforce Analytics	3

Digital Media, MPS

Students in the Master of Professional Studies in Digital Media will build their skills and expertise while gaining experience using a variety of industry-standard and cutting-edge technologies and tools. Our curriculum is organized around three types of experiences: core courses, concentration electives, and a capstone that can be completed as an individual thesis or a team project.

Our core courses in media creation, interactive design, usability, design thinking, and narrative structure provide a baseline for producing content-rich experiences. A series of electives are offered in seven distinctive areas: 3D animation, game design, digital video, social media, digital media management, or one of two tracks in interactive design: visual design or usability and production. In the capstone experience, you'll work with the guidance of faculty to channel your passion into a project that provides tangible evidence of your abilities.

Whether you are a full- or part-time student, our cohort structure allows you to build meaningful working relationships with students from around the globe. Team-based assignments strengthen your project management and leadership skills and allow you to take part in the design and development of more complex media projects than you could by working alone. The team efforts will also prepare you for your future as a professional in digital media's collaboration-oriented culture.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Core Courses

Code	Title	Hours
DGM 6122	Foundations of Digital Storytelling	4
DGM 6145	Information Technology and Creative Practice	4
DGM 6521	Web Creation for Content Management Systems	2
Complete one of the following:		4
DGM 6140	Sound Design	
DGM 6168	Usability and Human Interaction	
Complete one of the following options:		8
Thesis Option		
DGM 6890	Thesis Proposal Development	
DGM 7990	Thesis (at 6 QH)	
Capstone Option		
DGM 7980	Capstone	
Choose one technical course from the workshops list below.		

Concentrations

The remaining quarter hours may be completed by selecting a combination of a concentration and additional electives/workshops or selecting any courses in the concentrations and elective lists. You must complete any prerequisites associated with DGM courses unless granted a waiver under special circumstances.

- 3D Animation (p. 834)
- Digital Media Management (p.)
- Digital Video (p.)
- Game Design (p.)
- Interactive Design (p.)
- Social Media (p.)

Electives

Code	Title	Hours
Complete one of the following:		3-4
ALY 6110	Data Management and Big Data	
DGM 6125	Time-Based Media	
DGM 6322	Advanced Digital Storytelling	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
EDU 6184	Interdisciplinary Foundations	
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems	

Workshops

Optional digital media workshops are designed to provide valuable technical skills and tools for students in all graduate degree programs.

Code	Title	Hours
Students may complete one of the following:		
DGM 6506	Introduction to Digital Video	
DGM 6515	Introduction to After Effects	
DGM 6516	Virtual and Augmented Reality (VR/AR)	
DGM 6892	Capstone Project Preparation	
TCC 6410	Online Documentation	
TCC 6630	Introduction to XML	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

3D ANIMATION

Code	Title	Hours
DGM 6450	Animation Basics	4
DGM 6510	3D Modeling	4
DGM 6530	Character Animation	4
DGM 6535	Rigging Principles and Techniques	4
DGM 6540	Compositing	4

DIGITAL MEDIA MANAGEMENT

Code	Title	Hours
DGM 6230	Digital Media Entrepreneurship	4
DGM 6279	Project Management for Digital Media	4
DGM 6280	Managing for Digital Media	4
DGM 6285	Interactive Marketing Fundamentals	4
DGM 6290	Social Media and Brand Strategy Implementation	4

DIGITAL VIDEO

Code	Title	Hours
DGM 6520	Lighting for the Camera	4
DGM 6435	Digital Video Production	4
DGM 6440	Editing in the Digital Studio	4
DGM 6540	Compositing	4
DGM 6545	Documentary and Nonfiction Production	4

GAME DESIGN

Code	Title	Hours
DGM 6308	Intermediate Programming for Digital Media	4
DGM 6400	Game Design Fundamentals	4
DGM 6403	Game Engine Fundamentals	4
DGM 6405	Game Development	4
DGM 6410	Game Design Technology Lab	4

INTERACTIVE DESIGN

Code	Title	Hours
Interactive Design		
DGM 6461	Interactive Information Design 1	4
Complete four courses from one of the following tracks:		16
Design Track		
DGM 6217	Typography for Interactivity	
DGM 6317	Screen-Based Publication Design	
DGM 6463	Interactive Information Design 2	

DGM 6471	Designing Infographics
Usability and Development Track	
DGM 6268	Usable Design for Mobile Digital Media
DGM 6308	Intermediate Programming for Digital Media
DGM 6451	Web Development
DGM 6525	Research Methods for Global User Experiences
TCC 6110	Information Architecture
TCC 6710	Content Strategy

SOCIAL MEDIA

Code	Title	Hours
Complete the following:		19-21
Required		
DGM 6285	Interactive Marketing Fundamentals	4
Electives		
Complete 15–17 quarter hours from the following:		
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6525	Research Methods for Global User Experiences	
DGM 6550	Search Engine Optimization: Strategy and Implementation	

Digital Media, MPS—Connect

The Master of Professional Studies in Digital Media Connect program is designed for students without prior experience in core technical and/or creative concepts. This program requires an additional 12 quarter hours of credit, with courses providing intensive, hands-on guidance into the essential knowledge required for the Master of Professional Studies Digital Media curriculum.

For students considering a career change into digital media, this coursework helps you connect your current background to a new digital media track. Courses focus on visual communications, programming foundations, and web creation. Once the fundamental courses are completed, students move into the more advanced Master of Professional Studies in Digital Media course requirements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundation Courses

Code	Title	Hours
DGM 6105	Visual Communications Foundation	4
DGM 6108	Programming Foundations for Digital Media	4
DGM 6109	Lab for DGM 6108	2
DGM 6501	Web Creation Boot Camp	2

Required Core Courses

Code	Title	Hours
DGM 6122	Foundations of Digital Storytelling	4
DGM 6145	Information Technology and Creative Practice	4
DGM 6521	Web Creation for Content Management Systems	2
Complete one of the following:		4
DGM 6140	Sound Design	
DGM 6168	Usability and Human Interaction	
Complete one of the following options:		8
Thesis Option		
DGM 6890	Thesis Proposal Development	
DGM 7990	Thesis (at 6 QH)	
Capstone Option		
DGM 7980	Capstone	
Complete one technical course from the workshops list below.		

Concentrations

The remaining quarter hours may be completed by selecting a combination of a concentration and additional electives/workshops or selecting any courses in the concentrations and elective lists. You must complete any prerequisites associated with DGM courses unless granted a waiver under special circumstances.

- 3D Animation (p. 837)
- Digital Media Management (p.)
- Digital Video (p.)
- Game Design (p.)
- Interactive Design (p.)
- Social Media (p.)

Elective

Code	Title	Hours
Complete one of the following:		3-4
ALY 6110	Data Management and Big Data	
DGM 6125	Time-Based Media	
DGM 6322	Advanced Digital Storytelling	
DGM 6550	Search Engine Optimization: Strategy and Implementation	

EDU 6184	Interdisciplinary Foundations
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems

Workshops

Digital media workshops are designed to provide valuable technical skills and tools for students in all graduate degree programs.

Code	Title	Hours
DGM 6506	Introduction to Digital Video	
DGM 6515	Introduction to After Effects	
DGM 6516	Virtual and Augmented Reality (VR/AR)	
DGM 6892	Capstone Project Preparation	
TCC 6410	Online Documentation	
TCC 6630	Introduction to XML	

Program Credit/GPA Requirements

56 total quarter hours required
Minimum 3.000 GPA required

3D ANIMATION

Code	Title	Hours
DGM 6450	Animation Basics	4
DGM 6510	3D Modeling	4
DGM 6530	Character Animation	4
DGM 6535	Rigging Principles and Techniques	4
DGM 6540	Compositing	4

DIGITAL MEDIA MANAGEMENT

Code	Title	Hours
DGM 6230	Digital Media Entrepreneurship	4
DGM 6279	Project Management for Digital Media	4
DGM 6280	Managing for Digital Media	4
DGM 6285	Interactive Marketing Fundamentals	4
DGM 6290	Social Media and Brand Strategy Implementation	4

DIGITAL VIDEO

Code	Title	Hours
DGM 6435	Digital Video Production	4
DGM 6440	Editing in the Digital Studio	4
DGM 6520	Lighting for the Camera	4
DGM 6540	Compositing	4
DGM 6545	Documentary and Nonfiction Production	4

GAME DESIGN

Code	Title	Hours
DGM 6308	Intermediate Programming for Digital Media	4
DGM 6400	Game Design Fundamentals	4
DGM 6403	Game Engine Fundamentals	4
DGM 6405	Game Development	4
DGM 6410	Game Design Technology Lab	4

INTERACTIVE DESIGN

Code	Title	Hours
Interactive Design		
DGM 6461	Interactive Information Design 1	4
Complete four courses from one of the following tracks:		16
Design Track		
DGM 6217	Typography for Interactivity	

DGM 6317	Screen-Based Publication Design
DGM 6463	Interactive Information Design 2
DGM 6471	Designing Infographics
Usability and Development Track	
DGM 6268	Usable Design for Mobile Digital Media
DGM 6308	Intermediate Programming for Digital Media
DGM 6451	Web Development
DGM 6525	Research Methods for Global User Experiences
TCC 6110	Information Architecture
TCC 6710	Content Strategy

SOCIAL MEDIA

Code	Title	Hours
Required		
DGM 6285	Interactive Marketing Fundamentals	4
Electives		
Complete 15–17 quarter hours from the following:		
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6525	Research Methods for Global User Experiences	
DGM 6550	Search Engine Optimization: Strategy and Implementation	

Geospatial Services, MPS

The Northeastern University MPS in Geospatial Services program is designed for working professionals striving to maintain competitive, leading-edge capabilities at a time of rapidly growing utilization of geospatial data for diversity of government and business intelligence needs. Program strengths are highly correlated with geospatial workforce requirements as identified by geospatial enterprise leaders from government and industry. Our curriculum incorporates tools, technologies, and services required in three primary sectors:

- *Location-based geodata* (collect, manage, distribute spatial information and imagery)
- *Geo-applications and devices* (devices and software for creating, visualizing, and sharing geospatial information)
- *Geo-expert industries* (turn location-based information into insights for commercial and government organizations)

Available 100 percent online and built to Northeastern University's high academic standards, our program's experiential focus emphasizes the connections between learning and workplace needs.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GIS 5103	Foundations of Geographic Information Science	4
GIS 5201	Advanced Spatial Analysis	3
GIS 6980	Capstone	4
RMS 5105	Fundamentals of Remote Sensing	3
Complete two of the following:		6-7
EAI 6000	Fundamentals of Artificial Intelligence	
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility	
ITC 6300	Foundations of Information Security	
ITC 6460	Cloud Analytics	
PJM 5900	Foundations of Project Management	

The remaining quarter hours required for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and electives.

Concentrations

- Geographic Information Systems (p. 839)
- Geospatial Analytics (p. 840)
- Remote Sensing (p. 840)

Electives

Code	Title	Hours
COP 6940	Personal and Career Development	3-4
EAI 6000	Fundamentals of Artificial Intelligence	3
EDU 6184	Interdisciplinary Foundations	2
INT 6940	Experiential Learning Projects for Professionals	1-4

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

GEOGRAPHIC INFORMATION SYSTEMS

Code	Title	Hours
Complete six of the following:		18
GIS 6320	Use and Applications of Free and Open-Source GIS Desktop Software	
GIS 6340	GIS Customization	
GIS 6345	Geospatial Programming	
GIS 6350	Planning a GIS Implementation	
GIS 6360	Spatial Databases	
GIS 6370	Internet-Based GIS	

GIS 6385	GIS/Cartography
GIS 6983	Topics
ITC 6480	Amazon Web Service (AWS) Cloud Architecting

GEOSPATIAL ANALYTICS

Code	Title	Hours
Complete the following:		18
ALY 6020	Predictive Analytics	
ALY 6040	Data Mining Applications	
ALY 6030	Data Warehousing and SQL	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
ALY 6983	Topics	

REMOTE SENSING

Code	Title	Hours
RMS 6110	Introduction to Machine Learning for Image Data	3
Complete five of the following:		15-16
GIS 6345	Geospatial Programming	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	
RMS 6240	Introduction to Radar and LiDAR Remote Sensing	
RMS 6280	Automated Feature Extraction for the Geospatial Professional	
RMS 6290	Spectroscopic Image Analysis	
RMS 6983	Topics	

Informatics, MPS

A rapidly evolving area, informatics is increasingly used to solve today's problems through IT innovations across many industries, including healthcare, business consulting, education, finance, and social media. This master's degree attracts students and working professionals with a diverse background to learn and improve IT technical and management skills, highlighted by our strengthened curriculum on information security management, as well as cloud computing application and management. Students also have the opportunity to acquire technical training in data analytics, user-centered design and web development, and managing technical projects.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 6000	Database Management Systems	3
ITC 6010	Information Technology Strategy and Governance	3
ITC 6020	Information Systems Design and Development	3
ITC 6035	Information Technology Project Management	3
ITC 6400	Foundations of Informatics	3
Capstone and Experiential Learning		
ITC 6040	Informatics Capstone	3
INT 6940	Experiential Learning Projects for Professionals	1-4

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or by selecting any courses listed in the concentrations and electives lists.

Concentrations or Electives

Complete one of the following concentrations or complete the required hours by selecting any courses listed in the concentrations and electives lists:

- Analytics (p. 841)
- Cloud Computing Application and Management (p. 841)
- Human-Centered Informatics (p. 842)
- Information Security Management (p. 842)
- Leading and Managing Technical Projects (p. 842)

ANALYTICS CONCENTRATION

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Complete one of the following:		3
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

CLOUD COMPUTING APPLICATION AND MANAGEMENT CONCENTRATION

Code	Title	Hours
ITC 6015	Enterprise Information Architecture	3
ITC 6420	Introduction to Cloud Computing Applications and Management	3
ITC 6450	Advanced Cloud Computing Applications and Management	3
ITC 6460	Cloud Analytics	3
ITC 6520	Network Protection and Cloud Security	3
Complete one of the following:		3-4
ITC 6355	Web Application Design and Development	

ITC 6470	Enterprise Data Storage and Management Technologies
ITC 6480	Amazon Web Service (AWS) Cloud Architecting

HUMAN-CENTERED INFORMATICS CONCENTRATION

Code	Title	Hours
DGM 6168	Usability and Human Interaction	4
DGM 6268	Usable Design for Mobile Digital Media	4
DGM 6461	Interactive Information Design 1	4
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems	3
Complete one of the following:		3-4
ALY 6070	Communication and Visualization for Data Analytics	
DGM 6463	Interactive Information Design 2	
ITC 6355	Web Application Design and Development	

INFORMATION SECURITY MANAGEMENT CONCENTRATION

Code	Title	Hours
ITC 6300	Foundations of Information Security	3
ITC 6305	IT Infrastructure (Systems, Networks, Telecom)	3
ITC 6315	Information Security Risk Management	3
ITC 6520	Network Protection and Cloud Security	3
ITC 6530	Security Analytics	3
Complete one of the following:		3
ITC 6330	CISSP Preparation	
ITC 6490	Ethical Hacking	

LEADING AND MANAGING TECHNICAL PROJECTS CONCENTRATION

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3

[1] *Note:* Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete Foundations of Project Management (PJM 5900) may substitute an elective from the following list to satisfy the required program hours:

- Project Evaluation and Assessment (PJM 6125)
- Project Quality Management (PJM 6135)
- Managing Troubled Projects (PJM 6140)
- Introduction to Program and Portfolio Management (PJM 6710)

ELECTIVES

Code	Title	Hours
ALY 6015	Intermediate Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6050	Introduction to Enterprise Analytics	
ALY 6060	Decision Support and Business Intelligence	
ALY 6110	Data Management and Big Data	
ALY 6120	Leadership in Analytics	
ALY 6130	Risk Management for Analytics	
DGM 6501	Web Creation Boot Camp	
DGM 6145	Information Technology and Creative Practice	
DGM 6521	Web Creation for Content Management Systems	
EDU 6184	Interdisciplinary Foundations	
GIS 5103	Foundations of Geographic Information Science	
GIS 6340	GIS Customization	

GIS 6360	Spatial Databases
ITC 6030	Computer Systems and Networks
ITC 6080	Network Security Concepts
ITC 6082	Network Protection
ITC 6345	Systems and Network Administration
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility
PJM 5900	Foundations of Project Management
PJM 6205	Leading and Managing Technical Projects
TCC 6110	Information Architecture

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Insurance Analytics and Management, MPS

Overview

The Master of Professional Studies in Insurance Analytics and Management addresses the mounting need for talent in the insurance industry with focus on disruptive trends and the inherent challenges that this industry sector faces. This program will build on five distinct pillars that are designed to serve the market and to offer graduates a clear pathway into the industry. Those pillars are application orientation, domain knowledge, digital leadership and human-centered design, decision support, and digital transformation. The goal of the MPS program is to produce graduates who are thinkers and designers and developers who merge applications, humanics, data, and technology in the age of digital transformation to benefit their industry.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Courses

Code	Title	Hours
INS 6010	Insurance Finance	3
INS 6020	Claims Management	3
INS 6030	Insurance Underwriting	3
INS 6040	Introduction to Insurance Data Analytics	3
INS 6050	Intermediate Insurance Analytics	3

Experiential Project

Code	Title	Hours
INS 6080	Integrated Experiential Learning	3

Capstone

Code	Title	Hours
INS 6980	Capstone	3

Concentrations

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list.

- Advanced Insurance Management (p. 845)
- Customer Engagement (p. 845)
- Decision Support (p. 845)

Electives

Code	Title	Hours
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	
CED 6230	Quantitative Methods	
CED 6250	Derivatives and Alternative Investments	
EAI 6000	Fundamentals of Artificial Intelligence	
EAI 6020	AI System Technologies	
EAI 6080	Advanced Analytical Utilization	
EAI 6120	AI Communication and Visualization	
GIS 5103	Foundations of Geographic Information Science	
GIS 6370	Internet-Based GIS	
INS 6983	Special Topics	
LDR 6110	Leading Teams Strategically in a Global Environment	
PJM 5900	Foundations of Project Management	
PJM 6210	Communication Skills for Project Managers	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

ADVANCED INSURANCE MANAGEMENT CONCENTRATION

Code	Title	Hours
ALY 6983	Topics	3
INS 6110	Insurance Regulation and Law	3
INS 6120	Macro Challenges in Insurance	3
INS 6130	Advanced Reinsurance	3
LDR 6135	Ethical Leadership	3

CUSTOMER ENGAGEMENT CONCENTRATION

Code	Title	Hours
ALY 6060	Decision Support and Business Intelligence	3
ALY 6070	Communication and Visualization for Data Analytics	3
INS 6140	Distribution and Sales	3
PJM 6185	Managing Innovation Projects	3
SMT 6020	Managing the Customer Experience	3

DECISION SUPPORT CONCENTRATION

Code	Title	Hours
EAI 6000 is for students who score 85% or more on the Python placement exam upon declaring this concentration. Students who score less than 85% on the placement exam complete a noncredit Python workshop before completing EAI 6000.		
ALY 6060	Decision Support and Business Intelligence	3
ALY 6070	Communication and Visualization for Data Analytics	3
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6020	AI System Technologies	3
LDR 6100	Developing Your Leadership Capability	3

Learning Experience Design and Technology, MPS

The Master of Professional Studies in Learning Experience Design and Technology is a robust practice-based program. It builds expertise in learning designers, educators, trainers, technologists, and other professionals by grounding them in the art and science of learning and the effective use of learning design principles and technology. It provides both foundational and advanced design-related coursework that is experiential, taught by experts in the field, and incorporates skill-building opportunities that align with contemporary industry-based competencies.

During their course of study, students will have the opportunity to:

- Design learning environments that support learners in meeting academic, personal, professional, and/or organizational goals
- Put creative ideas into action using a variety of technologies and design and delivery modalities
- Develop a robust online portfolio of work to demonstrate their design skills

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundation Courses

Code	Title	Hours
EDU 6050	Education as an Advanced Field of Study	5
EDU 6051	Introduction to Social Justice in Educational Settings	4

Core Courses

Code	Title	Hours
EDU 6319	How People Learn	4
EDU 6323	Digital Learning Tools and Technologies for LXD	4
EDU 6334	Foundations of Learning Experience Design	4
EDU 6335	Advanced Practices in Learning Experience Design	4
EDU 6336	Data Literacy for Data-Driven Decision Making	4

Capstone

Code	Title	Hours
EDU 6225	Capstone	4

Electives

Code	Title	Hours
Electives may be satisfied by any EDU 6000-level course not already being used toward degree requirements. Suggested EDU 6000-level courses are listed below. Additionally, CPS graduate-level courses that may also be used to satisfy elective requirements are listed below:		12
EDU 5978	Independent Study	
EDU 6001	Experiential Learning Theory and Practice	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	
EDU 6003	Applied Research in Experiential Teaching and Learning	
EDU 6004	Leading Experiential Teaching and Learning	
EDU 6202	Faculty, Curriculum, and Academic Community	
EDU 6323	Digital Learning Tools and Technologies for LXD	
EDU 6329	Connecting Theory and Practice	
EDU 6331	E-Learning Design as a Collaborative Profession	
EDU 6332	Open Learning	
EDU 6336	Data Literacy for Data-Driven Decision Making	
EDU 6338	Learning Experience Design Studio	
EDU 6558	Issues in Education	
CMN 6080	Intercultural Communication	
DGM 6501	Web Creation Boot Camp	
NPM 6140	Grant and Report Writing	
PJM 5900	Foundations of Project Management	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Applied Nutrition, MS

Increased attention on disease prevention through better dietary habits has heightened the demand for skilled nutrition professionals.

To meet the demands and need in the industry, this Master of Science in Applied Nutrition degree is designed to build upon your clinical knowledge and to allow you to concentrate in one of five specialty areas. This advanced program is open to individuals who hold undergraduate degrees in health science, dietetics, or a related area.

Led by real-world practitioners, including dietitians, an exercise scientist, and a clinical psychologist, this innovative nutrition degree seeks to provide you with a solid grounding in nutrition, metabolism, disease prevention, health promotion, and clinical behavior. Complementing the core nutrition courses is the college's renowned nutrition practicum that allows you to work directly with registered dietitians, fitness specialists, as well as other health professionals.

Further differentiating this master's degree in nutrition is the option to choose from five degree concentrations: business and entrepreneurship in nutrition; integrative health and wellness; nutrition education; nutrition and fitness; and obesity and nutritional health. This degree program seeks to give you the knowledge and skills you need to succeed in the field of nutrition.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NTR 6100	Advanced Nutrition and Metabolism	4
NTR 6110	Medical Nutrition Therapy	4
NTR 6112	Research Methods in Nutrition	4
NTR 6115	Health Promotion/Disease Prevention	4
NTR 6118	Clinical Health Behavior Change	4
NTR 6165	Food and Society	4
NTR 6866	Applied Research in Nutrition (Recommended as the last course taken)	1-4

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and electives list.

Electives

Code	Title	Hours
EDU 6184	Interdisciplinary Foundations	
NTR 6101	Nutrition Program Planning	
NTR 6105	Foundations of Integrative Health	
NTR 6119	Pediatric Nutrition	
NTR 6120	Healthy Aging: Nutrition Strategies for Optimal Longevity	
NTR 6125	The Process of Health and Healing: Exploring Systems in the Body—Part 1	
NTR 6130	Healthcare and Nutrition Communication	
NTR 6135	The Process of Health and Healing: Exploring Systems in the Body—Part 2	
NTR 6148	Exercise Physiology	
NTR 6150	Sports Psychology	
NTR 6155	Nutrition Entrepreneurship	
NTR 6160	Survey of Integrative Practices and Interventions	
NTR 6200	Nutrition Education	
NTR 6201	Commercialization of Nutrition and Nutritional Information	
NTR 6202	The Financing of Nutrition and Wellness	
NTR 7130	Overweight and Obesity 1	
NTR 7132	Overweight and Obesity 2	
NTR 7135	Eating Disorders in Children and Adults	
NTR 7140	Wellness and Nutrition	
NTR 7147	Sports and Fitness Nutrition	
NTR 7880	Wellness in Practice	
PJM 5900	Foundations of Project Management	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

BUSINESS AND ENTREPRENEURSHIP IN NUTRITION

Code	Title	Hours
NTR 6155	Nutrition Entrepreneurship	3
NTR 6130	Healthcare and Nutrition Communication	4
PJM 5900	Foundations of Project Management	4
NTR 6202	The Financing of Nutrition and Wellness	3
NTR 7880	Wellness in Practice	1-4

INTEGRATIVE HEALTH AND WELLNESS

Code	Title	Hours
Required Courses		
NTR 6105	Foundations of Integrative Health	4
NTR 6125	The Process of Health and Healing: Exploring Systems in the Body—Part 1	4
NTR 6135	The Process of Health and Healing: Exploring Systems in the Body—Part 2	4
NTR 6160	Survey of Integrative Practices and Interventions	4
Experiential Capstone		
NTR 7880	Wellness in Practice	2-4

NUTRITION EDUCATION

Code	Title	Hours
Required Courses		
NTR 6200	Nutrition Education	4
NTR 6130	Healthcare and Nutrition Communication	4
NTR 6201	Commercialization of Nutrition and Nutritional Information	3
NTR 7880	Wellness in Practice	1-4
Nutrition Education Elective		
Complete one of the following:		4
NTR 6119	Pediatric Nutrition	
NTR 6120	Healthy Aging: Nutrition Strategies for Optimal Longevity	
NTR 6101	Nutrition Program Planning	

NUTRITION AND FITNESS

Code	Title	Hours
Required Courses		
NTR 7147	Sports and Fitness Nutrition	3
NTR 6148	Exercise Physiology	3
NTR 6150	Sports Psychology	3
NTR 7880	Wellness in Practice	1-4
Nutrition and Fitness Elective		
Complete one of the following:		4
NTR 6120	Healthy Aging: Nutrition Strategies for Optimal Longevity	
NTR 6101	Nutrition Program Planning	

OBESITY AND NUTRITIONAL HEALTH

Code	Title	Hours
Required Courses		
NTR 7130	Overweight and Obesity 1	4
NTR 7132	Overweight and Obesity 2	4
NTR 6201	Commercialization of Nutrition and Nutritional Information	3
NTR 7880	Wellness in Practice	1-4
Obesity and Nutritional Health Elective		
Complete one of the following:		4

NTR 7140	Wellness and Nutrition
NTR 7135	Eating Disorders in Children and Adults

Commerce and Economic Development, MS

Globalization has created a borderless economy with a host of new opportunities and challenges for those engaged in commerce and economic development. While global markets offer exciting growth prospects, navigating the world stage requires in-depth knowledge of the financial, regulatory, and economic environments and institutions that affect the global economy and international trade. To meet the need for both insight and skills development, Northeastern University's College of Professional Studies—in collaboration with Northeastern University's College of Social Sciences and Humanities—offers the online Master of Science in Commerce and Economic Development.

This graduate-level program integrates economics, leadership, institutional organization, technology, and public policy into a unique and focused educational experience designed to help guide and advance a rewarding career in the private or public sectors.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CED 6010	Applied Microeconomic Theory 1	3
CED 6020	Applied Macroeconomic Theory 1	3
CED 6030	Mathematical Methods for Economics 1	3
CED 6040	Applied Econometrics	3
CED 6050	Commerce and Economic Development	3

Capstone

Code	Title	Hours
The following course should be taken last:		
CED 6910	Capstone: Master's Project	4

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or by selecting any courses listed in the concentration and elective lists.

Concentrations

- Economic Analysis (p. 851)
- Economic Entrepreneurship (p. 851)
- Data Analytics (p. 851)
- Financial Economics (p. 851)

Electives

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the program:		
ALY 6000	Introduction to Analytics	
ALY 6015	Intermediate Analytics	
ALY 6050	Introduction to Enterprise Analytics	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
CED 6011	Applied Microeconomic Theory 2	
CED 6021	Applied Macroeconomic Theory 2	
CED 6031	Mathematical Methods for Economics 2	
CED 6041	Applied Econometrics II	
CED 6051	Open Economy Macroeconomic Analysis	
CED 6070	Economics of Human Capital	
CED 6090	Cultural Economic Development	
CED 6110	Law and Economics	
CED 6120	Environmental Economics	
CED 6130	Sustainable Economic Development	
CED 6140	Economics of E-Commerce	
CED 6210	Managerial Finance	
CED 6220	International Finance	

CED 6230	Quantitative Methods
CED 6240	Financial Ethics
CED 6250	Derivatives and Alternative Investments
CMN 6080	Intercultural Communication
CMN 6095	Foundations of Developing Cultural Awareness
COP 6940	Personal and Career Development
EDU 6184	Interdisciplinary Foundations
FIN 6102	Asset and Liability Management
FIN 6120	Building Financial Relationships
FIN 6161	Investment Analysis
GST 6102	Global Corporate Social Responsibility
GST 6430	Leadership and Management
LDR 6145	Developing Sustainable Global Leadership

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

ECONOMIC ANALYSIS CONCENTRATION

Code	Title	Hours
CED 6011	Applied Microeconomic Theory 2	3
CED 6021	Applied Macroeconomic Theory 2	3
CED 6031	Mathematical Methods for Economics 2	3
CED 6041	Applied Econometrics II	3
CED 6051	Open Economy Macroeconomic Analysis	3

ECONOMIC ENTREPRENEURSHIP CONCENTRATION

Code	Title	Hours
ALY 6050	Introduction to Enterprise Analytics	3
CED 6070	Economics of Human Capital	3
CED 6140	Economics of E-Commerce	3
CMN 6095	Foundations of Developing Cultural Awareness	3
GST 6430	Leadership and Management	4

DATA ANALYTICS CONCENTRATION

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6015	Intermediate Analytics	3
ALY 6020	Predictive Analytics	3
ALY 6050	Introduction to Enterprise Analytics	3
or ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	3

FINANCIAL ECONOMICS CONCENTRATION

Code	Title	Hours
Complete five of the following:		15-18
CED 6210	Managerial Finance	
CED 6220	International Finance	
CED 6230	Quantitative Methods	
CED 6240	Financial Ethics	
CED 6250	Derivatives and Alternative Investments	
FIN 6102	Asset and Liability Management	
FIN 6120	Building Financial Relationships	
FIN 6161	Investment Analysis	

Corporate and Organizational Communication, MS

Across all industries and professions, strong written and oral communication skills are essential to success. Whether you are seeking to advance in a communications-related field or get ahead in your current organization, this program seeks to provide the practical knowledge and valuable perspectives you need to communicate across a variety of contexts and situations.

From negotiation and writing to crisis management and public speaking, the Master of Science in Corporate and Organizational Communication degree program examines topics that are critical to effective organizational communication. Incorporating best practices, case studies, and classroom learning, courses within this innovative master's degree in communication address complex communication challenges, seeking to provide you with a distinct advantage in today's competitive marketplace.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6000 and INT 6000	Introduction to Organizational Communication and Writing Lab [1]	4
CMN 6010	Strategic Communication Management	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6910	Organizational Communication Assessment	3
Complete two of the following:		6
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6100	Communication Networks and Managing Information	

[1] Introduction to Organizational Communication (CMN 6000) is required for students who do not have any professional experience in communication. Students with professional communication experience begin the program with Strategic Communication Management (CMN 6010) and complete an additional elective to satisfy the required program hours.

Capstone

Code	Title	Hours
CMN 6940	Projects for Professionals	4

Concentration or Electives

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or selecting any courses in the concentrations and elective lists.

CONCENTRATIONS

- Cross-Cultural Communication (p. 854)
- Human Resource Management (p. 854)
- Leadership (p. 855)
- Project Management (p. 855)
- Public and Media Relations (p. 855)
- Sales Management (p. 856)
- Social Media (p. 856)

ELECTIVE COURSES

Note: Students who take Introduction to Organizational Communication (CMN 6000) are only required to take two courses in this section.

Code	Title	Hours
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
CMN 6005	Foundations of Professional Communication	
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6050	Crisis Communication	

CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation
CMN 6095	Foundations of Developing Cultural Awareness
CMN 6096	Cultural Communications Lab
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management
COP 6940	Personal and Career Development
EDU 6184	Interdisciplinary Foundations
INT 6900	International Field Study Experience
LDR 6101	Leadership Challenge Lab
PBR 6001	Communications Technology Lab

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

CROSS-CULTURAL COMMUNICATION

Code	Title	Hours
Required Courses		
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation	3
CMN 6095	Foundations of Developing Cultural Awareness	3
Concentration Electives		
Choose from the following:		10
CMN 6096	Cultural Communications Lab	
GST 6100	Globalization and Global Politics and Economics	
GST 6101	Global Literacy, Culture, and Community	
HRM 6070	Global Human Resources Management	
INT 6900	International Field Study Experience	
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility	
LDR 6145	Developing Sustainable Global Leadership	
PBR 6100	Introduction to Public Relations	

HUMAN RESOURCE MANAGEMENT

Code	Title	Hours
Required Courses		
HRM 6015	Introduction to Human Resources Management [2]	3
HRM 6025	Workforce Analytics	3
HRM 6042	Strategic Workforce Planning	3
Concentration Electives		
Choose from the following:		7
CMN 6096	Cultural Communications Lab	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6035	Digital Human Resources Platforms	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

[2] Introduction to Human Resources Management (HRM 6015) is required for students who do not have at least two years of professional experience in human resources. Students with two years or more of professional project experience may substitute electives to satisfy the required program hours.

LEADERSHIP

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6135	Ethical Leadership	3
Concentration Electives		
Choose from the following:		6
CMN 6095	Foundations of Developing Cultural Awareness	
HRM 6050	Employee Engagement	
LDR 6115	Developing Strategic and Authentic Leadership Communication	
LDR 6140	Leadership Strategy, Design, and Practice	
LDR 6145	Developing Sustainable Global Leadership	
LDR 6150	Innovation and Organizational Transformation	

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [3]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Concentration Electives		
Choose from the following:		5
PJM 6125	Project Evaluation and Assessment	
PJM 6135	Project Quality Management	
PJM 6140	Managing Troubled Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6810	Principles of Agile Project Management	

[3] Students with project management experience are not required to take Foundations of Project Management (PJM 5900) and may substitute electives to satisfy the required program hours.

PUBLIC AND MEDIA RELATIONS

Code	Title	Hours
Required Courses		
PBR 6100	Introduction to Public Relations	3
PBR 6135	Public Relations Strategy and Planning	3
PBR 6710	Public Relations Research: Understanding External Audiences	3
Concentration Electives		
Choose from the following:		7
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6050	Crisis Communication	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
PBR 6001	Communications Technology Lab	
PBR 6125	Community Relations and Corporate Social Responsibility	
PBR 6130	Public Relations Content Development	
PBR 6140	Advanced Public Relations Content Development	

SALES MANAGEMENT

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3
Concentration Electives		
Complete a minimum of 6 quarter hours from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6060	Negotiation, Mediation, and Facilitation	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6135	Ethical Leadership	
PJM 5900	Foundations of Project Management	
PJM 6185	Managing Innovation Projects	
PJM 6210	Communication Skills for Project Managers	
SMT 6983	Special Topics	

SOCIAL MEDIA

Code	Title	Hours
Required Courses		
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	3
DGM 6285	Interactive Marketing Fundamentals	4
DGM 6290	Social Media and Brand Strategy Implementation	4
Concentration Electives		
Choose from the following:		5
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6075	Digital Marketing Analytics	
CMN 6096	Cultural Communications Lab	
DGM 6168	Usability and Human Interaction	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
PBR 6001	Communications Technology Lab	

Human Resources Management, MS

The human resources management program in the College of Professional Studies is designed to prepare students to make the connection between an organization's strategy and its people and other key stakeholders. The program focuses on vital human resource competencies and analytical skills—with an emphasis on experiential learning—required for students to serve as strategic business partners in their organizations. Students also have the opportunity to tailor their studies to support their specific career objectives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Based on your experience, complete one of the two options below:		
Two or more years of human resources experience:		6
HRM 6025	Workforce Analytics	
HRM 6042	Strategic Workforce Planning	
Fewer than two years of experience:		9
HRM 6015	Introduction to Human Resources Management	
HRM 6025	Workforce Analytics	
HRM 6042	Strategic Workforce Planning	
Core Electives		
Complete four of the following:		12
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6035	Digital Human Resources Platforms	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

Capstone

Code	Title	Hours
HRM 6940	Projects for Professionals	4

Concentration or Electives

In addition to the core requirements, students may complete either a combination of a concentration and additional electives or selecting any courses in the concentrations and elective lists.

CONCENTRATIONS

- Artificial Intelligence for Human Resources (p. 858)
- Digital Human Resources (p. 858)
- Global Talent Management (p. 858)
- Leadership (p. 859)
- Organizational Communication (p.)
- Project Management (p. 859)

ELECTIVES

Code	Title	Hours
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6050	Crisis Communication	
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6096	Cultural Communications Lab	

CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management
COP 6940	Personal and Career Development
LDR 6101	Leadership Challenge Lab

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

ARTIFICIAL INTELLIGENCE FOR HUMAN RESOURCES

Code	Title	Hours
Required Courses		
EAI 6070	Human Resources Information Processing	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3
Electives		
Complete two of the following:		6
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6040	Data Mining Applications	
ALY 6060	Decision Support and Business Intelligence	
ALY 6110	Data Management and Big Data	

DIGITAL HUMAN RESOURCES

Code	Title	Hours
Required Course		
HRM 6035	Digital Human Resources Platforms	3
Electives		
Choose from the following:		13
ALY 6000	Introduction to Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6060	Decision Support and Business Intelligence	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6096	Cultural Communications Lab	
PBR 6001	Communications Technology Lab	

GLOBAL TALENT MANAGEMENT

Code	Title	Hours
Required Course		
HRM 6070	Global Human Resources Management	3
Electives		
Choose from the following:		12
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation	
CMN 6095	Foundations of Developing Cultural Awareness	
CMN 6096	Cultural Communications Lab	
GST 6101	Global Literacy, Culture, and Community	
HRM 6072	Global and Comparative Employment/Employee Relations	
HRM 6074	Global Talent Acquisition and Mobility	
LDR 6145	Developing Sustainable Global Leadership	
PJM 6145	Global Project Management	

LEADERSHIP

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6135	Ethical Leadership	3
Electives		
Complete two of the following:		6
CMN 6095	Foundations of Developing Cultural Awareness	
HRM 6050	Employee Engagement	
LDR 6115	Developing Strategic and Authentic Leadership Communication	
LDR 6140	Leadership Strategy, Design, and Practice	
LDR 6145	Developing Sustainable Global Leadership	
LDR 6150	Innovation and Organizational Transformation	

ORGANIZATIONAL COMMUNICATION

Code	Title	Hours
Required Courses		
CMN 6010	Strategic Communication Management	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6910	Organizational Communication Assessment	3
Electives		
Choose from the following:		7
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6096	Cultural Communications Lab	
CMN 6100	Communication Networks and Managing Information	
PBR 6001	Communications Technology Lab	

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Electives		
Choose from the following:		3
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

Global Studies and International Relations, MS

Globalization has created a world of new opportunities for those savvy enough to recognize them and acquire the new skill sets needed for success in international government, consulting, business and industry, nonprofit, and educational sectors.

This program is designed to prepare students for internationally focused positions that range from traditional practitioners of diplomacy; to development workers; to executives employed in the dynamic world of international consultancy, trade, and industry. With courses enriched by classmates from every continent, students are active learners in a collaborative, cross-cultural setting from their very first course.

The core curriculum ensures all students have a solid grounding in foundational courses such as international politics, economics, security, and diplomacy. Students then select from a broad-based menu of concentrations, allowing them to develop specialties. The program culminates in a capstone experience in which students elect to write a thesis, engage in a case study, or undertake short-term travel to conduct intensive field research.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GST 6100	Globalization and Global Politics and Economics	4
GST 6101	Global Literacy, Culture, and Community	4
GST 6109	Basic Field Research Methods	4
GST 6320	Peace and Conflict	4

Regional Studies Courses

Code	Title	Hours
Complete one of the following:		4
GST 6501	Regional Studies: East Asia	
GST 6502	Regional Studies: Middle East and North Africa	
GST 6503	Regional Studies: Sub-Saharan Africa	
GST 6504	Regional Studies: Europe and Eurasia	
GST 6505	Regional Studies: Southwest and Central Asia	
GST 6506	Regional Studies: Latin America	

Capstone

Code	Title	Hours
Complete one of the following:		4
GST 6920	Case Study in Global Studies	
GST 7990	Thesis	
INT 6900	International Field Study Experience	

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list. *Note:* A minimum of 18–20 quarter hours must be completed within global studies electives.

Concentrations

- Global Health and Development (p.)
- Conflict Resolution (p.)
- Diplomacy (p. 863)
- International Economics and Consulting (p.)

Electives

Code	Title	Hours
Choose from the following:		
Global Studies Electives		
GST 6102	Global Corporate Social Responsibility	
GST 6105	Foundations of Global Studies and International Relations	
GST 6200	The Funders	
GST 6210	The Developers	

GST 6220	Globalization of Emerging Economies
GST 6300	Security and Terrorism
GST 6310	Immigration and Labor
GST 6324	Divided Societies in the Modern World
GST 6326	International Conflict and Cooperation
GST 6327	Conflict and Postconflict Development
GST 6340	The Economics of Development
GST 6350	Global Economics of Food and Agriculture
GST 6360	Nuclear Nonproliferation
GST 6425	Comparative Higher Education Systems Across Regions
GST 6430	Leadership and Management
GST 6525	International Organizations: Law and Diplomacy
GST 6550	U.S. Foreign Policy
GST 6540	Politics of the European Union
GST 6560	Multilateral Diplomacy
GST 6580	Opportunities in International Consulting
GST 6590	Public Diplomacy
GST 6600	The Practice of Diplomacy
GST 6610	Sustainable Development
GST 6700	Global Health Perspectives, Politics, and Experiences in International Development
GST 6710	Critical Issues and Challenges in the Practice of Global Health
GST 6740	Human Rights
GST 6810	International Higher Education
GST 6820	Managing Study Abroad
GST 6830	Managing International Students
GST 6840	The Business of International Education
GST 6850	Immigration and Legal Issues in International Higher Education
GST 6965	Professional Practice in Global Education
GST 7983	Topics
Other Electives	
ALY 6000	Introduction to Analytics
ALY 6010	Probability Theory and Introductory Statistics
CED 6120	Environmental Economics
CED 6130	Sustainable Economic Development
CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation
COP 6940	Personal and Career Development
EDU 6184	Interdisciplinary Foundations
LDR 6145	Developing Sustainable Global Leadership
NPM 6140	Grant and Report Writing
PJM 5900	Foundations of Project Management

Program Credit/GPA Requirements

46 total quarter hours required
Minimum 3.000 GPA required

GLOBAL HEALTH AND DEVELOPMENT

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6210	The Developers	
GST 6340	The Economics of Development	
GST 6350	Global Economics of Food and Agriculture	

GST 6610	Sustainable Development
GST 6700	Global Health Perspectives, Politics, and Experiences in International Development
GST 6710	Critical Issues and Challenges in the Practice of Global Health

CONFLICT RESOLUTION

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6324	Divided Societies in the Modern World	
GST 6326	International Conflict and Cooperation	
GST 6327	Conflict and Postconflict Development	
GST 6300	Security and Terrorism	
GST 6360	Nuclear Nonproliferation	
GST 6740	Human Rights	

DIPLOMACY

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6600	The Practice of Diplomacy	
GST 6540	Politics of the European Union	
GST 6550	U.S. Foreign Policy	
GST 6560	Multilateral Diplomacy	
GST 6590	Public Diplomacy	
GST 6740	Human Rights	

INTERNATIONAL ECONOMICS AND CONSULTING

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6102	Global Corporate Social Responsibility	
GST 6200	The Funders	
GST 6220	Globalization of Emerging Economies	
GST 6310	Immigration and Labor	
GST 6340	The Economics of Development	
GST 6430	Leadership and Management	
GST 6580	Opportunities in International Consulting	

Nonprofit Management, MS

Facing the threat of privatization and for-profit competition, nonprofit organizations are challenged to find leaders who not only possess keen business and managerial skills but can also effect change at a community or social level. Being successful in this dynamic and rewarding field requires strong leadership, managerial and interpersonal skills, as well as in-depth knowledge of fundraising, marketing, program development, and governance issues.

Integrating theoretical approaches with practical applications, the Master of Science in Nonprofit Management seeks to prepare you for a leadership position in a not-for-profit university, hospital, charity, foundation, or religious organization. Upon completion of this nonprofit degree, you emerge well equipped to embark on a career in nonprofit management—prepared, and inspired, to make a meaningful impact.

The mission of the Master of Science in Nonprofit Management at the College of Professional Studies is to offer courses that further develop the students' knowledge, skills, talent, and abilities. Faculty in the program support students' development goals through action-oriented courses that link theoretical learning to practical application. Nonprofit management courses aim to prepare students to be mission-driven executive leaders, managers, employees, and board members in public and private nonprofit organizations.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NPM 6100	Strategic Management for the Nonprofit Sector	3
NPM 6110	Legal and Governance Issues in Nonprofit Organizations	3
NPM 6120	Financial Management for Nonprofit Organizations	3
NPM 6125	Promoting Nonprofit Organizations	3
NPM 6130	Fundraising and Development for Nonprofit Organizations	3
NPM 6140	Grant and Report Writing	3
NPM 6150	Human Resources Management in Nonprofit Organizations	3
NPM 6980	Capstone	3

Concentration or Electives Option

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list (p. 864).

- Fundraising (p. 865)
- Leadership and Communication (p. 865)
- Project Management
- Sales Management
- Social Innovation
- Social Media Analytics (p. 867)

Electives

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the program.		
Nonprofit Management Electives		
NPM 6210	Social Value Investing and Effective Partnerships	
NPM 6220	Donor Research and Management	
NPM 6230	Measuring Social Impact	
NPM 6240	Managing the Annual Fund	
NPM 6310	Social and Sustainable Entrepreneurship	
NPM 6320	New Ventures in Social Entrepreneurship	
Other Electives		
ALY 6000	Introduction to Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
CMN 6000	Introduction to Organizational Communication	
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	

CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance
CMN 6050	Crisis Communication
CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6065	Implementation and Management of Social Media Channels and Online Communities
CMN 6080	Intercultural Communication
CMN 6090	Organizational Culture, Climate, and Communication
CMN 6100	Communication Networks and Managing Information
COP 6940	Personal and Career Development
DGM 6285	Interactive Marketing Fundamentals
DGM 6290	Social Media and Brand Strategy Implementation
EDU 6184	Interdisciplinary Foundations
GST 6610	Sustainable Development
INT 6000	Writing Lab
INT 6943	Integrative Experiential Learning
LDR 6110	Leading Teams Strategically in a Global Environment
LDR 6120	Developing Organizational Success through Leadership Development
LDR 6135	Ethical Leadership
LDR 6140	Leadership Strategy, Design, and Practice
LDR 6150	Innovation and Organizational Transformation
PJM 5900	Foundations of Project Management
PJM 6005	Project Scope Management
PJM 6015	Project Risk Management
PJM 6025	Project Scheduling and Cost Planning
PJM 6135	Project Quality Management

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

FUNDRAISING

Code	Title	Hours
Required Courses		
NPM 6210	Social Value Investing and Effective Partnerships	3
NPM 6220	Donor Research and Management	3
NPM 6230	Measuring Social Impact	3
Electives		
Complete a minimum of 6 quarter hours from the following:		6
ALY 6000	Introduction to Analytics	
ALY 6010 and ALY 6070	Probability Theory and Introductory Statistics and Communication and Visualization for Data Analytics	
DGM 6285	Interactive Marketing Fundamentals	
DGM 6290	Social Media and Brand Strategy Implementation	
NPM 6240	Managing the Annual Fund	

LEADERSHIP AND COMMUNICATION

Code	Title	Hours
Required Courses		
CMN 6090	Organizational Culture, Climate, and Communication	3
LDR 6150	Innovation and Organizational Transformation	3
Electives		
Complete a minimum of 9 quarter hours from the following:		9
CMN 6000 and INT 6000	Introduction to Organizational Communication and Writing Lab	

CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6080	Intercultural Communication
CMN 6100	Communication Networks and Managing Information
LDR 6120	Developing Organizational Success through Leadership Development
LDR 6135	Ethical Leadership
LDR 6110	Leading Teams Strategically in a Global Environment
LDR 6140	Leadership Strategy, Design, and Practice

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Elective		
Complete one of the following: [1]		5
PJM 6125	Project Evaluation and Assessment	
PJM 6135	Project Quality Management	
PJM 6140	Managing Troubled Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6810	Principles of Agile Project Management	

[1] *Note:* Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete Foundations of Project Management (PJM 5900) may substitute any additional project management elective to satisfy the required program hours.

SALES MANAGEMENT

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3
Elective Courses		
Complete a minimum of 6 quarter hours from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6060	Negotiation, Mediation, and Facilitation	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6135	Ethical Leadership	
PJM 5900	Foundations of Project Management	
PJM 6210	Communication Skills for Project Managers	
PJM 6185	Managing Innovation Projects	
SMT 6983	Special Topics	

SOCIAL INNOVATION

Code	Title	Hours
Required Courses		
NPM 6230	Measuring Social Impact	3
NPM 6310	Social and Sustainable Entrepreneurship	3
NPM 6320	New Ventures in Social Entrepreneurship	3
Electives		
Complete a minimum of 6 quarter hours from the following:		6

ALY 6000	Introduction to Analytics
ALY 6010 and ALY 6070	Probability Theory and Introductory Statistics and Communication and Visualization for Data Analytics
DGM 6285	Interactive Marketing Fundamentals
DGM 6290	Social Media and Brand Strategy Implementation
GST 6610	Sustainable Development
LDR 6120	Developing Organizational Success through Leadership Development
PJM 5900	Foundations of Project Management
PJM 6125	Project Evaluation and Assessment
PJM 6983	Topics

SOCIAL MEDIA ANALYTICS

Code	Title	Hours
Required Courses		
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	3
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	3
DGM 6285	Interactive Marketing Fundamentals	4
Electives		
Complete a minimum of 5 quarter hours from the following:		5
ALY 6000	Introduction to Analytics	
ALY 6110 and ALY 6070	Data Management and Big Data and Communication and Visualization for Data Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
DGM 6290	Social Media and Brand Strategy Implementation	

Organizational Leadership, MS

As today's workforce continues to be faced by new challenges, leadership tasks and responsibilities have become more important as well as more complex. The Master of Science in Organizational Leadership uses a practical, experiential learning approach to help students examine and develop their individual leadership styles while building skills that inspire and drive productive activity in all kinds of professional environments. Graduates are well able to perform at a higher level regardless of their position within the organization, demonstrate readiness for promotion, start their own business or consulting practice, take on global strategic and management challenges, and drive organizational change and innovation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6115	Developing Strategic and Authentic Leadership Communication	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6135	Ethical Leadership	3
LDR 7980	The Capstone: Demonstrating Leadership in Action	4

Concentration or Electives

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and elective list.

CONCENTRATIONS

- Coaching
- Health Management (p. 869)
- Human Resources Management (p. 869)
- Leading and Managing Technical Projects (p. 869)
- Organizational Communication (p. 869)
- Project Management (p. 870)
- Sales Management (p. 870)

ELECTIVES

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the Organizational Leadership program.		
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6095	Foundations of Developing Cultural Awareness	
CMN 6096	Cultural Communications Lab	
EDU 6184	Interdisciplinary Foundations	
HRM 6042	Strategic Workforce Planning	
HRM 6050	Employee Engagement	
HRM 6070	Global Human Resources Management	
HRM 6074	Global Talent Acquisition and Mobility	
INT 6900	International Field Study Experience	
LDR 6101	Leadership Challenge Lab	
LDR 6140	Leadership Strategy, Design, and Practice	
LDR 6145	Developing Sustainable Global Leadership	
LDR 6150	Innovation and Organizational Transformation	
LDR 6190	Leadership Coaching for Purpose and Performance	
LDR 6983	Topics	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

COACHING

Code	Title	Hours
LDR 6190	Leadership Coaching for Purpose and Performance	3
LDR 6195	Advanced Leadership Coaching: An Interdisciplinary Approach	3
Complete three of the following:		9
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6095	Foundations of Developing Cultural Awareness	
HRM 6050	Employee Engagement	
LDR 6150	Innovation and Organizational Transformation	

HEALTH MANAGEMENT

Code	Title	Hours
HMG 6110	Organization, Administration, Financing, and History of Healthcare	3
HMG 6130	Healthcare Strategic Management	3
HMG 6140	Principles of Population-Based Management	3
HMG 6160	Healthcare Information Systems Management	3
HMG 6170	Health Law, Politics, and Policy	3

HUMAN RESOURCES MANAGEMENT

Code	Title	Hours
Required Courses		
HRM 6015	Introduction to Human Resources Management	3
HRM 6025	Workforce Analytics	3
Complete three of the following (students waived out of HRM 6015, complete four of the following):		9-12
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6042	Strategic Workforce Planning	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

LEADING AND MANAGING TECHNICAL PROJECTS

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives from the following list to satisfy the required program hours.

- Project Evaluation and Assessment (PJM 6125)
- Project Quality Management (PJM 6135)
- Managing Troubled Projects (PJM 6140)
- Introduction to Program and Portfolio Management (PJM 6710)

ORGANIZATIONAL COMMUNICATION

Code	Title	Hours
CMN 6000	Introduction to Organizational Communication	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6050	Crisis Communication	3

CMN 6090	Organizational Culture, Climate, and Communication	3
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management	3
INT 6000	Writing Lab	1

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [2]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Electives		**3**
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

[2] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

SALES MANAGEMENT

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3
Elective Courses		
Complete a minimum 6 quarter hours from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6060	Negotiation, Mediation, and Facilitation	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6135	Ethical Leadership	
PJM 5900	Foundations of Project Management	
PJM 6210	Communication Skills for Project Managers	
PJM 6185	Managing Innovation Projects	
SMT 6983	Special Topics	

Project Management, MS

Companies succeed or fail based on their ability to bring quality products and services to market in a timely manner. Without skilled project managers in place, companies are challenged to deliver projects on time, on budget, and according to specifications. From inception to completion, project managers are responsible for every step in the process: project definition, cost and risk estimation, schedule planning and monitoring, budget management, negotiation and conflict resolution, project leadership, and project presentation and evaluation.

The Master of Science in Project Management is designed to provide you with the practical skills and theoretical concepts you need to lead complex projects. Featuring real-world case studies, this project management degree presents techniques and tools for managing long- and short-term projects successfully and cost-effectively. Augmenting the core project management courses are concentrations that seek to provide you with content-specific expertise that enables you to deepen your knowledge in your field of interest.

In October of 2021, the Master of Science in Project Management accreditation was re-affirmed for the maximum five-year accreditation cycle (originally accredited in 2009) by the Project Management Institute Global Accreditation Center for Project Management Education Programs (GAC) (https://www.pmi.org/), the world's leading association for project management professionals. Accreditation is achieved by meeting the GAC's rigorous standards, which include an assessment of program objectives and outcomes, a review of onsite and online resources, evaluations of faculty and students, and proof of continuous improvements in the area of project management.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
PJM 6135	Project Quality Management	3
The following course should be taken last:		
PJM 6910	Capstone	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

Concentration or Electives

The remaining required quarter hours for the program may be completed by a combination of completing a concentration, project management electives, and 6000-level electives or a combination of project management electives and selecting any courses listed in the concentrations and electives lists.

CONCENTRATIONS

- Agile Project Management (p. 872)
- Analytics (p. 872)
- Construction Management (p. 872)
- Leadership (p. 873)
- Leading and Managing Technical Projects (p.)
- Organizational Communication (p.)
- Project Business Analysis (p.)

PROJECT MANAGEMENT ELECTIVES

Code	Title	Hours
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	

PJM 6185	Managing Innovation Projects
PJM 6205	Leading and Managing Technical Projects
PJM 6210	Communication Skills for Project Managers
PJM 6215	Leading Remote Project Teams
PJM 6710	Introduction to Program and Portfolio Management
PJM 6983	Topics

ELECTIVES LIST

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the project management program:		
CMN 6000	Introduction to Organizational Communication	
CMN 6005	Foundations of Professional Communication	
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6095	Foundations of Developing Cultural Awareness	
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management	
COP 6940	Personal and Career Development	
EDU 6184	Interdisciplinary Foundations	
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

CONCENTRATION IN AGILE PROJECT MANAGEMENT

Code	Title	Hours
Students in this concentration are only required to complete one project management required elective.		
PJM 6205	Leading and Managing Technical Projects	3
PJM 6810	Principles of Agile Project Management	3
PJM 6815	Advanced Agile Project Management	3
PJM 6820	Agile Implementation and Governance	3
PJM 6825	Agile Lean Product Development	3

CONCENTRATION IN ANALYTICS

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Complete one of the following:		3
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

CONCENTRATION IN CONSTRUCTION MANAGEMENT

Code	Title	Hours
CMG 6400	Introduction to Construction Management	4
CMG 6402	Alternative Project Delivery Methods and Project Controls	4
CMG 6403	Safety, Project Risk, and Quality Management	4
CMG 6405	Construction Law	4

CONCENTRATION IN LEADERSHIP

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6150	Innovation and Organizational Transformation	3
Elective		
Complete one of the following:		3
LDR 6135	Ethical Leadership	
LDR 6140	Leadership Strategy, Design, and Practice	

CONCENTRATION IN LEADING AND MANAGING TECHNICAL PROJECTS

Code	Title	Hours
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3
PJM 6825	Agile Lean Product Development	3

CONCENTRATION IN ORGANIZATIONAL COMMUNICATION

Code	Title	Hours
Required Course		
CMN 6000 and INT 6000	Introduction to Organizational Communication and Writing Lab	4
Electives		
Complete four of the following:		12
CMN 6020	Ethical Issues in Organizational Communication	
CMN 6050	Crisis Communication	
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management	

CONCENTRATION IN PROJECT BUSINESS ANALYSIS

Code	Title	Hours
PJM 6185	Managing Innovation Projects	3
PJM 6610	Foundations of Project Business Analysis	3
PJM 6620	Strategy Analysis and Needs Assessment	3
PJM 6630	Requirements Analysis and Design	3
PJM 6640	Leadership Strategies for the Business Analyst	3

Regulatory Affairs, MS

The rapid advancement of technology within healthcare and other sectors has driven the evolution of a complex global regulatory landscape and concurrently created the need for professionals with the skills necessary to facilitate the commercialization of products used therein. In response to this demand, Northeastern University's College of Professional Studies offers the Master of Science in Regulatory Affairs degree.

This unique graduate degree is designed to both broaden and deepen the student's understanding of current global compliance requirements and their practical application in the design, development, approval, and postmarketing of products utilized within regulated industries. Courses within this degree program offer students an opportunity to integrate scientific and technical knowledge and engineering and regulatory perspectives within the larger context of global product commercialization. From research and discovery through the postmarket phase of product utilization, the Master of Science in Regulatory Affairs degree examines the processes required for stakeholders to maintain compliance to product standards and regulations throughout the global marketplace.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
BTC 6210	Human Experimentation: Methodological Issues Fundamentals	4
RGA 6002	Introduction to Regulatory Compliance and Practice	2
RGA 6203	Pharmaceutical and Medical Device Law: Topics and Cases	5
or RGA 6204	Legal Issues in International Food, Drug, and Medical Device Regulation	
RGA 6212	Introduction to Safety Sciences	4
RGA 6463	Regulatory Strategy for Product Development and Life-Cycle Management	4

Capstone

Code	Title	Hours
RGA 6300	Practical Applications in Global Regulatory Affairs	4

The remaining quarter hours may be completed by selecting a combination of a concentration and additional electives or selecting any courses listed in the concentrations and electives lists.

Concentrations

- Biopharmaceutical Regulatory Affairs (p. 875)
- Clinical Research Regulatory Affairs (p. 875)
- Medical Device Regulatory Affairs (p. 875)
- Nonclinical Biomedical Product Regulation (p. 875)
- Quality Assurance Compliance (p.)

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Elective Courses

Code	Title	Hours
General Electives		
COP 6940	Personal and Career Development	
EDU 6184	Interdisciplinary Foundations	
INT 6943	Integrative Experiential Learning	
RGA 6205	Emerging Trends and Issues in the Medical Device Industry	
RGA 6210	Strategic Planning and Project Management for Regulatory Affairs	
RGA 6215	Project Management in Early Drug Discovery and Development	
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6219	Advanced Topics in Advertising and Promotion of Drugs and Medical Devices	
RGA 6255	Global Convergence of Regulatory Science and Reimbursement/Market Access	
RGA 6461	Cybersecurity and Regulation of Digital Health Technologies by the FDA	
Regulatory Affairs of Food		
GST 6350	Global Economics of Food and Agriculture	

GST 6610	Sustainable Development
GST 6102	Global Corporate Social Responsibility
RFA 6220	Food Safety and Surveillance: Concepts and Applications
International Regulatory Affairs	
RGA 6221	European Union Compliance Process and Regulatory Affairs
RGA 6222	European Medical Device Regulations
RGA 6223	Introduction to Australian, Asian, and Latin American Regulatory Affairs
RGA 6224	Regulation of Biomedical Product Commercialization by Health Canada
RGA 6228	Managing International Clinical Trials
RGA 6228	Managing International Clinical Trials
RGA 6243	Medical Device Product Development in Canada
RGA 6244	Therapeutic Product Development in Canada

Concentrations

BIOPHARMACEUTICAL REGULATORY AFFAIRS

Code	Title	Hours
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	2
RGA 6101	Therapeutic Product Development: A Regulatory Overview	4
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6380	Advanced Regulatory Writing: New Drug Applications	4
Complete one of the following:		4
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6235	Emerging Product Categories in the Regulation of Drugs and Biologics	

CLINICAL RESEARCH REGULATORY AFFAIRS

Code	Title	Hours
BTC 6211	Validation and Auditing of Clinical Trial Information	4
BTC 6213	Clinical Trial Design Optimization and Problem Solving	4
RGA 6101	Therapeutic Product Development: A Regulatory Overview	4
or RGA 6202	Medical Device Development: A Regulatory Overview	
Complete one of the following:		4
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6228	Managing International Clinical Trials	

MEDICAL DEVICE REGULATORY AFFAIRS

Code	Title	Hours
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	2
RGA 6202	Medical Device Development: A Regulatory Overview	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
Complete one of the following:		6
RGA 6205	Emerging Trends and Issues in the Medical Device Industry	
RGA 6222	European Medical Device Regulations	
RGA 6243	Medical Device Product Development in Canada	
RGA 6275	Product Development and Process Validation	
RGA 6370	Advanced Regulatory Writing: Medical Device Submissions	

NONCLINICAL BIOMEDICAL PRODUCT REGULATION

Code	Title	Hours
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6405	Nonclinical Regulations in Biomedical Product Commercialization	4
RGA 6420	Global IVD Regulations and Submissions	4

QUALITY ASSURANCE COMPLIANCE

Code	Title	Hours
Complete one of the following:		2
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	
RGA 6461	Cybersecurity and Regulation of Digital Health Technologies by the FDA	
Complete the following:		
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6234	Risk Management: Compliance and Processes	4
RGA 6275	Product Development and Process Validation	2
Choose from the following to reach 16 quarter hours:		4
RGA 6221	European Union Compliance Process and Regulatory Affairs	
RGA 6410	Fundamentals of CMC Regulations and Methods	
RFA 6220	Food Safety and Surveillance: Concepts and Applications	

Sports Leadership, MSLD

The practice-oriented sports leadership master's degree is structured to accommodate midcareer athletic administrators and coaches, as well as individuals seeking to prepare for careers in the sports industry.

Developed in collaboration with Northeastern University's Center for the Study of Sport in Society, the Master of Sports Leadership seeks to prepare you for a variety of sport-related occupations—whether it's working with a professional or intercollegiate sports team; with a fitness club or wellness organization; or in marketing, communication, or sports management. Courses within this unique graduate degree examine the social and business issues that are critical to sports leadership. Offered in an online format with intensive one-week institutes in Boston and Charlotte, this practice-oriented degree seeks to provide you with a well-rounded educational experience, equipping you to advance your career in the sports industry.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6400	Sports Management	3
LDR 6405	Sport in Society [1]	3
LDR 6410	Leadership and Organization in Sport	3
LDR 6430	Sports Law	3
LDR 6441	Sports Media Relations [1]	3

[1] Summer institute course are delivered on-ground on the Boston campus. Winter institute courses are delivered on-ground on the Charlotte campus.

Internship/Capstone

Code	Title	Hours
Complete one of the following. This course should be the last course taken and requires faculty advisor approval:		3
LDR 6961	Internship	
LDR 6980	Capstone	

The remaining 27 of 45 quarter hours may be completed by a combination of completing a concentration and additional electives or by selecting any courses listed in the concentrations and electives lists.

Concentrations

- Professional Sports Administration (p. 878)
- Collegiate Athletics Administration (p. 878)
- Analytics (p. 878)
- eSports (p. 878)

Electives List

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the Sports Leadership program:		
ALY 6000	Introduction to Analytics	
ALY 6015	Intermediate Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
CMN 6040	Consumer Behaviors in the Online Environment	
DGM 6400	Game Design Fundamentals	
DGM 6516	Virtual and Augmented Reality (VR/AR)	
EDU 6184	Interdisciplinary Foundations	
INT 6943	Integrative Experiential Learning	
LDR 6323	Event Management	
LDR 6427	Gender and Diversity in Sport	

LDR 6435	Fiscal Practices in Sports
LDR 6440	Sports Marketing and Promotions
LDR 6442	Athletic Fund-Raising
LDR 6443	Ticket Sales and Strategies
LDR 6445	Corporate Sponsorships
LDR 6465	Title IX
LDR 6455	NCAA Compliance
LDR 6470	Bystander Strategies for the Prevention of Gender-Based Violence
LDR 6480	The Business of eSports
LDR 6615	Academic Advising for Student-Athletes

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

PROFESSIONAL SPORTS ADMINISTRATION

Code	Title	Hours
LDR 6323	Event Management	3
LDR 6435	Fiscal Practices in Sports	3
LDR 6440	Sports Marketing and Promotions	3
LDR 6445	Corporate Sponsorships	3
LDR 6443	Ticket Sales and Strategies	3
LDR 6460	Risk Management in Athletics	3

COLLEGIATE ATHLETICS ADMINISTRATION

Code	Title	Hours
LDR 6427	Gender and Diversity in Sport	3
LDR 6442	Athletic Fund-Raising	3
LDR 6455	NCAA Compliance	3
LDR 6465	Title IX	3
LDR 6470	Bystander Strategies for the Prevention of Gender-Based Violence	3
LDR 6615	Academic Advising for Student-Athletes	3

ANALYTICS

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Complete two of the following:		6
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

ESPORTS

Code	Title	Hours
CMN 6040	Consumer Behaviors in the Online Environment	3
LDR 6323	Event Management	3
LDR 6480	The Business of eSports	3
LDR 6445	Corporate Sponsorships	3
DGM 6400	Game Design Fundamentals	4
DGM 6516	Virtual and Augmented Reality (VR/AR)	2

Graduate Certificate Programs

Gain a competitive advantage and stand out in the job market with a graduate certificate from Northeastern University's College of Professional Studies. With over 41 certificates available in fields such as education, project management, leadership, and technology, you'll find a flexible and convenient way to build your skills and career potential. To accommodate your life, courses are offered online, on campus, or in a hybrid format.

Programs

- 3D Animation (p. 880)
- Agile Project Management (p. 881)
- Applied Analytics (p. 882)
- Biopharmaceutical Regulatory Affairs (p. 883)
- Cloud Computing Application and Management (p. 884)
- Collegiate Athletics Administration (p. 885)
- Construction Management (p. 886)
- Cross-Cultural Communication (p. 887)
- Digital Media Management (p. 888)
- Digital Video (p. 889)
- eSports (p. 889)
- Experiential Teaching and Learning (p. 890)
- Financial Markets and Institutions (p. 891)
- Forensic Accounting (p. 892)
- Fundraising and Development (p. 893)
- Game Design (p. 894)
- Geographic Information Systems (p. 895)
- Global Studies and International Relations (p. 896)
- Health Management (p. 897)
- Higher Education Administration (p. 898)
- Human-Centered Informatics (p. 899)
- Human Resources Management (p. 900)
- Information Security Management (p. 901)
- Insurance Analytics and Management (p. 902)
- Integrative Health and Wellness (p. 903)
- Interactive Design (p. 904)
- International Biopharmaceutical Regulatory Affairs (p. 905)
- Leadership (p. 906)
- Leading and Managing Technical Projects (p. 907)
- Learning Experience Design and Technology (p. 908)
- Medical Device Regulatory Affairs (p. 909)
- Nonclinical Biomedical Product Regulation (p. 910)
- Nonprofit Management (p. 911)
- Organizational Communication (p. 912)
- Professional Sports Administration (p. 913)
- Project Business Analysis (p. 914)
- Project Management (p. 915)
- Public and Media Relations (p. 916)
- Quality Assurance Compliance (p. 917)
- Remote Sensing (p. 918)
- Sales Management (p. 919)
- Social Media for Organizational Performance
- Usability (p. 921)

3D Animation, Graduate Certificate

3D animation is not only a major component in the film and broadcast industries, it is also a crucial element in online entertainment and a driving force for the gaming industry. Companies use animation in advertisements, websites, and training programs. The growing use of gaming technologies in education and industry (often referred to as serious games) has given rise to a need for skilled animators who can work closely with business and academic institutions.

The Graduate Certificate in 3D Animation offers a practice-oriented approach to the art and science of animation, with a particular emphasis on the special requirements of 3D modeling and animating for the gaming industry. Course work is designed to develop students' powers of visualization as well as provide a conceptual basis for visual narrative. The program seeks to produce graduates who are skilled in the use of industry-standard animation applications; understand visual principles of lighting, modeling, and surfacing; and are conversant with motion and special effects compositing.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6450	Animation Basics	4
DGM 6510	3D Modeling	4
DGM 6530	Character Animation	4

Elective Courses

Code	Title	Hours
Complete a minimum of four quarter hours from the following:		4
DGM 6515	Introduction to After Effects	
DGM 6535	Rigging Principles and Techniques	
DGM 6540	Compositing	

Program Credit/GPA Requirements

16 quarter hours required
Minimum 3.000 GPA required

Agile Project Management, Graduate Certificate

Northeastern University's graduate certificate in agile is designed to empower students to explore agile principles and practice and remain up-to-date with current trends in the agile framework. The increasingly important role of agile practitioners and managers is becoming clear as agile business development processes are being adopted by major companies because of its high degree of success in achieving improved time to market, reducing costs, and increasing overall customer satisfaction.

The graduate certificate in agile is led by highly credentialed faculty members that are agile practitioners with decades of experience in helping companies successfully implement agile in their organizations.

Through courses you take online, our agile graduate certificate project management curriculum will give you the opportunity to:

- Develop a strong framework and understanding of the role of agile management
- Develop an understanding of the agile management processes and methodologies
- Develop an understanding of how an agile approach to managing projects can deliver value to the organization
- Develop a personal leadership strategy for success as an agile practitioner
- Develop an agile evaluation plan to measure success

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6810	Principles of Agile Project Management	3
PJM 6815	Advanced Agile Project Management	3
PJM 6820	Agile Implementation and Governance	3
PJM 6825	Agile Lean Product Development	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks and is recommended for students who do not have a basic working knowledge of Microsoft Project software. Students who do not complete Foundations of Project Management (PJM 5900) take project management elective credits to satisfy the required credits for the program.

Elective Courses

Code	Title	Hours
INT 6940	Experiential Learning Projects for Professionals	1-4
INT 6943	Integrative Experiential Learning	3
PJM 6075	Project Finance	3
PJM 6125	Project Evaluation and Assessment	3
PJM 6140	Managing Troubled Projects	3
PJM 6145	Global Project Management	3
PJM 6175	Project Resource Management	3
PJM 6180	Project Stakeholder Management	3
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6710	Introduction to Program and Portfolio Management	3
PJM 6983	Topics	1-4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Applied Analytics, Graduate Certificate

In a global environment characterized by digital transformation, rapid change, and high levels of uncertainty, the ability to hire, reskill, and upskill analytic talent is a major driver of organizational performance. The Graduate Certificate in Applied Analytics in the College of Professional Studies is designed to prepare students to develop analytical skills that will support decision making in an organization's strategy. The certification focuses on data discipline: navigating the sea of information that's generated by machines; technical ability: understanding how machines function and how to interact with them; and the human discipline: what humans can do that machines, for the foreseeable future, cannot emulate—all with an emphasis on experiential learning. Students also will have the opportunity to tailor their studies to support their specific career objectives.

To address the needs of students who are currently in an analytical role, as well as those who are new to the field, the certification curriculum incorporates a broad menu of course options and a pathway through the program based on a student's experience level, as well as concentrations that are aligned with student career objectives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Core Courses

Code	Title	Hours
Required Courses		
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Electives		
Complete two of the following:		6
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Biopharmaceutical Regulatory Affairs, Graduate Certificate

The biotechnology and pharmaceutical industries continue to experience rapid growth in the U.S. market. As companies in these industries seek approval to market their products in the United States, demand for qualified regulatory affairs professionals continues to increase. Product development scientists, marketers, quality personnel, as well as legal experts that guide companies through the Food and Drug Administration (FDA) approval process, will benefit from regulatory affairs training.

The Graduate Certificate in Biopharmaceutical Regulatory Affairs is designed to provide students with a greater understanding of U.S. biologic and pharmaceutical product regulation and their unique development, marketing, manufacturing, and postmarket approval-related issues. The program also seeks to prepare students to ensure regulatory compliance, proper validation, and utilization of proper quantitative measurement techniques. Courses from this certificate may be applied toward the Master of Science in Regulatory Affairs for Drugs, Biologics, and Medical Devices.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	2
RGA 6101	Therapeutic Product Development: A Regulatory Overview	4
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6380	Advanced Regulatory Writing: New Drug Applications	4
Complete one of the following:		4
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6235	Emerging Product Categories in the Regulation of Drugs and Biologics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Cloud Computing Application and Management, Graduate Certificate

Cloud computing is the delivery of computing services over the internet. Due to the relatively lower cost of IT solutions, many organizations have started to take advantage of cloud services provided by Amazon Web Services, Microsoft Azure, IBM Cloud and SoftLayer, Google Cloud Platform, Salesforce, and so on. These web service providers offer a broad range of global cloud-based IT products, including computing technologies, storage, databases, analytics, networking, mobile, developer tools, management tools, Internet of Things connectivity, and security and enterprise applications. These services can help organizations move faster, facilitate agile development, and better manage scalability.

The cloud computing application and management (CCA&M) graduate certificate offers students an opportunity to develop technical and management skills to address the needs of enterprise IT services. They study theoretical and practical aspects of distributed systems from both technical and business perspectives. Successful students will be able to identify frameworks, techniques, and existing IT solutions to manage internet services at different levels (infrastructure, platform, and software) and will also be able to demonstrate the ability to use APIs to integrate applications and business operations into the cloud. They can be directly employed by web service providers or instead work as IT solutions managers in organizations that contract with web service providers.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 6420	Introduction to Cloud Computing Applications and Management	3
ITC 6450	Advanced Cloud Computing Applications and Management	3
ITC 6015	Enterprise Information Architecture	3
ITC 6460	Cloud Analytics	3
ITC 6520	Network Protection and Cloud Security	3
Complete one of the following:		3-4
ITC 6355	Web Application Design and Development	
ITC 6470	Enterprise Data Storage and Management Technologies	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Collegiate Athletics Administration, Graduate Certificate

College athletics in the United States is comprised of more than 1,200 schools, conferences, and organizations that collectively invest in the well-being of student-athletes—both on and off the field.

The Graduate Certificate in Collegiate Athletics Administration offers students an opportunity to obtain an in-depth understanding of the largest amateur segment of the sports industry. Through the program's curriculum, students will be given the opportunity to acquire leadership skills and knowledge in a variety of collegiate athletics topics including sports management, NCAA compliance, fund-raising, academic advising, gender and diversity in sport, and Title IX legislation.

Credits earned in this certificate may be used to satisfy some of the degree requirements Master of Sports Leadership (p. 877) program. For further information see the Seeking More Than One Certificate or Degree (p. 804) page.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6427	Gender and Diversity in Sport	3
LDR 6442	Athletic Fund-Raising	3
LDR 6455	NCAA Compliance	3
LDR 6465	Title IX	3
LDR 6470	Bystander Strategies for the Prevention of Gender-Based Violence	3
LDR 6615	Academic Advising for Student-Athletes	3

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Construction Management, Graduate Certificate

Over the last two decades, construction in both the public and private sector has become increasingly complex, requiring construction and project managers to have a stronger skill base to be successful in acquiring and executing projects.

The Graduate Certificate in Construction Management is intended to serve owners' representatives, consulting engineers, architects, design engineers, contractors, and subcontractors. Individuals who have a bachelor's degree, but not necessarily in construction, and who have been identified by their companies as having high potential for advancement are also good candidates for this program.

Courses from this certificate may be applied toward the Master of Science in Project Management.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMG 6400	Introduction to Construction Management	4
CMG 6402	Alternative Project Delivery Methods and Project Controls	4
CMG 6403	Safety, Project Risk, and Quality Management	4
CMG 6405	Construction Law	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Cross-Cultural Communication, Graduate Certificate

The Graduate Certificate in Cross-Cultural Communication will help to equip professionals with the knowledge and competencies to:

- Analyze personal cross-cultural awareness and implicit bias, in addition to interpret organizational cross-cultural communication strategy to develop effective communication processes and activities
- Evaluate communication audiences from a holistic perspective, thereby constructing effective verbal and nonverbal interactions based on cross-cultural consumption
- Formulate enlightened cross-cultural communication and inclusive diversity strategies, processes, and policies
- Demonstrate critical thinking skills through research, case analysis, role-plays, and experiential learning demonstrating agility, quick response, and diplomacy employing cross-cultural communication strategies

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation	3
CMN 6095	Foundations of Developing Cultural Awareness	3

Elective Courses

Code	Title	Hours
Choose from the following:		10
CMN 6096	Cultural Communications Lab	
GST 6100	Globalization and Global Politics and Economics	
GST 6101	Global Literacy, Culture, and Community	
HRM 6070	Global Human Resources Management	
INT 6900	International Field Study Experience	
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility	
LDR 6145	Developing Sustainable Global Leadership	
NPM 6230	Measuring Social Impact	
PBR 6100	Introduction to Public Relations	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Digital Media Management, Graduate Certificate

The digital media market space can present unexpected challenges to standard business models. The Graduate Certificate in Digital Media Management offers courses designed to help managers apply best business practices to these nontraditional challenges. Students are offered the opportunity to gain skills in managing functionally diverse digital media teams, responding effectively to response-critical projects, and implementing marketing strategy in a variety of media channels.

Courses in the program were selected by faculty from the College of Professional Studies' Master of Professional Studies in Digital Media. The certificate consists of courses selected from the MPS in Digital Media (p. 833) curriculum.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6279	Project Management for Digital Media	4
DGM 6280	Managing for Digital Media	4
DGM 6285	Interactive Marketing Fundamentals	4
Complete one of the following:		4
DGM 6230	Digital Media Entrepreneurship	
DGM 6290	Social Media and Brand Strategy Implementation	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Digital Video, Graduate Certificate

With the quality and ease of use of digital video camcorders, anyone can capture moving images, but the result is like a Stradivarius violin: It takes training to make music. The Graduate Certificate in Digital Video is a hands-on introduction to digital video technologies, as well as an examination of the social, cultural, and political implications of moving-image production in the digital age. Students have an opportunity to gain competency in digital production and postproduction while exploring various formal, conceptual, and structural strategies. Students will also have an opportunity to learn to generate digital video that communicates effectively and inventively, in preparation for positions in the creative industries of gaming, design, and media production.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6435	Digital Video Production	4
DGM 6440	Editing in the Digital Studio	4
DGM 6506	Introduction to Digital Video	2
DGM 6540	Compositing	4
Complete one of the following:		2
DGM 6515	Introduction to After Effects	
DGM 6516	Virtual and Augmented Reality (VR/AR)	

Elective

Code	Title	Hours
Complete one of the following:		4
DGM 6520	Lighting for the Camera	
DGM 6545	Documentary and Nonfiction Production	

Program Credit/GPA Requirements

20 total quarter hours required
Minimum 3.000 GPA required

eSports, Graduate Certificate

Overview

Students will have the opportunity to take specialized courses that focus on the emerging eSports field. The certificate is designed for professionals in sports leadership careers who want to have a deeper understanding of eSports. It also provides a pathway to prepare sports and gaming enthusiasts with a combination of coursework across graduate programs to confidently enter this emerging sports sector. This is in keeping with the commitment to serve diverse students who may want to explore a nontraditional learning path as they consider a new career or wish to continue career development in synch with changes occurring in the profession around them.

Credits earned in this certificate may be used to satisfy some of the degree requirements of the Master of Sports Leadership program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6040	Consumer Behaviors in the Online Environment	3
DGM 6400	Game Design Fundamentals	4
DGM 6516	Virtual and Augmented Reality (VR/AR)	2
LDR 6323	Event Management	3
LDR 6445	Corporate Sponsorships	3
LDR 6480	The Business of eSports	3

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Experiential Teaching and Learning, Graduate Certificate

Experiential learning has been documented to be an effective pedagogy for promoting deeper learning, fostering student engagement, and ultimately closing the opportunity gap for underserved students. However, many educators and educational leaders are not familiar with best-practice strategies for leading, practicing, and researching experiential learning in their classrooms and therefore need themselves to become adult learners to begin the process of pedagogical transformation.

The Graduate Certificate in Experiential Teaching and Learning is designed to provide K–12 experiential educators with the knowledge, skills, and attitudes needed to design, facilitate, research, and lead engaging and meaningful learning experiences. The program explores the theoretical foundations, approaches, and strategies for learning through experience and how to apply these competencies with a commitment toward fostering educational equity.

Classroom teachers who are interested in transforming their practice as well as educators who are interested in seeking out leadership roles within schools will benefit from earning the Graduate Certificate in Experiential Teaching and Learning as the certificate covers content and skills needed for leading both student and adult experiential learning.

The certificate is comprised of 16 quarter hours, which may be applied toward the Master of Education in Learning and Instruction.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6001	Experiential Learning Theory and Practice	4
EDU 6002	Culturally Responsive Experiential Teaching and Learning	4
EDU 6003	Applied Research in Experiential Teaching and Learning	4
EDU 6004	Leading Experiential Teaching and Learning	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Financial Markets and Institutions, Graduate Certificate

In this rapidly changing business environment, the barriers between institutions are eroding, and competition is increasing due to deregulation and new product development. Managing internal operations more efficiently and adapting to the changing external environment is critical to the long-term survival of institutions. The Graduate Certificate in Financial Markets and Institutions seeks to prepare students to measure the impact of accounting decisions on performance; to manage risks, assets, and liabilities to meet corporate goals; to understand domestic and international financial systems and the institutions within them; and to build financial relationships that foster marketing financial products.

An examination of financial services industry principles and practices seeks to provide individuals working in brokerage houses, investment or commercial banks, insurance companies, or real estate with a greater understanding of financial systems as well as how to manage risks, assets, and liabilities in meeting corporate goals.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
FIN 6101	Accounting Fundamentals for Financial Institutions	3
FIN 6102	Asset and Liability Management	3
FIN 6120	Building Financial Relationships	3
FIN 6161	Investment Analysis	3
Complete four quarter hours of the course below:		
CED 6995	Project	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Forensic Accounting, Graduate Certificate

News surrounding corporate corruption has had a significant impact on businesses, particularly the accounting industry. In response, the government has enacted sweeping accounting and business laws such as the Sarbanes-Oxley 2002 legislation. Additionally, many professional organizations, including the American Institute of Certified Public Accountants (AICPA) and the Association of Certified Fraud Examiners (ACFE), have made the prevention, detection, and prosecution of fraud and accounting abuse a priority.

This **four-course graduate certificate in forensic accounting** is designed to help students apply techniques in identifying, collecting, and examining evidence, including how to identify financial statement misrepresentation, transaction reconstruction, and tax evasion.

Note: Courses from this certificate may not be applied toward the Master of Science in Leadership.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Courses should be taken in the following sequence:

Code	Title	Hours
ACC 6210	Forensic Accounting Principles	3
ACC 6220	Dissecting Financial Statements	3
ACC 6230	Investigative Accounting and Fraud Examination	3
ACC 6240	Litigation Support	3
Complete the following course for four quarter hours:		4
CED 6995	Project	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Fundraising and Development, Graduate Certificate

This Graduate Certificate in Fundraising and Development is designed to prepare students for a career in fundraising and development roles, or provide a transition for a more comprehensive curriculum within the Master of Science in Nonprofit Management. The certificate seeks to provide expert-level skills to students who want to gain experience with the fundraising and development fields using current industry tools and techniques through a student-centered curriculum. Courses are designed to provide a solid foundation of knowledge on fundraising and development, which are areas in the nonprofit field experiencing growth and increased career opportunities.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NPM 6130	Fundraising and Development for Nonprofit Organizations	3
NPM 6140	Grant and Report Writing	3
NPM 6220	Donor Research and Management	3
NPM 6230	Measuring Social Impact	3
NPM 6240	Managing the Annual Fund	3

Elective Courses

Code	Title	Hours
Choose from the following:		1
CMN 6096	Cultural Communications Lab	
INT 6940	Experiential Learning Projects for Professionals	
INT 6000	Writing Lab	
NPM 6100	Strategic Management for the Nonprofit Sector	
NPM 6210	Social Value Investing and Effective Partnerships	
NPM 6995	Project	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Game Design, Graduate Certificate

Game design is one of the fastest-growing fields in entertainment, business, and education. From healthcare to political science, companies use games to educate their constituents and enhance employee skills.

The Graduate Certificate in Game Design offers a practice-oriented approach to the art and science of game making. The program emphasizes visual design and programming for video games and fosters conceptual understanding of the principles of game design for all varieties of games—from educational board games to iPhone games.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6308	Intermediate Programming for Digital Media	4
DGM 6400	Game Design Fundamentals	4
DGM 6403	Game Engine Fundamentals	4
DGM 6405	Game Development	4
DGM 6410	Game Design Technology Lab	4

Program Credit/GPA Requirements

20 total quarter hours required
Minimum 3.000 GPA required

Geographic Information Systems, Graduate Certificate

A geographic information system (GIS) combines layers of data to give needed information on specific locations. Such a system can map environmental sensitivities or geological features or can report on how best to speed emergency personnel to an accident or crime scene. Current fields using GIS include healthcare, public safety, environmental management, transportation and operations technology, real estate, and public utilities.

The Graduate Certificate in Geographic Information Systems program offers hands-on training, seeking to give students the necessary skills and understanding to apply GIS competently and effectively. As a result of the certificate curriculum, students should be well versed in GIS theory, have practical hands-on exposure to GIS software and hardware, understand the representation of data in both mapped and tabular forms, and know how to plan and construct spatial databases.

The courses in this certificate program may be applied to the Master of Professional Studies in Geospatial Services (p. 839).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GIS 5103	Foundations of Geographic Information Science	4
RMS 5105	Fundamentals of Remote Sensing	3
GIS 5201	Advanced Spatial Analysis	3

Electives

Code	Title	Hours
Complete two of the following:		6
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	
GIS 6320	Use and Applications of Free and Open-Source GIS Desktop Software	
GIS 6340	GIS Customization	
GIS 6345	Geospatial Programming	
GIS 6350	Planning a GIS Implementation	
GIS 6360	Spatial Databases	
GIS 6370	Internet-Based GIS	
GIS 6385	GIS/Cartography	
GIS 6983	Topics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Global Studies and International Relations, Graduate Certificate

The Graduate Certificate in Global Studies and International Relations is designed to provide students with the skills and training necessary to analyze, research, and evaluate a topic of interest in a global location. Overall, the program curriculum focuses on the themes of transition and development in the global world. Core courses provide a base of knowledge about global issues and are combined with an elective that allows students to focus on a specific area of interest.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GST 6100	Globalization and Global Politics and Economics	4
GST 6101	Global Literacy, Culture, and Community	4
GST 6320	Peace and Conflict	4

Elective

Code	Title	Hours
Complete one of the following:		4
GST 6501	Regional Studies: East Asia	
GST 6502	Regional Studies: Middle East and North Africa	
GST 6503	Regional Studies: Sub-Saharan Africa	
GST 6504	Regional Studies: Europe and Eurasia	
GST 6505	Regional Studies: Southwest and Central Asia	
GST 6506	Regional Studies: Latin America	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Health Management, Graduate Certificate

Projections for the healthcare industry state that job growth will remain above average into the next decade. The needs of an aging population along with the increased human life cycle are just some of the factors contributing to this growth.

The Graduate Certificate in Health Management examines the financial, political, legal, and operational aspects of a healthcare facility and explores the evolution of healthcare delivery in the United States.

Health managers are found in different roles across healthcare organizations including:

- Strategic planning
- Operations
- Human resources
- Fund-raising
- Purchasing

Health managers are responsible for designing, administering, managing, and evaluating health policies, programs, and services. The courses in this certificate also serve as a concentration in the Master of Science in Leadership program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
HMG 6110	Organization, Administration, Financing, and History of Healthcare	3
HMG 6120	Human Resource Management in Healthcare	3
NPM 6120	Financial Management for Nonprofit Organizations	3
HMG 6130	Healthcare Strategic Management	3

Elective Courses

Code	Title	Hours
Complete two of the following (minimum of 6 quarter hours):		6
NPM 6110	Legal and Governance Issues in Nonprofit Organizations	
NPM 6150	Human Resources Management in Nonprofit Organizations	
HMG 6140	Principles of Population-Based Management	
HMG 6160	Healthcare Information Systems Management	
HMG 6170	Health Law, Politics, and Policy	
HRM 6020	Talent Acquisition and Onboarding	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Higher Education Administration, Graduate Certificate

Institutions of higher education around the world are facing considerable pressures that range from changing demographics to financial strain amid disruptions unimaginable 20 years ago. Administrators must develop foundational skills to create conditions that allow their students and institutions to thrive in a constantly changing world. The Graduate Certificate in Higher Education Administration is designed to prepare practitioners for the unique and difficult challenges facing the next generation of higher education professionals. This program allows students the flexibility to build upon their skills in a customized manner with a focus on practical skills and course designs firmly grounded in experiential learning.

The Graduate Certificate in Higher Education Administration program seeks to prepare students with the knowledge to understand the structure, governance, and operation of various higher education organizations. Within the context of classes, students have an opportunity to develop solutions to real-world problems.

Unique Features

- The ability to complete the program 100 percent while accessing and contributing to an extensive professional network—critical in the world of higher education.
- Northeastern faculty who are currently meaningfully engaged in the field, bringing their practical expertise to our students.
- The integration of experiential projects within several courses allowing students to develop practical skills.
- Credits can be applied toward the Master of Education, Higher Education Administration (p. 826) program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Core Courses

Code	Title	Hours
EDU 6202	Faculty, Curriculum, and Academic Community	4
EDU 6205	The Demographics of the New College Student	4
EDU 6219	Higher Education Law and Policy	4

Elective

Code	Title	Hours
Complete one of the following:		4
EDU 6217	The History of Colleges and Universities	
EDU 6218	Money Matters: Financial Management in Higher Education	
EDU 6224	Strategic Leadership in Enrollment Management	
EDU 6234	Program Evaluation, Assessment, and Accreditation in Higher Education	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Human-Centered Informatics, Graduate Certificate

Human-centered informatics (HCI) focuses on the design, development, and evaluation of IT systems with a particular emphasis on the relations and interactions between people and IT systems. The emphasis of understanding users experience when they interact with technology in the information-rich environment and the design of interfaces between users and systems makes it different from the focus of software engineering programs or visual and artistic design programs.

The human-centered informatics graduate certificate offers students the opportunity to learn the theories of cognitive and social psychology as well as universal principles of design adopted in human-computer interaction. Students develop the technical skills to study user experience in various IT environments (home, business, social media, healthcare, etc.), focusing on user needs, information architecture, and design of user interfaces. Successful students that graduate with the HCI graduate certificate will be able to propose innovative or improve design solutions to real-world problems.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems	3
DGM 6461	Interactive Information Design 1	4
DGM 6168	Usability and Human Interaction	4
DGM 6268	Usable Design for Mobile Digital Media	4
Elective		
Complete one of the following:		3-4
DGM 6463	Interactive Information Design 2	
ALY 6070	Communication and Visualization for Data Analytics	
ITC 6355	Web Application Design and Development	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Human Resources Management, Graduate Certificate

In today's multifaceted organizations, human resource professionals must respond to the growing challenges of regulatory compliance, complex benefit plans, and training and motivating employees.

The Graduate Certificate in Human Resources Management seeks to foster a deep understanding of organizational development and effective change management, workforce planning and strategic recruitment, and training and performance management.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
HRM 6015	Introduction to Human Resources Management [1]	3
HRM 6025	Workforce Analytics	3
HRM 6042	Strategic Workforce Planning	3

[1] This course is for students with less than two years of human resources experience. Students who do not complete this course take electives to satisfy required program credits.

Electives

Code	Title	Hours
Complete seven quarters hours of the following:		7
CMN 6096	Cultural Communications Lab	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6035	Digital Human Resources Platforms	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Information Security Management, Graduate Certificate

Information security is a management issue with global business implications. To succeed in today's network economy requires more than simply a focus on information technology (IT) issues. Succeeding also requires a focus on security strategy and management. IT security governance is an overarching consideration in all risk-assessment and management-related endeavors and is important for information security since many issues have legal, regulatory, policy, and ethical considerations. The associated risks of business today must be clearly understood and managed.

The Graduate Certificate in Information Security Management is designed to provide a conceptual and practical overview of information security management. It begins with an overview of key information security management issues and principles. It presents security governance challenges including the policy, law, regulatory, and ethical accountability frameworks that information security risk managers must work within. The program includes review courses that prepare students for the Certified Information Systems Security Professional (CISSP) and Certified Information Systems Auditor (CISA) exams.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 6300	Foundations of Information Security	3
ITC 6305	IT Infrastructure (Systems, Networks, Telecom)	3
ITC 6310	Information Security Governance	3
ITC 6315	Information Security Risk Management	3
ITC 6520	Network Protection and Cloud Security	3

Electives

Code	Title	Hours
Complete one of the following:		3
ITC 6330	CISSP Preparation	
ITC 6530	Security Analytics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Insurance Analytics and Management, Graduate Certificate

Overview

Learners have an opportunity to gain appropriate technical skills, insurance design expertise, and experience needed to assume professional roles in the insurance field. Upon completion, learners should be prepared to:

- Investigate and identify opportunities to address insurance questions and/or challenges in the evolving digital agenda of the insurance industry.
- Articulate and defend the significance and implications of the intersections of application orientation, domain knowledge, digital leadership and human-centered design, decision support, and digital transformation across the insurance enterprise.
- Integrate the principles, tools, and methods of digital transformation and human-centered design to solve organizational problems by making informed decisions related to the design and deployment of systems in human environments and workflows within the organization.
- Develop a formally proposed solution and/or application, real or hypothetical, to address an insurance-related question and/or challenge.
- Apply data management and strategic analysis, problem-solving, decision-making, effective visualization/communication, and digital leadership skills to the application or deployment of technologies and products in a real-world scenario.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Core Courses		
INS 6020	Claims Management	3
INS 6030	Insurance Underwriting	3
INS 6040	Introduction to Insurance Data Analytics	3
INS 6050	Intermediate Insurance Analytics	3
Electives		
Complete two of the following:		6
ALY 6070	Communication and Visualization for Data Analytics	
EAI 6000	Fundamentals of Artificial Intelligence	
EAI 6020	AI System Technologies	
INS 6120	Macro Challenges in Insurance	
INS 6140	Distribution and Sales	
INS 6983	Special Topics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Integrative Health and Wellness, Graduate Certificate

The Graduate Certificate in Integrative Health and Wellness is designed to equip students to apply cross-disciplinary approaches to patient or client health and wellness. Students explore how to interact with diverse patients or clients within a variety of settings and how to utilize a holistic model for patient care by incorporating strengths-based perspective, cross-cultural communication, resilience, advocacy, and problem solving. This certificate equips emerging and current healthcare practitioners and professionals to apply integrative well-being principles toward a wide variety of approaches and practices that create cohesive and holistic assessments and intervention plans for those they serve. Students have an oppoprtunity to learn how to advocate for access and navigate the wide variety of care options that are available, while considering social determinants of health, patient's cultural and economic belief systems, social and mental supports, and the potential appropriate interventions. Students will work side-by-side with a multidisciplinary array of practitioners to develop the needed assessment and intervention skills to excel within the wide range of roles and applications available across integrative healthcare in our global 21st-century delivery system.

The mission of the Graduate Certificate in Integrative Health and Wellness at Northeastern University is to cultivate diverse practitioners who can use innovative assessments and resource identification tools to coordinate holistic patient care. Here, we train health practitioners and professionals on how to be agile learners, thinkers, and creators in integrative health, wellness, and resilience

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Curriculum (16 credits)

Code	Title	Hours
NTR 6105	Foundations of Integrative Health	4
NTR 6125	The Process of Health and Healing: Exploring Systems in the Body—Part 1	4
NTR 6135	The Process of Health and Healing: Exploring Systems in the Body—Part 2	4
NTR 6160	Survey of Integrative Practices and Interventions	4

Experiential Capstone (2–4 credits)

Code	Title	Hours
NTR 7880	Wellness in Practice	2-4

Interactive Design, Graduate Certificate

Digital media plays an increasingly significant role in the global culture and economy. The Graduate Certificate in Interactive Design offers an overview of courses in the creative process of storytelling and communicating through visuals and sound. Students have an opportunity to gain expertise in time-based design and interface and experience design through a practice-oriented problem-solving approach.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6217	Typography for Interactivity	4
DGM 6317	Screen-Based Publication Design	4
DGM 6461	Interactive Information Design 1	4

Elective Courses

Code	Title	Hours
Choose from the following:		4
DGM 6463	Interactive Information Design 2	
DGM 6471	Designing Infographics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

International Biopharmaceutical Regulatory Affairs, Graduate Certificate

To work in today's global biopharmaceutical industry, there is a strong need to understand international regulations that impact the development, marketing, and manufacturing of pharmaceutical and biotechnology products.

The Graduate Certificate in Biopharmaceutical International Regulatory Affairs curriculum focuses on factors that facilitate the safety, performance, and efficacy of biomedical goods. Program training covers the assessment of international regulations and interpretation of their likely impact on a company's global commercialization strategies. Through participation in the program, students will have an opportunity to gain an understanding of international regulatory requirements necessary to implement such strategies.

Course work covers biotechnology and pharmaceutical product approval processes, regulatory analysis, and liability laws as they exist across different regulatory systems. The graduate certificate will provide core regulatory knowledge to students entering into the field from bench research, clinical studies, quality control/assurance, pharmacy, bioengineering, business, and legal analysis. The curriculum covers regulatory environments in Europe, Latin America, Australia, Japan, and other emerging economies. Courses from this certificate may be applied toward the Master of Science in Regulatory Affairs for Drugs, Biologics, and Medical Devices.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
RGA 6221	European Union Compliance Process and Regulatory Affairs	4
Complete a minimum of 12 quarter hours		12
RGA 6204	Legal Issues in International Food, Drug, and Medical Device Regulation	
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	
RGA 6210	Strategic Planning and Project Management for Regulatory Affairs	
RGA 6212	Introduction to Safety Sciences	
RGA 6223	Introduction to Australian, Asian, and Latin American Regulatory Affairs	
RGA 6224	Regulation of Biomedical Product Commercialization by Health Canada	
RGA 6244	Therapeutic Product Development in Canada	
RGA 6245	Regulation of Generic Pharmaceutical and Biosimilar Products	
RGA 6255	Global Convergence of Regulatory Science and Reimbursement/Market Access	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Leadership, Graduate Certificate

Today's cross-functional teams and organizations require a leadership style that capitalizes on the collective expertise and capabilities of the group. The development and mastery of collaborative leadership skills are not typically part of one's focused discipline preparation; hence, leadership requires deliberate development by those who assume leadership roles.

The Graduate Certificate in Leadership starts with the premise that everyone is capable of leadership. The program studies every aspect of leadership dynamics from the leader as an individual to working in teams and from the organization itself to the development of strategic leadership techniques. Course work exposes participants to a series of alternative perspectives of leadership, including collaborative models. Using the course's action-learning methods, participants build a personal model of leadership that they can put to immediate use in their workplace.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6140	Leadership Strategy, Design, and Practice	3

Leadership Electives

Code	Title	Hours
Complete two of the following:		6
LDR 6135	Ethical Leadership	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
LDR 6150	Innovation and Organizational Transformation	
CMN 6010	Strategic Communication Management	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Leading and Managing Technical Projects, Graduate Certificate

Whether you're an established project manager, or you're working in a technical field and aspire to be one, Northeastern's Graduate Certificate in Leading and Managing Technical Projects seeks to give you the foundational skills and practical knowledge you need to be successful.

Through courses you take online, our technical project management curriculum will give you the opportunity to:

- Develop the leadership and management skills to lead technical projects
- Learn how to communicate technical content to a nontechnical audience
- Gain practice leading remote teams, including global teams
- Plan and schedule projects using the most current and relevant methodologies
- Develop a personal leadership approach to motivate and inspire others

Credits earned in this certificate may be used to satisfy some of the degree requirements of a College of Professional Studies master's program. For further information, see the Seeking More Than One Certificate or Degree page.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks and is recommended for students who do not have a basic working knowledge of Microsoft Project software. Students who do not complete Foundations of Project Management (PJM 5900) take project management electives to satisfy required program credits.

Elective Courses

Code	Title	Hours
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Learning Experience Design and Technology, Graduate Certificate

The Graduate Certificate in Learning Experience Design and Technology offers a practice-based exploration of the key skills required in the rapidly expanding field of learning design. Never before has the need for professionals with LXD expertise been so essential across all industry sectors. The certificate is designed to meet this need by grounding designers, educators, technologists, and other professionals in the art and science of effective learning design. Students will have the opportunity to build or strengthen design and technological skills that can be applied across PK–12, higher education, government, military, corporate, and nonprofit environments. Skills can be applied to learners of all ages and in online, mobile, virtual, face-to-face, and blended formats.

The program's innovative approach blends academic and workplace-based learning with a focus on how people learn, foundational learning design skills, and advanced learning design topics. Experiential opportunities are built into each course. Students will have the opportunity to develop an online portfolio of work to demonstrate their capacity to think strategically; put creative ideas into action using a variety of technologies; learning design environments that meet academic, personal, professional, and organizational goals; and interpret and clearly communicate results to stakeholders. Credits earned in this certificate may be used to satisfy some of the degree requirements of the Master of Professional Studies in Learning Experience Design and Technology program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Core Requirements		
EDU 6319	How People Learn	4
EDU 6334	Foundations of Learning Experience Design	4
EDU 6335	Advanced Practices in Learning Experience Design	4

Electives

Code	Title	Hours
Complete a minimum of 4 quarter hours from the list below to reach the program credits required		4
CMN 6080	Intercultural Communication	
DGM 6501	Web Creation Boot Camp	
EDU 5978	Independent Study	
EDU 6001	Experiential Learning Theory and Practice	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	
EDU 6003	Applied Research in Experiential Teaching and Learning	
EDU 6004	Leading Experiential Teaching and Learning	
EDU 6202	Faculty, Curriculum, and Academic Community	
EDU 6323	Digital Learning Tools and Technologies for LXD	
EDU 6329	Connecting Theory and Practice	
EDU 6331	E-Learning Design as a Collaborative Profession	
EDU 6332	Open Learning	
EDU 6336	Data Literacy for Data-Driven Decision Making	
EDU 6338	Learning Experience Design Studio	
EDU 6558	Issues in Education	
NPM 6140	Grant and Report Writing	
PJM 5900	Foundations of Project Management	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Medical Device Regulatory Affairs, Graduate Certificate

The national and regional medical device industries have continued to experience significant market growth, despite the fluctuations in the overall global economy. There are more than 7,000 medical device companies in the United States alone, and nearly 1,000 of these are based in Massachusetts. In total, the medical device sector in Massachusetts employs 36,000 workers, has a payroll of over $1.8 billion, and annual product shipments of $7.3 billion.

The Graduate Certificate in Medical Device Regulatory Affairs provides students with an opportunity to gain a detailed knowledge of the regulations influencing the commercialization of new and existing medical devices. The intensely practical curriculum spans the entire life cycle of product development and introduces students to the salient features governing both pre- and postapproval stages. The program content also examines the relationship between regulatory agencies and the medical device industry. Students have the opportunity to take specialized courses on regulatory systems outside the United States.

The certificate will help advance the careers of students coming from such fields as bioengineering, quality control/assurance, intellectual property, business, and marketing. The choice of several courses makes this certificate ideal for students already working in the regulatory world as well as those just entering into the profession.

Courses from this certificate may be applied toward the Master of Science in Regulatory Affairs.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
Required Courses		
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	2
RGA 6202	Medical Device Development: A Regulatory Overview	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
Electives		
Choose from the following:		6
RGA 6205	Emerging Trends and Issues in the Medical Device Industry	
RGA 6222	European Medical Device Regulations	
RGA 6243	Medical Device Product Development in Canada	
RGA 6275	Product Development and Process Validation	
RGA 6370	Advanced Regulatory Writing: Medical Device Submissions	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Nonclinical Biomedical Product Regulation, Graduate Certificate

The professional practice of nonclinical regulatory affairs involves understanding, developing, and applying global compliance standards to the biomedical product commercialization process in several cross-functional areas that are separate and distinct from direct clinical patient care. This includes, but is not limited to, design and preclinical development processes, including *in vitro* and *in vivo* animal testing, *in silico* testing, small-scale/large-scale manufacturing process development and validation, development and maintenance of supply chains, as well as product handling and distribution. The Graduate Certificate in Nonclinical Biomedical Product Regulation introduces students to the practice of understanding, developing, and effectively applying global nonclinical compliance standards to new healthcare technologies. Students in the certificate program have the opportunity to:

- Differentiate between the nonclinical vs. clinical aspects of the global biomedical product commercialization process from a regulatory compliance perspective
- Explain the compliance-associated requirements needed to successfully practice professional nonclinical work within the global biomedical products industry
- Describe the nonclinical regulatory standards utilized by the United States Food and Drug Administration (FDA) and other global regulatory agencies to evaluate the safety and efficacy of new and existing biomedical products employed by healthcare practitioners in various patient settings
- Apply fundamental global nonclinical regulations to the biomedical product commercialization process, including therapy design, manufacturing process development and validation, cybersecurity, and supply chain risk management

Students that successfully complete this certificate may apply their courses toward the Master of Science in Regulatory Affairs (p. 874).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6405	Nonclinical Regulations in Biomedical Product Commercialization	4
RGA 6420	Global IVD Regulations and Submissions	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Nonprofit Management, Graduate Certificate

Nonprofits today simply require a higher level of management expertise. Nonprofit managers are required to manage people and programs more efficiently and effectively. The Graduate Certificate in Nonprofit Management focuses on developing skills in organizational management, financial management, fund-raising, grant and report writing, human resources management, and governance.

The program integrates theoretical approaches with practical application to prepare students for positions in either small or large nonprofit organizations. The program targets individuals who work in the nonprofit sector as executive directors, managers, program staff, board members, and volunteers. Students have an opportunity to participate in case studies, individual and group projects, and class discussions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NPM 6110	Legal and Governance Issues in Nonprofit Organizations	3
NPM 6120	Financial Management for Nonprofit Organizations	3
NPM 6125	Promoting Nonprofit Organizations	3
NPM 6130	Fundraising and Development for Nonprofit Organizations	3
NPM 6150	Human Resources Management in Nonprofit Organizations	3

Electives

Code	Title	Hours
Choose from the following:		1
CMN 6096	Cultural Communications Lab	
INT 6940	Experiential Learning Projects for Professionals	
INT 6000	Writing Lab	
NPM 6100	Strategic Management for the Nonprofit Sector	
NPM 6140	Grant and Report Writing	
NPM 6995	Project	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Organizational Communication, Graduate Certificate

The study of organizational communication focuses on the dynamics of communication in complex organizations for the purpose of learning how individuals within such organizations can become effective communicators. Whether the context of such communication is meetings or professional presentations, communicating during a crisis, or intercultural exchanges, the message is consistent: Effective communication is a crucial factor in determining organizational success.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6010	Strategic Communication Management	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6910	Organizational Communication Assessment	3

Elective Courses

Code	Title	Hours
Choose from the following:		7
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6096	Cultural Communications Lab	
CMN 6100	Communication Networks and Managing Information	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Professional Sports Administration, Graduate Certificate

The Graduate Certificate in Professional Sports Administration is designed to give students an in-depth understanding of this professional segment of the sports industry. Through the program's curriculum, students will be given the opportunity to acquire professional leadership skills and knowledge in a variety of topical areas including sports management, marketing, sponsorship, event management, risk management, and finance.

Credits earned in this certificate may be used to satisfy some of the degree requirements of the Master of Sports Leadership (p. 877) program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6323	Event Management	3
LDR 6435	Fiscal Practices in Sports	3
LDR 6440	Sports Marketing and Promotions	3
LDR 6443	Ticket Sales and Strategies	3
LDR 6445	Corporate Sponsorships	3
LDR 6460	Risk Management in Athletics	3

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Project Business Analysis, Graduate Certificate

At the heart of every project is requirements analysis. It's a critical skill set, leveraged across the spectrum of project work. This program provides practicing project managers with a solid framework and understanding of the process of developing requirements. It also emphasizes the need to engage stakeholders throughout the process to ensure outcomes meet the desired needs of the organization.

This graduate certificate allows you to possess an in-demand skill set. It gives you a better opportunity at finding entry-level positions as a PMO analyst or entry-level business analyst. And it prepares you with the knowledge, skills, and tools needed to create and manage requirements to meet stakeholder needs effectively.

In this program, you will:

- Develop a strong framework and understanding of the role of business analyst
- Understand and analyze the voice of the customer and explore potential solutions for their needs
- Apply tools and techniques to elicit requirements (business requirements, stakeholder requirements)
- Translate the needs of the business into clear, concise, quality requirements (solution requirements, functional and nonfunctional requirements)
- Apply analytical skills in the business analysis process
- Develop a personal leadership strategy for success as a business analyst

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6610	Foundations of Project Business Analysis	3
PJM 6620	Strategy Analysis and Needs Assessment	3
PJM 6630	Requirements Analysis and Design	3
PJM 6640	Leadership Strategies for the Business Analyst	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks and is recommended for students who do not have a basic working knowledge of Microsoft Project software. Students who do not complete PJM 5900 may substitute project management electives to satisfy required program hours.

Elective Courses

Code	Title	Hours
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6185	Managing Innovation Projects	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6983	Topics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Project Management, Graduate Certificate

Technical and managerial employees at all levels of organizations are being asked to manage small and large projects. Many of these professionals have not been specifically trained to effectively and efficiently manage projects. The task of managing projects has its own body of knowledge. This program seeks to provide the practical and theoretical knowledge for which the Project Management Institute tests, and it is expected that individuals who successfully complete this program will be capable of fulfilling the education requirements of the Project Management Professional (PMP) certification exam.

This certificate program in project management is designed with sufficient course flexibility to accommodate professionals with various levels of project management experience. Project management principles are applicable to both manufacturing and service industries, including professionals in fields such as software engineering, construction management, and financial services.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

Elective Courses

Code	Title	Hours
Choose from the following:		3
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

Program Credit/GPA Requirements

16 quarter hours required
Minimum 3.000 GPA required

Public and Media Relations, Graduate Certificate

There is growing demand for communication professionals with digital media skills and a strategic perspective on brand and reputation management. According to the Bureau of Labor Statistics, employment of public relations specialists and managers will grow by 12 percent and 13 percent, respectively. The Graduate Certificate in Public and Media Relations is designed to prepare communication professionals who focus on external stakeholders for the challenges of a rapidly changing industry. This program focuses on developing strategic communication plans, crafting compelling messages, and performing audience research, while preparing students with the latest skills in digital platforms, tools, and techniques.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PBR 6100	Introduction to Public Relations	3
PBR 6135	Public Relations Strategy and Planning	3
PBR 6710	Public Relations Research: Understanding External Audiences	3

Elective Courses

Code	Title	Hours
Complete 7 quarter hours from the following:		7
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6050	Crisis Communication	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
PBR 6001	Communications Technology Lab	
PBR 6125	Community Relations and Corporate Social Responsibility	
PBR 6130	Public Relations Content Development	
PBR 6140	Advanced Public Relations Content Development	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Quality Assurance Compliance, Graduate Certificate

Global regulatory requirements and compliance standards for development, marketing approval, and clinical utilization of new biomedical products continue to evolve rapidly in today's dynamic healthcare environment. The professional practice of quality assurance involves ensuring compliance to appropriate industry-specific regulatory standards throughout a biomedical product's life cycle.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Complete one of the following:		2
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	
RGA 6461	Cybersecurity and Regulation of Digital Health Technologies by the FDA	
Complete the following courses:		
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6234	Risk Management: Compliance and Processes	4
RGA 6275	Product Development and Process Validation	2
Choose from the following to reach 16 quarter hours:		4
RGA 6221	European Union Compliance Process and Regulatory Affairs	
RGA 6410	Fundamentals of CMC Regulations and Methods	
RFA 6220	Food Safety and Surveillance: Concepts and Applications	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Remote Sensing, Graduate Certificate

Remote sensing is the measurement of information by a recording device that is not in physical contact with the object being measured. In practice, remote sensing is the utilization at a distance (as from aircraft, space shuttle, spacecraft, satellite, or ship) of any device for gathering information about the environment. The term remote sensing is most often applied to terrestrial and weather observations but can be applied to planetary environments and astronomy. Remote sensing is applicable to many other situations, including land-use change, pollution tracking, land-use and planning, transportation systems, and military observation.

The online Graduate Certificate in Remote Sensing aims to make education and training in remote sensing available to adult and professional students. The remote sensing certificate program seeks to produce students who are well versed in remote sensing theory, who have hands-on exposure to remote sensing software and hardware, and who have learned how to extract pertinent data from remotely sensed data sets. This six-course certificate program seeks to provide students with the necessary skills and understanding to apply remote sensing knowledge competently and effectively in a variety of areas.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Courses

Code	Title	Hours
RMS 5105	Fundamentals of Remote Sensing	3
RMS 6110	Introduction to Machine Learning for Image Data	3

Remote Sensing Electives

Code	Title	Hours
Complete four of the following:		12
GIS 6345	Geospatial Programming	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	
RMS 6240	Introduction to Radar and LiDAR Remote Sensing	
RMS 6280	Automated Feature Extraction for the Geospatial Professional	
RMS 6290	Spectroscopic Image Analysis	
RMS 6983	Topics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Sales Management, Graduate Certificate

Overview

The Graduate Certificate in Sales Management is designed to provide sales managers with an integrated approach to sales management that recognizes the customer journey does not end with a sale; instead, it is a continuous process of identifying opportunity, recognizing customer challenges, addressing customer pain points, and supporting customer success. To develop these skills, it is important for sales managers to better understand how analytics and AI can be used to understand customer behavior and predict market trends, develop strong leadership skills to build successful teams, and to use project management techniques to better reach goals.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3

Elective Courses

Code	Title	Hours
Complete a minimum of 6 credits from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6060	Negotiation, Mediation, and Facilitation	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6020	Talent Acquisition and Onboarding	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6190	Leadership Coaching for Purpose and Performance	
SMT 6983	Special Topics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Social Media for Organizational Performance, Graduate Certificate

In organizations, social media management and strategy development have become core skills required for communication professionals. According to WANTED Analytics, over 1.6 million working professionals utilize social media skills in jobs at the manager and executive level. The Graduate Certificate in Social Media for Organizational Performance focuses on strategic framework and the role digital media has in supporting organizational performance. The program integrates theory and practice, including experimenting with various tools and platforms and reflecting on lessons learned from active management and experimentation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	3
DGM 6285	Interactive Marketing Fundamentals [1]	4
DGM 6290	Social Media and Brand Strategy Implementation	4

Electives

Code	Title	Hours
Complete a minimum of five quarter hours from the following:		5
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6075	Digital Marketing Analytics	
CMN 6096	Cultural Communications Lab	
DGM 6168	Usability and Human Interaction	
DGM 6550	Search Engine Optimization: Strategy and Implementation [2]	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

1 Interactive Marketing Fundamentals (DGM 6285) is for students who do not have digital media marketing experience. Students who do not complete this course take additional elective credits to satisfy the required credits for the program. Students may also meet the requirement through prior learning assessment. Visit the Credit for Prior Learning (https://cps.northeastern.edu/academics/prior-learning-assessments/) page for more information.

2 Contact your advisor to enroll in this course. Students who choose Search Engine Optimization: Strategy and Implementation (DGM 6550) are not required to complete its course prerequisites.

Usability, Graduate Certificate

The Graduate Certificate in Usability is a practical, in-demand, career-focused graduate certificate. The certificate stresses both a broad, theory-based introduction to the field, as well as the ability to choose from focused electives, with an emphasis on practical assignments. This certificate highlights the key skills and tools used by usability generalists, working in a broad variety of fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6168	Usability and Human Interaction	4
DGM 6268	Usable Design for Mobile Digital Media	4
DGM 6461	Interactive Information Design 1	4
DGM 6525	Research Methods for Global User Experiences	4

Electives Courses

Code	Title	Hours
Complete 4 quarter hours from the following:		4
DGM 6308	Intermediate Programming for Digital Media	
DGM 6451	Web Development	
TCC 6110	Information Architecture	

Program Credit/GPA Requirements

20 total quarter hours required
Minimum 3.000 GPA required

College of Science

Website (http://www.northeastern.edu/cos/graduate/)

Hazel Sive, PhD, Dean
Brent Nelson, PhD, Senior Associate Dean, Academic Affairs
Carla Mattos, PhD, Associate Dean, Professional Programs and Graduate Affairs
Erin Cram, PhD, Associate Dean, Research
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617.373.5085
617.373.8583 (fax)
cos@northeastern.edu

Graduate Student Services
617.373.4275
COSGradStudents@northeastern.edu

The College of Science seeks to offer advanced students outstanding academics and real-world research experience through cutting-edge research opportunities that are both discipline based and interdisciplinary. Our doctoral and master's degree programs in the physical sciences, life sciences, and mathematics seek to give students a deep understanding of emerging fields such as chemical biology, cognition and neuroscience, environmental and marine science, biochemistry, bioinformatics, biotechnology, nanoscience, and network science. Our programs are positioned at the forefront of discovery, invention, and innovation. We seek to prepare students and professionals to enter the scientific workforce serving the academic, government, or private sector.

Academic Policies and Procedures

- Academic Appeals Policies (p. 924)
- Awards (p. 927)
- Changes in Requirements (p. 928)
- Cooperative Education Policies (p. 929)
- Course Registration (p. 931)
- The Doctor of Philosophy Degree (PhD) (p. 932)
- Grading Policies (p. 934)
- The Master's Degree Academic Requirements (p. 935)
- Satisfactory Progress (p. 936)
- Time Limitation (p. 937)
- Transfer Credit (p. 938)

Academic Appeals Policies

Northeastern University affirms that it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, or otherwise unfairly treated. Information about the university appeals process and procedures can be found in the Graduate Catalog. (p. 70)

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, and that this constitutes a substantive basis for the appeal, they should consult with the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/) as soon as they become aware of alleged prohibited harassment or discrimination, and they are not required to wait until a term grade or determination is received before seeking advice or redress. If the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/) is advised of such alleged prohibited conduct as part of an academic appeal, the appeal shall first be pursued and investigated through the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/). Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures.

Before invoking the appeals procedures, students are encouraged to speak informally to their instructors or academic advisors about any determination or grade about which they have questions. If students choose to pursue an appeal, the College of Science process is described in the appeals section that follows. The Graduate Curriculum Committee, which is comprised of program and department directors, serves as the Academic Appeals Committee for the College of Science.

Grade Appeals

If a graduate student wishes to dispute a grade in a course taught by a member of the College of Science faculty, the first step is for the student to discuss their concerns with the faculty member who taught the course to see if it is possible to reach agreement on the issue(s). If the student is not able to resolve their issues with the faculty member who taught the course, the student should work with the department/program director to attempt a department-level resolution.

If these informal attempts to resolve the issue fail, the student can enter the formal procedure at the college level.

The student should meet with the associate dean for graduate affairs and professional programs who will attempt to resolve the issue by working with the instructor and the department/program. Contact Graduate Student Services at COSGradStudents@northeastern.edu to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine whether or not there is just cause to convene the Graduate Curriculum Committee.

The decision to convene the Graduate Curriculum Committee will be based upon the following:

- The student sincerely attempted to resolve the complaint with the professor and the department/program.
- The complaint is substantive in nature (adjudication could affect student's course grade and/or academic record).
- The complaint has been brought forward in a timely manner.
  - The statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student.
  - If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of degree conferral date.

If the associate dean determines the appeal should be brought to the Graduate Curriculum Committee, the student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean.

- The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint.
  - It is the student's responsibility to make their case. Students may submit any evidence such as emails, quizzes, examinations, etc.
- Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the faculty member and to the department/program director and convene a meeting of the Graduate Curriculum Committee.
- If the student fails to provide a thoughtful and well-reasoned written summary of the case, then the matter will be considered closed at the college level.
- The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

GRADUATE CURRICULUM COMMITTEE

- The Graduate Curriculum Committee serves as the Academic Appeals Committee for the College of Science.
- The Graduate Curriculum Committee is convened in order to determine whether a fair and due process was used to determine the student's grade.
- The role of the committee is to conduct a review when a grade appeal is filed by a student for one of the following reasons, concern that:
  - The course grading policy was not applied consistently to all students within a class and/or section.
  - The instructor's method of assigning grades differed from the method outlined in the instructor's course syllabus.
  - The instructor failed to provide a clear policy on how grades would be assigned.

APPEALS MEETING

The student and the faculty member have the right to attend and present their case orally to the committee. The faculty member and the student are not required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the committee may have. If

the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. The complainant and the faculty member both have the right to testify privately and separately before the committee. Lawyers are not permitted in these proceedings. Generally, the faculty member and complainant are each given a 15-minute period to present their case.

The student usually presents their complaint to the committee first. The committee may then ask the complainant any questions they have based upon either the written statement submitted by the complainant or the complainant's oral presentation. The faculty member then presents their case, which is followed by questions from the committee. After both the complainant and faculty member have addressed the committee, the committee then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the committee believes it cannot resolve any issues without additional information, the committee may request any information needed from either the complainant, faculty member, or department/program. This information must be provided to the committee within one week of the meeting. If the requested information is not provided in the required time frame, then the committee may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the committee will be made based on a simple majority (51%) vote.
- The associate dean is chair of the committee and only votes when there is a tie.
- The student bringing the complaint to the committee carries the burden of proof based on the weight of the evidence in demonstrating that the grade is incorrect or unjustified.
- If the committee decides that the grading process was unfair, the committee can request that the instructor changes the student's grade.
  - If an acceptable agreement involves a change of grade, the instructor is responsible for submitting a change of grade to the Office of the University Registrar in a timely manner following notification of the committee's decision.
- The student shall be notified within three business days of a decision being reached.

If the student or the faculty member is not satisfied with the committee's disposition of the matter, or if the grade appeal is not resolved within 35 calendar days after the written statement is submitted to the college, they may further pursue the matter by requesting in writing that the university convene an academic appeals resolution committee to review the issue. This must be submitted within 10 calendar days of the notification from the college. This committee has been designated as the final authority on these matters. Students may obtain information on this process by contacting the Office of the Provost.

Academic Dismissal Appeal

If a student wishes to dispute an academic dismissal, the first step is to consult the graduate director about appealing to the department/program. If and when all departmental appeals are exhausted, the student can enter the formal procedure at the college level.

The student will meet with the associate dean for graduate affairs and professional programs who will attempt to resolve the issue by working with the department/program. Contact Graduate Student Services to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine if the complaint is substantive and there is just cause to convene the Graduate Curriculum Committee.

The student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean. The statement must be submitted no later than 10 calendar days from the day when the academic determination is made available to the student. The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint. Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the department/program director and convene a meeting of the Graduate Curriculum Committee. If the student fails to provide a thoughtful and well-reasoned written summary of the case, then the matter will be considered closed at the college level.

The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

GRADUATE CURRICULUM COMMITTEE

- The Graduate Curriculum Committee serves as the Academic Appeals Committee for the College of Science.
- The Graduate Curriculum Committee is convened in order to determine whether a fair and due process was used.

APPEALS MEETING

The student has the right to attend and present their case orally to the committee. The student is not required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the committee may have. If the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. Lawyers are not permitted in these proceedings.

The student usually presents their complaint to the committee first. The committee may then ask the complainant questions based upon either the written case submitted by the complainant or the complainant's oral presentation. The committee then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the committee believes it cannot resolve any issues without additional information, the committee may request any information needed from either the complainant or department/program. This information must be provided to the committee within one week of the meeting. If the needed

information is not provided in the time frame required, then the committee may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the committee will be made based on a simple majority (51%) vote.
- The associate dean is chair of the committee and only votes when there is a tie.
- The student bringing the complaint to the committee carries the burden of proof based on the weight of the evidence in demonstrating that the dismissal is incorrect or unjustified.
- If the committee decides that the academic dismissal should be revoked, the committee can request that the department reinstate the student immediately.

Decisions concerning dismissals cannot be appealed beyond the college level. While program dismissals cannot be appealed beyond the college level, underlying academic judgments that led to a dismissal can be appealed.

Awards

Only those students who are registered in degree programs are eligible for awards. Award recipients will receive an official award letter from the College of Science via email. Pay attention to this letter as it is an official contract that should be read carefully. In addition, to maintain awards, students must be making satisfactory progress toward their degrees.

Receipt of financial support administered by the College of Science is contingent on satisfactory academic progress toward the degree and on meeting department-specific guidelines. The College of Science requires that all students receiving awards will generally have two semesters to reach a 3.000 grade-point average. Students whose cumulative GPA is below 3.000 will be reviewed by their departments and by the College of Science and may have their funding terminated on recommendation of their department or by decision of the College of Science in consultation with their department. Renewals of awards will depend on the student making satisfactory academic progress toward the degree, including a GPA of 3.000 or the department's minimum GPA, if it is higher than the College of Science minimum, and satisfactory performance of any duties required by the award.

Changes in Requirements

The continuing development of the college may result in regular revision of curricula. When curriculum changes are made, students are allowed to complete the degree requirements of the program when they matriculated. If a student wishes to follow the new curriculum/program, they may request this in writing to the College of Science Graduate Student Services office at the time of the announcement of said changes.

Cooperative Education Policies

The College of Science Graduate Cooperative Education Program is one option for experiential learning and is available to students enrolled full-time at Northeastern University in a degree-granting program.

The goals of cooperative education are for students to:

- ***Integrate knowledge*** and skills learned in the classroom and co-op to identify and solve problems
- ***Gain new knowledge*** and develop new skills to successfully engage in unfamiliar activities and projects
- ***Identify and leverage opportunities*** to learn beyond the classroom
- ***Articulate*** the intellectual skills that underlie the work they engage in
- ***Assess, critique, and improve*** their work
- ***Adapt*** their behavior to different audiences they interact with (e.g., communication, self-representation, etc.)
- ***Behave professionally*** in various environments (i.e., team, independent, etc.) by adhering to ethical standards and being accountable for their commitments

Master's-level students must meet the eligibility requirements and follow the guidelines below. Co-op is not guaranteed, and students must compete and be selected for a limited number of co-op opportunities.

Eligibility Requirement for Co-op

- To be eligible for co-op, College of Science graduate students must:
  - Be enrolled full-time at Northeastern. Approval is required from the co-op faculty for exceptions.
  - Have completed a minimum of 16 master's-level academic credits prior to the start of co-op.
  - Meet the 3.000 minimum grade-point average requirement.
  - Have no incomplete grades, not be on academic probation, or have any outstanding disciplinary issues.
  - Have at least two required courses remaining in their program after completing co-op (for programs that do not require co-op).
- Graduate certificate students are not eligible for co-op.
- International students on an F-1 visa must have a valid I-20 and must follow Curricular Practical Training protocol.
- Students must successfully complete the Professional Development for Co-op course. This course covers the College of Science co-op performance standards, which encourage professional and ethical behaviors throughout the co-op process and clarify procedures required for continued success of students and the co-op program. The standards establish professional expectations of the student throughout the co-op search process and during the co-op term and address co-op related issues that may involve performance.
- Students must notify their co-op advisor when they receive a co-op offer.

Guidelines

1. Co-ops must be aligned with academic terms (fall, spring, and full summer or summer 1 and summer 2).
2. Students may participate in co-op activities with a single company for four or six months for no fewer than 12 weeks.
3. Co-ops are required to be full-time, a minimum of 32 hours per week.
4. Course enrollment while on co-op is dependent upon academic program.
5. Students can create their own co-op placement outside of NUworks. Approval from the co-op faculty and adherence to all guidelines are required.
6. Students working in industry must complete an industry project to fulfill the co-op requirement. This must be approved by the co-op faculty and program director.
7. College of Science students are only allowed to complete one co-op work experience per degree.

Registering for Co-op

Students are registered for the co-op work experience course based on the co-op position in NUworks. All co-op positions must be aligned with the academic calendar and be approved by the co-op faculty.

Co-op Documentation

Students who fully and successfully participate in co-op will receive a grade of Satisfactory (S). Those who fail to complete their co-op assignment will receive a grade of Unsatisfactory (U). These grades will appear on the student's academic transcript. Academic credit is not awarded for the completed co-op.

Global University System

University and college cooperative education policies apply to students on all campuses.

The College of Science Co-op Standing Committee

In the event a situation arises that requires special consideration, the College of Science students who are dismissed from or resign from a co-op job will have an opportunity to meet with the co-op standing committee for a review. A decision will be made on future co-op eligibility and access to NUworks.

PhD Students

Please contact your department or Graduate Student Services to inquire about guidelines for experiential learning opportunities.

Course Registration

Students are encouraged to obtain advisor approval of course selections each semester. This approval is required for all assistantship recipients, and some departments require it for all students. Students should check with individual departments for specific guidelines.

The Doctor of Philosophy Degree (PhD)

The Doctor of Philosophy degree is awarded to candidates who provide evidence of high scholastic attainment and research ability in their major field. Specific degree requirements are administered by a committee in charge of the degree program. It is the responsibility of the chair of this committee to certify to the College of Science the completion of each requirement for each candidate.

Residence Requirement

A PhD student must spend the equivalent of at least one academic year in residence at Northeastern University as a full-time graduate student. The committee of each degree program specifies the method by which the residence requirement is satisfied.

Qualifying Exam

In programs where a qualifying exam is required, students must complete this requirement within the time limit set by the program of study.

Comprehensive Examination

Degree programs may require a comprehensive examination. Generally, students are expected to complete all of the required degree coursework prior to taking the comprehensive examination. Students must complete this requirement within the time limit set by the program of study, usually within one term of completing the required coursework.

Doctoral Degree Candidacy

PhD degree candidacy is established when students have completed all departmental and university requirements for candidacy. These requirements vary by department and include completing the minimum number of graduate semester hours required of doctoral students by the department (this may include an earned master's degree accepted by the department) and passing a qualifying examination and/or a comprehensive examination. Once students reach doctoral degree candidacy they will be certified, in writing, by the college. Registration in coursework is not permitted once a student reaches candidacy.

Continuity of Registration

For each of the first two semesters that a doctoral candidate has established candidacy, the student must register for Dissertation. For each semester beyond the two Dissertation registrations, the student must register for Doctoral Dissertation Continuation until the dissertation is approved by the College of Science. During the terms when a student is registered for Doctoral Dissertation or Dissertation Continuation, coursework is not permitted as the course requirements for the degree have already been met. If the academic program requires enrollment in seminars or courses in addition to Dissertation or Dissertation Continuation, the department's graduate director will make a recommendation to the College of Science for approval. Approval must happen prior to registration. Students must be registered for Dissertation or Dissertation Continuation during the semester in which they take the final oral examination (including the full summer semester if that is when defense occurs). Any student who does not attend Northeastern for a period of one year may be required to apply for readmission. A student who does not enroll for a period of three semesters, or one year, will be required to apply for readmission. Readmission is done via Slate. A student who does not enroll for a period of two semesters, or less than one year, may petition their department for reactivation. If the department is supportive, the student will be required to submit a written request to the departmental graduate committee. If the graduate committee feels the student is worthy of reactivation, the student's written request must be submitted to Graduate Student Services. Please note that college admissions deadlines apply to requests for readmission and reactivation.

Dissertation

The dissertation committee shall have at least three faculty members, two of whom shall be from Northeastern. The chair of the dissertation committee (who is presumed to be the thesis advisor) will be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD (or other research doctorate) or an appropriate terminal degree for the discipline. Exceptions to this policy will be considered and, if appropriate, approved by the provost or their designee. Colleges may permit full-time faculty from other ranks to serve in this role based on the research qualifications and experience of individual faculty members.

The PhD committee should be appointed early enough to advise in the formulation of the student's program and in refining the research topic for the dissertation. Within the constraints of the above criteria, the PhD program faculty will determine the process by which dissertation committees are established. The final list of dissertation committee members shall be reported to the college's associate dean for graduate education or unit managing the degree program.

If a student's major advisor leaves Northeastern (including transition to emeritus status), that person may continue the research direction of the dissertation or thesis. However, a co-advisor must be appointed from the academic department or program. The student will then have two advisors, one an official member of the Northeastern faculty who will be available for research and administrative matters and the ex-Northeastern advisor. If a new major advisor is appointed, the former Northeastern faculty member may serve as an outside member of the committee.

Final Oral Examination

An oral defense of the dissertation is required and must be held at least 14 calendar days before the degree conferral date. The defense shall be conducted with the committee members present either in person or via electronic means. In the case where neither the candidate nor the committee members are present in person on campus (i.e., the candidate and all committee members are connected only remotely via electronic means), there shall be a location established and technology enabled for public, in-person attendance of the defense by the university community and this accommodation made known to the university.

Interdisciplinary Doctoral Programs

Some graduate students may wish to pursue doctoral programs that involve substantial work in two or more departments. To meet this need, an interdisciplinary program may be established that corresponds in scope and depth to doctoral standards but does not agree exactly with the individual departmental regulations. Consult this graduate catalog for policies and guidelines pertaining to this doctoral option.

Grading Policies

In the College of Science, not more than two courses or 6 semester hours of credit, whichever is greater, may be repeated to satisfy the requirements for the degree. Only such repeats will be counted in calculating the cumulative grade-point average.

No grade changes are permitted after the end of the final examination period one calendar year from the semester in which the student registered for the course. In calculating the overall cumulative average, all graduate-level coursework completed at the time of clearance for graduation will be counted unless the student is immediately continuing on for a PhD degree in their department.

Students cannot elect a pass/fail grading scheme for College of Science courses, unless the course grading scheme is designated pass/fail.

The Master's Degree Academic Requirements

A candidate for the master's degree must complete a minimum of 30 semester hours of graduate-level coursework and such other study as may be required by the department in which the student is registered.

To qualify for the degree, a minimum cumulative grade-point average of 3.000, equivalent to a grade of B, must be obtained. This average will be calculated each semester according to the university grading system and will exclude any transfer credits and nonrepeatable courses that have been retaken. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be terminated from the program.

Comprehensive Examination

A final written or oral comprehensive examination is required in some programs. This examination will be given by the department concerned at least two weeks before the commencement at which the degree is expected to be conferred.

Thesis

A master's thesis is required in some programs and should demonstrate the individual's capacity to execute independent work based on original material. Registration for Thesis is required in most programs.

Theses must be approved by the departmental graduate committee and, in cases in which a grade is required, must receive a grade of B (3.000) or better to be accepted.

Continuity of Registration

Students are expected to maintain satisfactory progress toward their intended degrees. All students must be registered in the last semester of their program. A student who does not enroll for a period of three semesters, or one year, will be required to apply for readmission. Readmission is done via Slate. A student who does not enroll for a period of two semesters, or less than one year, may petition their department for reactivation. If the department is supportive, the student will be required to submit a written request to the departmental graduate committee. If the graduate committee feels the student is worthy of reactivation, the student's written request must be submitted to Graduate Student Services. Please note that college admissions deadlines apply to requests for readmission and reactivation.

Satisfactory Progress

Satisfactory progress means satisfying requirements in the College of Science, in this graduate catalog, and in the regulations specified by the departments.

The College of Science sets minimum standards for all students to fulfill. Departments and programs may have additional requirements that exceed those of the College of Science. Students in the College of Science must be making satisfactory progress, including working toward the graduation requirement of a grade-point average of 3.000 in their coursework and the timely completion of coursework and comprehensive/qualifying examinations. See also the university's policy on academic standing ("Minimum Cumulative GPA (p. 88)").

Time Limitation

Refer to university policy regarding time limitations. If students wish to apply for an extension of the time limit, they must submit a petition to their department of study. The petition must include a detailed plan for completion of all remaining degree requirements. In the case of master's degree time limit extension requests for coursework, the department must certify that the content of each of the courses has not changed since the time the student completed the course. If deemed appropriate, the department will recommend a time limit extension to Graduate Student Services. The associate dean for graduate affairs and professional programs has final approval of time limit extensions.

Transfer Credit

A student may petition to transfer up to 9 semester hours of their degree program using credits from another institution, provided that the credits transferred consist of a grade of B (3.000) or better in graduate-level courses, have been earned at an accredited institution, and have not been used toward any other degree. Students transferring credit from an international institution must submit a course-by-course credential evaluation.

Note: If approved by the College of Science, credits from Northeastern University's College of Professional Studies transfer to the College of Science as external credits and count toward the maximum amount of transfer credit. As courses at other institutions may not parallel courses at Northeastern, the student's academic department will determine the number of semester hours the external course will be worth. This calculation may result in fewer semester hours than the course was assigned at the institution at which the student completed the course. In addition, courses accepted for transfer credit must have been completed within five years of the date the student is admitted to graduate study. Grades are not transferred. Some departments may accept fewer transfer credits.

Biology

Website (http://www.northeastern.edu/biology/)

Jonathan L.Tilly, PhD
University Distinguished Professor and Chair

134 Mugar Life Sciences Building
617.373.2260
617.373.3724 (fax)
gradbio@northeastern.edu

The PhD program in biology emphasizes close interaction between graduate students and faculty in developing the intellectual and experimental skills required for creative independent research. Rigorous courses in a core biology curriculum, as well as advanced courses in particular research interests, are complemented by intensive research culminating in completion of a dissertation under faculty supervision. Students have an opportunity to declare a concentration in either cell and molecular biology or molecular microbiology.

The Department of Biology oversees the bioinformatics Master of Science program. The interdisciplinary program provides cross-disciplinary training in biology, computer science, and informational technology preparing students for cutting-edge jobs in the biotechnology and pharmaceutical industries. The program consists of four parts: fundamental courses, core courses, co-op and experiential learning, and electives.

The Graduate Certificate in Bioinformatics offers professionals working in the research, healthcare, and pharmaceutical industries the ability to employ bioinformatics algorithms and techniques to biological problems in their current practice. It also gives people looking to switch careers the data and genomic analysis skills needed to be more competitive in the biological and pharmaceutical industries.

The Graduate Certificate in Omics provides students the opportunity to explore in detail the key genomic technologies and computational approaches that are driving advances in prognostics, diagnostics, and treatment, learning how scientists sequence, assemble, and analyze the function and structure of genomes. The certificate explores methods for determining traits and diseases by studying the larger population as well as how gene identification can help identify targets for therapeutic intervention. Students that are already in the field or have an interest will significantly benefit from a certificate like this.

Programs

Doctor of Philosophy (PhD)

- Biology (p. 940)

Master of Science (MS)

- Bioinformatics (p. 942)
- Cell and Gene Therapies (p. 946)

Graduate Certificate

- Bioinformatics (p. 948)
- Omics (p. 950)

Biology, PhD

The PhD program entails course work from a core biology curriculum along with advanced courses in the student's area of research interest. This is complemented by intensive research and completion of a dissertation under faculty supervision. Faculty research includes biochemistry, microbiology, cell and molecular biology, genetics, neurobiology, regenerative biology, and the biology of reproduction. Two optional concentrations are available: cell and molecular biology and molecular microbiology.

Students who have completed required coursework with a cumulative GPA of 3.000 or better may be eligible to receive an (https://catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/)MS Biology (https://catalog.northeastern.edu/graduate/science/biology/biology-ms/) *degree. In addition, students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal* MS Biology (https://catalog.northeastern.edu/graduate/science/biology/biology-ms/) *degree. Note that no students will be admitted directly into the* MS Biology (https://catalog.northeastern.edu/graduate/science/biology/biology-ms/) *to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Colloquia (minimum of three)
First-author publication
Dissertation defense

Core Requirements

Code	Title	Hours
Research Ethics		
BIOL 7399	Research Problem Solving, Ethics, and Communication Skills	4
Colloquium		
Complete the following (repeatable) course twice:		2
BIOL 5100	Biology Colloquium	

Concentrations or Electives Option

- Cell and Molecular Biology (p.) Concentration (p. 940)
- Molecular Microbiology (p. 941) Concentration (p. 941)
- Electives Option (p. 941)

Dissertation

Code	Title	Hours
BIOL 9990	Dissertation Term 1	
BIOL 9991	Dissertation Term 2	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

CELL AND MOLECULAR BIOLOGY CONCENTRATION

Code	Title	Hours
Required Coursework		
BIOL 6300	Biochemistry	4
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology	4
Electives		
In consultation with faculty advisor, complete 16 semester hours from the topic of cell and molecular biology:		16
BIOL 5103 to BIOL 9984		

MOLECULAR MICROBIOLOGY CONCENTRATION

Code	Title	Hours
Required Coursework		
BIOL 6300	Biochemistry	4
BIOL 6405	Prokaryotic Cell and Molecular Biology	4
Electives		
In consultation with faculty advisor, complete 16 semester hours from the topic of molecular microbiology:		16
BIOL 5103 to BIOL 9984		

ELECTIVES OPTION

Code	Title	Hours
Required Coursework		
Complete 8 semester hours from the following:		8
BIOL 6303	Neurobiology and Behavior	
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology	
BIOL 6405	Prokaryotic Cell and Molecular Biology	
Electives		
Complete 16 semester hours from the following:		16
BIOL 5103 to BIOL 9984		

Advanced Entry Program Requirements

The biology PhD program seeks to provide a broad background knowledge base in conjunction with in-depth study of a specialized area of biology. The program emphasizes close interaction between graduate students and faculty members in developing the intellectual and experimental skills required for creative, independent research.

Students entering the PhD program with a related Master of Science degree typically have significantly reduced course loads. An individualized course of study is designed by the biology graduate curriculum committee in consultation with the student and the student's advisor. The student can then focus on intensive research and completion of a dissertation under faculty supervision. Faculty research includes biochemistry, microbiology, cell and molecular biology, genetics, neurobiology, regenerative biology, and the biology of reproduction. Financial support (teaching assistantships or research assistantships) is normally provided for PhD students who are making satisfactory progress toward completion of their degree.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Colloquia (minimum of three)
First-author publication
Dissertation defense

Core Requirements

APPROVED COURSE WORK

Consult your faculty advisor for acceptable courses.

APPROVED ELECTIVES

Consult your faculty advisor for acceptable electives.

Dissertation

Code	Title	Hours
BIOL 9990	Dissertation Term 1	
BIOL 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Variable total semester hours required
Minimum 3.000 GPA required

Bioinformatics, MS

The Master of Science (MS) in Bioinformatics seeks to provide students with core knowledge in bioinformatics programming, integrating knowledge from the biological, computational, and mathematical disciplines. Upon completion, students are equipped to apply bioinformatics and computational methods to biological problems. Students in the MS program have the opportunity to gain professional work experience via co-op.

The program consists of core course work in computational methods, programming, and statistics, enhanced by electives in molecular biology, biochemistry, molecular modeling, web development, database design and management, data mining, and other related topics.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Computational Methods		
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4
Research and Seminar		
BIOL 6381	Ethics in Biological Research	2
BIOT 5219	The Biotechnology Enterprise	2
Statistics and Programming		
BINF 6200	Bioinformatics Programming	4
MATH 7340	Statistics for Bioinformatics	4
Co-op and Experiential Learning		**0**
BINF 6500	Professional Development for Co-op	
Select one of the following:		
BINF 6964	Co-op Work Experience	
BINF 5964	Projects for Professionals [1]	

[1] The option of BINF 5964 Projects for Professionals is not available at all campus locations. Please refer to your advisor or admissions coach for course availability each semester at your campus location.

Concentrations or Electives Option

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration.

- Bioinformatics and Cheminformatics
- Bioinformatics Enterprise
- Biotechnology
- Data Analytics (p. 944)
- Health Informatics (p. 945)
- Medical Health Informatics (p. 945)
- Omics
- Electives Option (p. 945)

Elective List

Code	Title	Hours
Electives outside this list may be chosen in consultation with faculty advisor.		
BINF 6400	Genomics in Bioinformatics	
BINF 6420	Omics in Bioinformatics	
BIOE 5235	Biomedical Imaging	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 6100	Medical Physiology	
BIOL 5100	Biology Colloquium	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	

BIOL 5573	Medical Microbiology
BIOL 5581	Biological Imaging
BIOL 5583	Immunology
BIOL 5585	Evolution
BIOL 5587	Comparative Neurobiology
BIOL 5591	Advanced Genomics
BIOL 5593	Cell and Molecular Biology of Aging
BIOL 5597	Immunotherapies of Cancer and Infectious Disease
BIOL 6299	Molecular Cell Biology for Biotechnology
BIOL 6300	Biochemistry
BIOL 6301	Molecular Cell Biology
BIOL 6303	Neurobiology and Behavior
BIOT 5120	Foundations in Biotechnology
BIOT 5145	Basic Biotechnology Lab Skills
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future
BIOT 5225	Managing and Leading a Biotechnology Company
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship
BIOT 5340	Introduction to Biotherapeutic Approvals
BIOT 5500	Concepts in Regulatory Science
BIOT 5560	Bioprocess Fundamentals
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production
BIOT 5635	Downstream Processes for Biopharmaceutical Production
BIOT 5640	Drug Product Processes for Biopharmaceuticals
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology
BIOT 5820	Cellular Therapies
BIOT 5850	Higher-Order Structure Analytics
BIOT 6214	Experimental Design and Biostatistics
BIOT 6320	Quality Management Systems and Validation
BIOT 7245	Biotechnology Applications Laboratory
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis
CHEM 5616	Protein Mass Spectrometry
CHEM 5617	Protein Mass Spectrometry Laboratory
CHEM 5620	Protein Chemistry
CHEM 5638	Molecular Modeling
CHEM 7317	Analytical Biotechnology
CS 5010	Programming Design Paradigm
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CS 5400	Principles of Programming Language
CS 5500	Foundations of Software Engineering
CS 5600	Computer Systems
CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
DA 5020	Collecting, Storing, and Retrieving Data
DA 5030	Introduction to Data Mining/Machine Learning
DS 5230	Unsupervised Machine Learning and Data Mining
EEMB 5130	Population Dynamics
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5102	Data Management in Healthcare

HINF 5105	The American Healthcare System
HINF 5110	Global Health Information Management
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 6220	Database Design, Access, Modeling, and Security
HINF 6404	Patient Engagement Informatics and Analytics
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 7203	Numerical Analysis 1
MATH 7205	Numerical Analysis 2
MATH 7233	Graph Theory
MATH 7241	Probability 1
MATH 7243	Machine Learning and Statistical Learning Theory 1
MATH 7341	Probability 2
MATH 7342	Mathematical Statistics
MATH 7344	Regression, ANOVA, and Design
PHSC 6290	Biophysical Methods in Drug Discovery
PHSC 6300	Pharmaceutical Science Seminar
PHYS 5116	Network Science 1
PHYS 7332	Network Science Data 2
PT 5410	Functional Human Neuroanatomy
PT 5411	Lab for PT 5410

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

BIOINFORMATICS AND CHEMINFORMATICS CONCENTRATION

Code	Title	Hours
BINF 6400	Genomics in Bioinformatics	4
BIOL 6299	Molecular Cell Biology for Biotechnology	3
Elective from Elective List (p. 942)		5

BIOINFORMATICS ENTERPRISE CONCENTRATION

Code	Title	Hours
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
Elective from Elective List (p. 942)		3

BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5120	Foundations in Biotechnology	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOL 6299	Molecular Cell Biology for Biotechnology (Electives)	3
Elective from Elective List (p. 942)		3

DATA ANALYTICS CONCENTRATION

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning (or Elective)	4
INSH 5302	Information Design and Visual Analytics	4

HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
HINF 6220	Database Design, Access, Modeling, and Security	3
Elective from Elective List (p. 942)		3

MEDICAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
HINF 5105	The American Healthcare System	3
HINF 5110	Global Health Information Management	3
HINF 5200	Theoretical Foundations in Personal Health Informatics	4
Elective from Elective List (p. 942)		2

OMICS CONCENTRATION

Code	Title	Hours
BINF 6400	Genomics in Bioinformatics	4
BINF 6420	Omics in Bioinformatics	4
Elective from Elective List (p. 942)		4

ELECTIVES OPTION

Code	Title	Hours
Complete 12 semester hours from the approved Elective List. (p. 942)		12

Cell and Gene Therapies, MS

Northeastern University's Master of Science in Cell and Gene Therapies is a professional master's program, an innovative, nonthesis graduate degree. It combines advanced interdisciplinary training in advanced therapies, such as cell therapies and gene therapies, with the development of high-value business skills critical to success in today's dynamic workplace. This program is designed to prepare graduates to innovate, collaborate, and lead as research, managerial, or technical professionals in a wide range of the cell and gene therapies fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Required Core		
BINF 6200	Bioinformatics Programming	4
BIOL 5543	Stem Cells and Regeneration	4
BIOL 5583	Immunology	4
BIOL 6381	Ethics in Biological Research	2
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 5800	Gene Therapies	2
BIOT 5820	Cellular Therapies	2
BIOT 5830	Regulatory Landscape of Cell and Gene Therapies	2
BIOT 5840	Cell and Gene Therapy Lab	3
PMST 6254	Advanced Drug Delivery Systems	3
Co-op		
BIOT 6500	Professional Development for Co-op	0
BIOT 6964	Co-op Work Experience	0
Elective		
Complete a minimum of 3 semester hours from the following to meet the 32 total hours for the program:		3
BINF 6308	Bioinformatics Computational Methods 1	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 6000	Principles of Bioengineering	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 6381	Ethics in Biological Research	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5500	Concepts in Regulatory Science	
BIOT 5560	Bioprocess Fundamentals	
BIOT 5635	Downstream Processes for Biopharmaceutical Production	
BIOT 5640	Drug Product Processes for Biopharmaceuticals	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	
BIOT 5850	Higher-Order Structure Analytics	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6310	CGMP Statutes and Regulation	
BIOT 6320	Quality Management Systems and Validation	
BIOT 6340	Sterile Manufacturing Operations	
CHME 5101	Fundamentals of Chemical Engineering Analysis	

CHME 5160	Drug Delivery: Engineering Analysis
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5630	Biochemical Engineering
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials

Program Credit/GPA Requirements

32 semester hours required
Minimum 3.000 GPA required

Bioinformatics, Graduate Certificate

The Graduate Certificate in Bioinformatics seeks to provide students with core knowledge in bioinformatics programming, integrating knowledge from the biological, computational, and mathematical disciplines. Students gain the data and genomic analysis skills needed to employ bioinformatics techniques to biological problems. The graduate certificate consists of four courses, three bioinformatics courses and one elective, totaling 15–16 semester hours.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BINF 6200	Bioinformatics Programming	4
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4

Elective

Code	Title	Hours
Complete one of the following. Electives outside this list may be chosen in consultation with faculty advisor.		3-4
BINF 6400	Genomics in Bioinformatics	
BINF 6420	Omics in Bioinformatics	
BIOE 5235	Biomedical Imaging	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 6100	Medical Physiology	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5585	Evolution	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 5593	Cell and Molecular Biology of Aging	
BIOL 5597	Immunotherapies of Cancer and Infectious Disease	
BIOL 6299	Molecular Cell Biology for Biotechnology	
BIOL 6300	Biochemistry	
BIOL 6301	Molecular Cell Biology	
BIOL 6303	Neurobiology and Behavior	
BIOT 5120	Foundations in Biotechnology	
BIOT 5145	Basic Biotechnology Lab Skills	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	
BIOT 5560	Bioprocess Fundamentals	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 5635	Downstream Processes for Biopharmaceutical Production	
BIOT 5640	Drug Product Processes for Biopharmaceuticals	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	
BIOT 5850	Higher-Order Structure Analytics	
BIOT 7245	Biotechnology Applications Laboratory	
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	
CHEM 5616	Protein Mass Spectrometry	
CHEM 5617	Protein Mass Spectrometry Laboratory	

CHEM 5620	Protein Chemistry
CHEM 7317	Analytical Biotechnology
CS 5010	Programming Design Paradigm
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CS 5400	Principles of Programming Language
CS 5500	Foundations of Software Engineering
CS 5600	Computer Systems
CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
DA 5020	Collecting, Storing, and Retrieving Data
DA 5030	Introduction to Data Mining/Machine Learning
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 7203	Numerical Analysis 1
MATH 7205	Numerical Analysis 2
MATH 7233	Graph Theory
MATH 7241	Probability 1
MATH 7340	Statistics for Bioinformatics
MATH 7341	Probability 2
MATH 7342	Mathematical Statistics
MATH 7344	Regression, ANOVA, and Design
PHSC 6214	Experimental Design and Biostatistics
PHYS 5116	Network Science 1
PHYS 7332	Network Science Data 2

Program Credit/GPA Requirements

15–16 total semester hours required
Minimum 3.000 GPA required

Omics, Graduate Certificate

Students will explore in detail the key genomic technologies and computational approaches that are driving advances in prognostics, diagnostics, and treatment, learning how scientists sequence, assemble, and analyze the function and structure of genomes. The certificate explores methods for determining traits and diseases by studying the larger population, as well as how gene identification can help identify targets for therapeutic intervention. Students that are already in the field or have an interest in the field will significantly benefit from this curriculum.

Program Requirements

Requirements

Code	Title	Hours
Required Courses		
BINF 6310	Introduction to Computational Methods in Bioinformatics	4
BINF 6400	Genomics in Bioinformatics	4
BINF 6420	Omics in Bioinformatics	4
BINF 6430	Transcriptomics in Bioinformatics	4

Program Credit/GPA Requirements

16 total semester hours required

Minimum 3.000 GPA required

Chemistry and Chemical Biology

Website (https://cos.northeastern.edu/chemistry-chemical-biology/)

Penny Beuning, PhD
Professor and Chair

617.373.2822

The PhD program in chemistry provides research and professional opportunities for students that are based on fundamental chemical principles with translational applications to the real world. The program is built on academic rigor and research impact, based on the creativity and strengths of an increasingly diverse faculty and student body. We have harnessed our extensive connections in industry to create and maintain a thriving industry-entry PhD program and provide our regular PhD students with internship opportunities in industry, government laboratories, and other venues that may lead to a wide range of careers. Students in our program leave with flexible skills that can be applied in creative and meaningful ways in academics, industry, and beyond. We are aligned in our core values with the mission of Northeastern University to "educate students for a life of fulfillment and accomplishments and create and translate knowledge to meet global and societal needs." This mission is at the core of the curriculum, research, mentoring strategies, and professional development opportunities offered to our students. It is implemented in a highly multidisciplinary and transparent environment where students have a voice and take real ownership and responsibility for their professional success. Within this context, PhD students work with chemistry and chemical biology faculty in interdisciplinary areas that include biochemistry and chemical biology, synthetic chemistry, medicinal chemistry, polymer and materials chemistry, environmental chemistry, computational chemistry, and bioanalytical chemistry.

The Master of Science in Chemistry is designed to allow practicing chemical professionals who have an earned bachelor's degree in chemistry or a closely related field to pursue a master's degree in chemistry by completing a coursework program during the evening weekday hours. Full-time or part-time options are available. The department offers a diverse range of courses that mirror the faculty's research interests in biochemistry, chemical biology, synthetic chemistry, medicinal chemistry, polymer and materials chemistry, environmental chemistry, computational chemistry, and bioanalytical chemistry.

Website (https://cos.northeastern.edu/master-of-science-in-biotechnology/)

Jocelyn Haversat, PhD
Associate Teaching Professor and Director, Biotechnology Programs

617.373.6998

The biotechnology programs are housed in the Department of Chemistry and Chemical Biology. The Master of Science in Biotechnology, a professional science master's degree program, is an innovative, nonthesis, experiential graduate degree. It combines advanced interdisciplinary training in biotechnology, biology, chemistry, regulatory, and pharmaceutical sciences with the development of high-value business skills critical to success in the biotechnology industry. Students develop and apply their skills in a hands-on co-op experience with one of Northeastern's many academic and industry partners. Full-time, part-time, and remote options are available with online and evening course offerings.

The biotechnology program also offers several graduate certificates in the areas of biodefense and biosecurity, biopharmaceutical analytical sciences, biotechnology, biotechnology enterprise, biotechnology regulatory science, experimental biotechnology, manufacturing and quality operations, molecular biotechnology, pharmaceutical technologies, process science, and vaccine development.

Programs

Doctor of Philosophy (PhD)

- Chemistry (p. 953)

Master of Science (MS)

- Biotechnology (p. 955)
- Biotechnology, MS—Experiential (p. 961)
- Chemistry (p. 962)

Graduate Certificate

- Biodefense and Biosecurity (p. 963)
- Biopharmaceutical Analytical Sciences (p. 964)
- Biotechnology (p. 965)
- Biotechnology Enterprise (p. 966)
- Biotechnology Regulatory Science (p. 967)
- Experimental Biotechnology (p. 968)
- Manufacturing and Quality Operations in Biotechnology (p. 969)
- Molecular Biotechnology (p. 970)
- Pharmaceutical Technologies (p. 971)

- Process Science (p. 972)
- Vaccine Development (p. 973)

Chemistry, PhD

The PhD program in chemistry is designed for students who have earned a bachelor's or a master's degree in chemistry or related areas and who wish to earn a doctorate in chemistry. Research spans a wide range of multidisciplinary fields, with strengths in clean energy, polymers, materials, medicinal chemistry, bioanalytical chemistry, and chemical biology. Our research programs draw from a strong foundation in analytical, organic, physical, and biological chemistry in a collaborative and diverse environment. Our student-focused approach to mentoring, a strong graduate student association, and faculty deeply rooted both in academics and industry provide a flexible platform for student development toward a large diversity of career paths.

Students typically take courses their first year while supported on teaching assistantships and achieve PhD candidacy in the second year. The primary emphasis of the program is on the completion of an original research project, its articulation in a well-written thesis, and its subsequent defense before the thesis committee through an open seminar followed by oral examination by the committee members.

PhD Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations
Annual review
Candidacy
Minimum of two seminars
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Required Core		
CHEM 5600	Research Skills and Ethics in Chemistry	3
CHEM 7710	Laboratory Rotations in Chemistry and Chemical Biology	0
CHEM 7750	Advanced Problem Solving	3
Complete the following (repeatable) course three times:		3
CHEM 5501	Chemical Safety in the Research Laboratory	
Seminar		
At least one seminar must be taken for a letter grade.		
CHEM 8504	Graduate Seminar	1
Research		
CHEM 8984	Research	1-6
Chemistry		
Complete 18 semester hours from the following:		18
CHEM 5550 or within the range of CHEM 5610 to CHEM 7320		

Dissertation

Code	Title	Hours
Complete the following courses:		
CHEM 9990	Dissertation Term 1	
CHEM 9991	Dissertation Term 2	
Registration in the following course is required for any additional terms taken to complete the dissertation.		
CHEM 9996	Dissertation Continuation	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced entry into the PhD program requires a master's degree in chemistry or a related area. Graduate courses taken during acquisition of the Master of Science degree allow completion of the PhD program with fewer course credits. Other than the course requirements, which are specified separately, see the PhD program requirements for details.

INDUSTRY ENTRY PHD

This program is strictly for students who already have a master's degree in chemistry or related area and have full-time employment at a company. The company must commit to all financial responsibilities accrued in obtaining the degree and allow time for the student to work on a PhD thesis in collaborative research with a company supervisor and one of our faculty members. Graduate courses in the Department of Chemistry and Chemical Biology are generally taught in the evenings to accommodate the fact that our students work in industry during the day.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations
Annual review
Candidacy
Minimum of two seminars
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Required Core		
CHEM 5600	Research Skills and Ethics in Chemistry	3
CHEM 7750	Advanced Problem Solving	3
Seminar		
CHEM 8504	Graduate Seminar	1

Dissertation

Code	Title	Hours
CHEM 9990	Dissertation Term 1	
CHEM 9991	Dissertation Term 2	

Program Credit/GPA Requirements

7 total semester hours required
Minimum 3.000 GPA required

Biotechnology, MS

Overview

Northeastern's Master of Science in Biotechnology is a professional master's program, an innovative, nonthesis graduate degree. It combines advanced interdisciplinary training in biotechnology, biology, chemistry, and pharmaceutical sciences with the development of high-value business skills critical to success in today's dynamic workplace. This program is designed to prepare graduates to innovate, collaborate, and lead as research, managerial, or technical professionals in a wide range of biotechnology specialties. The two-year program offers students the possibility to pursue one of ten concentrations to further their knowledge in a specific topical area of the field.

Concentrations

AGRICULTURAL BIOTECHNOLOGY CONCENTRATION

The agricultural concentration goes beyond the production of biological drugs and focuses on the key agricultural biotechnology (agritech) principles and methods used today. Students have an opportunity to learn the principles of agritech and the role they play in the concepts and fundamentals of agriculture today. The concentration addresses plant, animal, food, and ecological biotechnology. The learning of the students is reinforced by both lecture courses and project-driven laboratory experience that provides hands-on learning of modern agricultural methodologies.

BIODEFENSE CONCENTRATION

The biodefense concentration is designed to prepare students for the initial homeland biodefense and bioterrorism response. Students have an opportunity to learn the microbiology and epidemiology of biological agents that are potential threats, identify and propose countermeasures, and develop expertise in response and recovery strategies and policies. The learning combines the foundational biotechnology courses with case-based and hands-on bioethical, biowarfare, and bioterrorism courses.

BIOPHARMACEUTICAL ANALYTICAL SCIENCES CONCENTRATION

The biopharmaceutical analytical sciences concentration focuses on structures and activities of biological molecules and their variants formed during the production of biopharmaceuticals. Students have an opportunity to learn the diversity of molecular forms derived from the biological products through various biological and chemical mechanisms and the impact of these structural changes on the safety and efficacy of these biopharmaceuticals. The students have an opportunity to learn the science and practice applied in the biotechnology industry to analyze and characterize these molecular forms. This is accomplished through both lecture courses of the analytical sciences and project-driven laboratory experience that utilizes analytical techniques such as mass spectrometry and molecular separations.

BIOTECHNOLOGY ENTERPRISE CONCENTRATION

Biotechnology is a deeply scientific endeavor. All aspects of a biotech enterprise are related back to science, which is integrated throughout a biotech's various operations. The biotechnology enterprise concentration offers our science students a holistic study about the business of biotech. In addition to the core biotechnology curriculum, students also study what it takes to move a product from discovery to R&D through approval and launch. Successful students are prepared for diverse roles primarily outside the lab: supporting clinical trials in project and program management roles; fulfilling associate and early career roles in medical affairs; fortifying various teams in quality, regulatory, supply chain, and manufacturing; working with and managing aspects of alliances and partnerships; offering product due diligence, product development, and market analytics rooted in science; and taking on various team lead and early career management roles soon after graduation.

BIOTECHNOLOGY REGULATORY SCIENCE CONCENTRATION

The biotechnology regulatory science concentration focuses on the science behind good regulatory practice today. This concentration addresses the issues surrounding current and innovative science practices that influence regulatory decisions. Students have an opportunity to learn the science behind compliance. This is accomplished through both lecture courses and project-driven laboratory experience that provides hands-on learning of the science behind dossier analysis.

MANUFACTURING AND QUALITY OPERATIONS IN BIOTECHNOLOGY CONCENTRATION

The manufacturing and quality operations in biotechnology concentration has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art biopharmaceutical manufacturing and quality operations. In particular, the focus of this concentration is training the workforce to ensure quality medicines are produced. Individuals—particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals—have an opportunity to improve their competency and learn new practical skills, which enables them to increase productivity and further contribute to their professions.

MOLECULAR BIOTECHNOLOGY CONCENTRATION

The molecular biotechnology concentration provides students with didactic and practical knowledge in molecular biotechnology, protein expression, and structural biology. Students have an opportunity to learn how to generate and optimize molecular forms used to express recombinant proteins to be used as biopharmaceuticals. Particular attention is paid to cutting-edge technologies such as RNAi and CRISPR/Cas9. In addition, the students have an opportunity to learn how to purify biopharmaceuticals and analyze aggregation and how to prevent it.

PHARMACEUTICAL TECHNOLOGIES CONCENTRATION

The pharmaceutical technologies concentration focuses on the conversion of purified proteins to biopharmaceutical drug products that are compatible for clinical use. This concentration addresses the design of the product formulation and the development and implementation of the drug product manufacturing processes. Students have an opportunity to learn the sciences of the interactions of the biologic molecules in the process conditions and the relevant process technology, such as aseptic operations and freeze-drying, needed for drug product manufacturing. This

is accomplished through both lecture courses and project-driven laboratory experience that offers hands-on learning of formulation design and drug product process development.

PROCESS SCIENCE CONCENTRATION

The process science concentration focuses on the production of drug substance of biopharmaceuticals from cell culture process to purification of the biologic molecules. Students have an opportunity to learn the principles of development and implementation of biological manufacturing processes through the integration of concepts and fundamentals of engineering and life sciences. The concentration addresses biochemical engineering, mammalian cell culture process development, and protein purification. The learning of the students is reinforced by both lecture courses and project-driven laboratory experience that provides hands-on learning of cell culture and protein separation.

SCIENTIFIC INFORMATION MANAGEMENT CONCENTRATION

The scientific information management concentration focuses on the collection, analysis, and visualization of scientific data. This concentration addresses the issues surrounding big data that face industry today. Students have an opportunity to learn how to manage, store, visualize, and provide overall analysis of large scientific datasets. This is accomplished through both lecture courses and project-driven laboratory experience that provides hands-on learning of the impacts of data on the scientific process.

Gordon Institute of Engineering Leadership

MASTER'S DEGREE IN BIOTECHNOLOGY WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a Master of Science in Biotechnology in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The certificate program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 42-semester-hour master's degree and certificate requires 26 hours of biotechnology coursework.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
BIOL 6299	Molecular Cell Biology for Biotechnology	3
BIOT 5120	Foundations in Biotechnology	3
BIOT 5219	The Biotechnology Enterprise	2
BIOT 5621	Protein Principles in Biotechnology	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
Co-op and Experiential Learning		**0**
BIOT 6500	Professional Development for Co-op	
Select one of the following:		
BIOT 6964	Co-op Work Experience	
BIOT 5964	Projects for Professionals [1]	

[1] The option of BIOT 5964 Projects for Professionals is not available at all campus locations. Please refer to your advisor or admissions coach for course availability each semester at your campus location.

Concentrations

Complete one of the following concentrations or the elective option:

- Agricultural Biotechnology (p. 957)
- Biodefense (p. 957)
- Biopharmaceutical Analytical Sciences (p. 957)
- Biotechnology Enterprise (p. 957)
- Biotechnology Regulatory (p.) Science (p.)
- Manufacturing and Quality Operations in Biotechnology (p. 957)
- Molecular Biotechnology (p. 958)
- Pharmaceutical Technologies (p.)
- Process Science (p.)

- Scientific Information Management (p.)
- Elective Option (p. 958)

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

AGRICULTURAL BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 6100	Agricultural Biotechnology	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

BIODEFENSE CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 6600	Agents of Bioterrorism	3
BIOT 6610	Biosecurity and Bioterrorism	3
PPUA 6532	Building Resilience into Local Government	4
Elective (p. 958)		4

BIOPHARMACEUTICAL ANALYTICAL SCIENCES CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 6320	Quality Management Systems and Validation	3
BIOT 7245	Biotechnology Applications Laboratory	3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	3
Electives (p. 958)		8

BIOTECHNOLOGY ENTERPRISE CONCENTRATION

Code	Title	Hours
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	3
Electives (p. 958)		12

BIOTECHNOLOGY REGULATORY SCIENCE CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5330	Drug Safety and Immunogenicity	3
BIOT 5500	Concepts in Regulatory Science	3
BIOT 6320	Quality Management Systems and Validation	3
or BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		5

MANUFACTURING AND QUALITY OPERATIONS IN BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 6300	Pharmaceutical Microbiology	3
BIOT 6320	Quality Management Systems and Validation	3
BIOT 6340	Sterile Manufacturing Operations	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		5

MOLECULAR BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 5850	Higher-Order Structure Analytics	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

PHARMACEUTICAL TECHNOLOGIES CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5640	Drug Product Processes for Biopharmaceuticals	3
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

PROCESS SCIENCE CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5560	Bioprocess Fundamentals	3
BIOT 5635	Downstream Processes for Biopharmaceutical Production	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

SCIENTIFIC INFORMATION MANAGEMENT CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 7245	Biotechnology Applications Laboratory	3
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	4
Electives (p. 958)		6

ELECTIVE OPTION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		14

Electives List

Code	Title	Hours
Complete electives from the following list and/or 1 SH BUSN graduate-level courses. Electives not on this list may be chosen with faculty advisor approval.		
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 5597	Immunotherapies of Cancer and Infectious Disease	
BIOL 6381	Ethics in Biological Research	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5225	Managing and Leading a Biotechnology Company	

BIOT 5226	Biotechnology Entrepreneurship
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship
BIOT 5330	Drug Safety and Immunogenicity
BIOT 5340	Introduction to Biotherapeutic Approvals
BIOT 5400	Scientific Information Management for Biotechnology Managers
BIOT 5500	Concepts in Regulatory Science
BIOT 5560	Bioprocess Fundamentals
BIOT 5635	Downstream Processes for Biopharmaceutical Production
BIOT 5640	Drug Product Processes for Biopharmaceuticals
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology
BIOT 5820	Cellular Therapies
BIOT 5850	Higher-Order Structure Analytics
BIOT 5910	Vaccines and Immunization
BIOT 5920	Foundations in Vaccine Regulatory Science
BIOT 5930	Molecular Tools for Vaccine Design
BIOT 6100	Agricultural Biotechnology
BIOT 6300	Pharmaceutical Microbiology
BIOT 6310	CGMP Statutes and Regulation
BIOT 6320	Quality Management Systems and Validation
BIOT 6340	Sterile Manufacturing Operations
BIOT 6600	Agents of Bioterrorism
BIOT 6610	Biosecurity and Bioterrorism
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis
CHEM 5616	Protein Mass Spectrometry
CHEM 5617	Protein Mass Spectrometry Laboratory
CHEM 5621	Principles of Chemical Biology for Chemists
CHEM 5625	Chemistry and Design of Protein Pharmaceuticals
CHEM 5638	Molecular Modeling
CHME 7340	Chemical Engineering Kinetics
DA 5020	Collecting, Storing, and Retrieving Data
DA 5030	Introduction to Data Mining/Machine Learning
EMGT 5220	Engineering Project Management
ENTR 6210	Managing Operations in Early Stage Ventures
ENTR 6211	Entrepreneurship: Services and Retail Business Creation
ENTR 6212	Business Planning for New Ventures
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENVR 6102	Environmental Science and Policy Seminar 2
HINF 5105	The American Healthcare System
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management
INNO 6225	Acquisitions, Alliances, and Growth
INSH 5301	Introduction to Computational Statistics
INTB 6200	Managing the Global Enterprise
INTB 6212	Cultural Aspects of International Business
MGMT 6213	Managing Ethics in the Workplace and Marketplace
MGMT 6223	Strategic Decision Making for Healthcare Professionals
MGMT 6225	Sustainability and Leadership
MGSC 6200	Information Analysis
NNMD 5270	Foundations in Nanomedicine: Therapeutics
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market
NNMD 5272	Nanomedicine Seminar
NNMD 5274	Nanomedicine Seminar 2

NNMD 5370	Nanomedicine Research Techniques
PHSC 5212	Research Skills and Ethics
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5560	Nanotoxicity
PHSC 6224	Behavioral Pharmacology and Drug Discovery
PHSC 6290	Biophysical Methods in Drug Discovery
PHSC 7010	Pharmaceutical Sciences Laboratory
PHTH 5320	Grant Writing in Public Health
POLS 7341	Security and Resilience Policy
POLS 7346	Resilient Cities
POLS 7343	Counterterrorism
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 6532	Building Resilience into Local Government
STRT 6200	Strategic Decision Making in a Changing Environment

Biotechnology, MS—Experiential

Admissions to this program have been suspended.

Northeastern's Experiential Master of Science in Biotechnology is an intensive, accelerated, experiential, job-relevant master's program featuring an adaptable array of experiential options hosted by employer partners with a built-in talent acquisition pathway. The experiential Master of Science builds on five pillars to create an innovative, evidence-based, work-based learning (WBL) experience to deliver a robust, industry-aligned curriculum with richly integrated experiential learning centered on deep employer engagement; problem-solving and critical thinking skills; and augmented with support layers for problem solving, critical thinking, student services, career design, and built-in talent acquisition to match rising professionals with hiring employer partners in high-demand domains.

Program Requirements

Core Requirements

Code	Title	Hours
BIOL 6299	Molecular Cell Biology for Biotechnology	3
BIOT 5120	Foundations in Biotechnology	3
BIOT 5219	The Biotechnology Enterprise	2
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5500	Concepts in Regulatory Science	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
BIOT 6980	Biotechnology Capstone	2
BIOT 7245	Biotechnology Applications Laboratory	3
BIOT 7250	Advanced Biotechnology Applications Laboratory	3
CHEM 5620	Protein Chemistry	3
Co-op		
BIOT 6500	Professional Development for Co-op	0
BIOT 6964	Co-op Work Experience	0

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Chemistry, MS

Master's Coursework Option

The Department of Chemistry and Chemical Biology offers a full-time or part-time, course-based master's degree. Classes are generally offered in the evenings to accommodate students who have full-time jobs. A research thesis is not a requirement for the degree.

Master's Thesis Option

The department welcomes applications for the thesis-based master's degree only from students who are currently enrolled at Northeastern.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 30 semester hours from the following courses:		30
CHEM 5550 to CHEM 7750		

THESIS OPTION

Code	Title	Hours
Course Work		
Complete 18 semester hours from the following:		18
CHEM 5550, or within the range of CHEM 5610 to CHEM 7320		
Graduate Seminar		
Seminar must be completed twice. At least one seminar must be taken for a letter grade.		2
CHEM 5904	Seminar	
or CHEM 8504	Graduate Seminar	
Laboratory		
Complete the following (repeatable) course twice:		2
CHEM 5501	Chemical Safety in the Research Laboratory	
Research		
CHEM 5984	Research	4-6
or CHEM 8984	Research	
Thesis		
CHEM 7990	Thesis	4

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Biodefense and Biosecurity, Graduate Certificate

The Graduate Certificate in Biodefense and Biosecurity has been designed in response to a need in the biotechnology industry for individuals who desire to become professionals in biodefense or biosecurity. The concentration seeks to give individuals a background into the technology to detect, analyze, and respond to biosecurity threats. Enrolled students will study the microbiology and epidemiology of biological agents that are potential threats; identify and propose what countermeasures can be used; and through coursework develop expertise in the response, strategies, and policies related to biodefense and biosecurity. The graduate certificate consists of three biotechnology courses and one public policy and urban affairs course totaling 13-semester-hour credits.

Program Requirements

Required Courses

Code	Title	Hours
BIOT 6600	Agents of Bioterrorism	3
BIOT 6610	Biosecurity and Bioterrorism	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
PPUA 6532	Building Resilience into Local Government	4

Program Credit/GPA Requirements

13 total semester hours required
Minimum 3.000 GPA required

Biopharmaceutical Analytical Sciences, Graduate Certificate

The Graduate Certificate in Biopharmaceutical Analytical Sciences has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art analyses of protein with focus on the characterization of innovator and biosimilars. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals, have an opportunity to improve their competency and learn new practical skills that enable them to increase productivity and further contribute to their professions. In addition, the certificate was designed for both individuals with and without experience in biopharmaceuticals and their analysis.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 6320	Quality Management Systems and Validation	3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	3
CHEM 5617	Protein Mass Spectrometry Laboratory	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Biotechnology, Graduate Certificate

The Graduate Certificate in Biotechnology has been designed in response to a need in the biotechnology industry for individuals without a biotechnology background to obtain a strong foundation in basic biotechnology concepts and skills. Individuals, particularly those who are working in fields other than biotechnology, will acquire competency and learn new practical skills enabling them to increase productivity and allow for transitions into more biotechnology-related fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOL 6299	Molecular Cell Biology for Biotechnology	3
BIOT 5120	Foundations in Biotechnology	3
BIOT 5621	Protein Principles in Biotechnology	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Biotechnology Enterprise, Graduate Certificate

The graduate certificate in biotechnology enterprise has been designed in response to a need in the biotechnology industry for individuals with a biotechnology background to obtain a strong foundation in the business aspects of biotechnology. Individuals, particularly those who are working in the field of biotechnology, will improve their business competency enabling them to better manage a team or move into a more business-orientated role.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3

Elective

Code	Title	Hours
Complete one elective from the following list:		3
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6211	Entrepreneurship: Services and Retail Business Creation	
ENTR 6212	Business Planning for New Ventures	
INTB 6200	Managing the Global Enterprise	
INTB 6212	Cultural Aspects of International Business	
MGSC 6200	Information Analysis	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Biotechnology Regulatory Science, Graduate Certificate

This certificate was designed in response to a need in the biotechnology industry for individuals, in particular regulators, to obtain a strong foundation in the science behind good regulatory practice today, specifically in relation to biopharmaceuticals.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5330	Drug Safety and Immunogenicity	3
BIOT 5500	Concepts in Regulatory Science	3
BIOT 5621	Protein Principles in Biotechnology	3
BIOT 6320	Quality Management Systems and Validation	3
or BIOT 5340	Introduction to Biotherapeutic Approvals	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Experimental Biotechnology, Graduate Certificate

The graduate certificate in experimental biotechnology has been designed in response to a need in the biotechnology industry for individuals without a biotechnology background to obtain a strong foundation in lab-based, hands-on, biotechnology skills. Individuals, particularly those who are working in fields other than biotechnology, will acquire competency and learn new practical lab skills enabling them to increase productivity and transition into more biotechnology-related fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5219	The Biotechnology Enterprise	2
BIOL 5549	Inventions in Microbial Biotechnology	4
BIOT 6214	Experimental Design and Biostatistics	2
BIOT 7245	Biotechnology Applications Laboratory	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Manufacturing and Quality Operations in Biotechnology, Graduate Certificate

The graduate certificate in manufacturing and quality operations has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art biopharmaceutical manufacturing and quality operations. In particular, the focus of this certificate is training the workforce to ensure quality medicines are produced. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals, have an opportunity to improve their competency and learn new practical skills, which enables them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 6300	Pharmaceutical Microbiology	3
BIOT 6310	CGMP Statutes and Regulation	3
BIOT 6320	Quality Management Systems and Validation	3
BIOT 6340	Sterile Manufacturing Operations	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Molecular Biotechnology, Graduate Certificate

The graduate certificate in molecular biotechnology has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art molecular biology techniques and advanced protein structure analysis. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development and manufacturing of biopharmaceuticals, will improve improve their competency and learn new practical skills enabling them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	3
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 5850	Higher-Order Structure Analytics	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Pharmaceutical Technologies, Graduate Certificate

The Graduate Certificate in Pharmaceutical Technologies has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of the stages of drug development, biopharmaceutical development. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals, will improve their competency and learn new practical skills enabling them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5640	Drug Product Processes for Biopharmaceuticals	3
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Process Science, Graduate Certificate

The graduate certificate in process sciences has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of process development of biopharmaceuticals. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development and manufacturing of biopharmaceuticals, will improve their competency and learn new practical skills enabling them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5560	Bioprocess Fundamentals	3
BIOT 5635	Downstream Processes for Biopharmaceutical Production	3
BIOT 5640	Drug Product Processes for Biopharmaceuticals	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Vaccine Development, Graduate Certificate

The SARS-CoV-2 pandemic has reemphasized the importance of vaccines in our medical toolkit to prevent the spread of infectious diseases. The Certificate in Vaccine Development explores what vaccines are, how they work (immunization), how regulatory science has evolved in vaccine approvals, and how vaccines are created. This certificate includes three courses specifically focused on the science of vaccines and two courses focusing on cell culture and good manufacturing practices. Credits earned in this certificate may be used to satisfy requirements in the Master of Science in Biotechnology.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 5910	Vaccines and Immunization	3
BIOT 5920	Foundations in Vaccine Regulatory Science	3
BIOT 5930	Molecular Tools for Vaccine Design	3
BIOT 6310	CGMP Statutes and Regulation	3

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Marine and Environmental Sciences

Website (http://www.northeastern.edu/mes/)

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Professor and Chair

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The PhD program in marine and environmental sciences is designed to train high-caliber and independent scientists whose research addresses fundamental and applied ecological and evolutionary questions at local, regional, national, and global scales.

This training will include both general and specialized coursework in ecology and evolution, geoscience, sustainability, and marine sciences, with curricular programs providing specialized options tailored to each student's research interests. Students benefit from top-notch research facilities at the Marine Science Center in Nahant and on the main campus in Boston. Graduates of the program are prepared for careers in academia, government agencies, and the private sector.

The Master of Science in Marine Biology, also known as the Three Seas Program, gives students an opportunity to learn in three world-renowned research facilities in New England, the Caribbean, and the Pacific Northwest. In addition to rigorous coursework, the program offers the opportunity for students to formulate research questions, design and conduct critical experiments, and interpret and present results. The 15-month program culminates with an internship in the field and independent research project.

The Master of Science in Environmental Science and Policy is a joint program between the College of Science and the College of Social Sciences and Humanities. The interdisciplinary program aims to prepare the next generation of environmental professionals for dynamic opportunities focused on the science and policy of sustainability and resilience.

Programs

Doctor of Philosophy (PhD)

- Human Behavior and Sustainability Sciences (p. 980)
- Marine and Environmental Sciences (p. 975)

Master of Science (MS)

- Climate Science and Engineering (p. 385)
- Environmental Science and Policy (p. 985)
- Marine Biology (p. 987)

Graduate Certificate

- Sustainability Sciences (p. 989)

Marine and Environmental Sciences, PhD

The PhD in Marine and Environmental Sciences (MES) program provides students with advanced course work and training in the concentration areas of marine sciences, geosciences, sustainability sciences, and ecology and evolutionary biology.

Students must pass three examinations during the course of their graduate studies:

1. An oral examination by the student's dissertation committee.
2. A proposal defense presented to the student's dissertation committee that explains the research areas that the student proposes to work in.
3. A defense of the student's written dissertation consisting of a public seminar, public question-and-answer period, and private defense of their work to their dissertation committee. Dissertation committees consist of at least four Northeastern faculty and one external faculty member.

A cumulative GPA of 3.000 is required for graduation. All PhD students are required to have at least two first-authored publications submitted to or accepted in a peer-reviewed journal prior to their defense. The PhD will be awarded following submission of a dissertation, approved by the candidate's dissertation committee, to the College of Science.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Marine and Environmental Sciences (https://catalog.northeastern.edu/graduate/science/marine-environmental-sciences/marine-environmental-sciences-ms/) *degree. Note that no students will be admitted directly into the Marine and Environmental Sciences program to pursue a master's degree.*

PhD Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying examination
Dissertation proposal
Candidacy
First-author publication
Dissertation defense

Core Requirements

Code	Title	Hours
Statistics		
Complete one of the following:		4-5
EEMB 5522	Experimental Design Marine Ecology	
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500	
Alternative statistics course as approved by graduate committee		
Research		
Complete the following (repeatable) course twice:		8
EEMB 8984	Research	

Concentration

Complete one of the following concentrations:

- Ecology and Evolutionary Biology (p. 975)
- Sustainability Sciences (p. 976)
- Geosciences (p. 976)
- Marine Sciences (p. 977)

ECOLOGY AND EVOLUTIONARY BIOLOGY

Code	Title	Hours
Seminars		
EEMB 7102	Seminar in Ecology and Evolutionary Biology	2
Complete one of the following:		2

EEMB 7101	Seminar in Marine Sciences	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8102	Readings in Ecology and Evolutionary Biology	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5130	Population Dynamics	
EEMB 5504	Biology of Corals	
EEMB 5506	Biology and Ecology of Fishes	
EEMB 5508	Marine Birds and Mammals	
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516	
EEMB 5518	Ocean and Coastal Processes	
EEMB 5520	Tropical Marine Ecology	
ENVR 5210	Environmental Planning	
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242	
ENVR 5260	Geographical Information Systems	

Substitutions may be made with approval of graduate committee.

SUSTAINABILITY SCIENCES

Code	Title	Hours
Seminars		
EEMB 7103	Seminar in Sustainability Sciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8103	Readings in Sustainability Sciences	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5130	Population Dynamics	
EEMB 5506	Biology and Ecology of Fishes	
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516	
EEMB 5518	Ocean and Coastal Processes	
ENVR 5115	Advanced Topics in Environmental Geology	
ENVR 5260	Geographical Information Systems	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
INSH 6406	Analyzing Complex Digitized Data	
POLS 7334	Social Networks	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 7346	Resilient Cities	

Substitutions may be made with approval of graduate committee.

GEOSCIENCES

Code	Title	Hours
Seminars		
EEMB 7104	Seminar in Geosciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	

EEMB 7103	Seminar in Sustainability Sciences	
Readings		
EEMB 8104	Readings in Geosciences	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5518	Ocean and Coastal Processes	
ENVR 5115	Advanced Topics in Environmental Geology	
ENVR 5190	Soil Science	
ENVR 5210	Environmental Planning	
ENVR 5240 and ENVR 5241	Sedimentary Basin Analysis and Lab for ENVR 5240	
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242	
ENVR 5260	Geographical Information Systems	
Substitutions may be made with approval of graduate committee.		

MARINE SCIENCES

Code	Title	Hours
Seminars		
EEMB 7101	Seminar in Marine Sciences	2
Complete one of the following:		2
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8101	Readings in Marine Sciences	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5130	Population Dynamics	
EEMB 5504	Biology of Corals	
EEMB 5506	Biology and Ecology of Fishes	
EEMB 5508	Marine Birds and Mammals	
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516	
EEMB 5518	Ocean and Coastal Processes	
EEMB 5520	Tropical Marine Ecology	
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242	
ENVR 5260	Geographical Information Systems	
Substitutions may be made with approval of graduate committee.		

Dissertation

Code	Title	Hours
EEMB 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying examination

Dissertation proposal
Candidacy
First-author publication
Dissertation defense

Core Requirements

Code	Title	Hours
Statistics		
Complete one of the following:		4-5
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500	
EEMB 5522	Experimental Design Marine Ecology	

Alternative statistics course as approved by graduate committee

Concentration

Complete one of the following concentrations:

- Ecology and Evolutionary Biology (p. 975)
- Sustainability Sciences (p. 976)
- Geosciences (p. 976)
- Marine Sciences (p. 977)

ECOLOGY AND EVOLUTIONARY BIOLOGY

Code	Title	Hours
Seminars		
EEMB 7102	Seminar in Ecology and Evolutionary Biology	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8102	Readings in Ecology and Evolutionary Biology	2

SUSTAINABILITY SCIENCES

Code	Title	Hours
Seminars		
EEMB 7103	Seminar in Sustainability Sciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8103	Readings in Sustainability Sciences	2

GEOSCIENCES

Code	Title	Hours
Seminars		
EEMB 7104	Seminar in Geosciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7103	Seminar in Sustainability Sciences	
Readings		
EEMB 8104	Readings in Geosciences	2

MARINE SCIENCES

Code	Title	Hours
Seminars		
EEMB 7101	Seminar in Marine Sciences	2
Complete one of the following:		2
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8101	Readings in Marine Sciences	2

Dissertation

Code	Title	Hours
EEMB 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Human Behavior and Sustainability Sciences, PhD

Overview

Admissions to this program begin Fall 2024.

The persistent failure to integrate the social, behavioral, and cognitive sciences with ecological and geophysical sciences is a critical friction point reducing the viability and effectiveness of sustainability solutions. Therefore, a degree program that combines training in psychology with the ecological and geophysical sciences will produce boundary-breaking scholars who can accelerate sustainability solutions that are robustly informed by the results of scientific research. The proposed curriculum integrates degree requirements from existing PhD programs in psychology and marine and environmental sciences (sustainability sciences concentration), with the addition of a set of specialized core courses and integrated cross-disciplinary research training. It also allows students broad latitude in designing their specialty within the parameters of the program.

The PhD in Human Behavior and Sustainability Sciences program provides students with the following advanced coursework and training. Students must pass two examinations during the course of their graduate studies to achieve candidacy:

1. A qualifying paper that the student will write and present to their dissertation committee.
2. A proposal defense presented to the student's dissertation committee that explains the research areas that the student proposes to work in.

At the end of the program, students will defend their written dissertation, which consists of a public seminar, public question-and-answer period, and private defense of their work to their dissertation committee. Dissertation committees consist of at least four Northeastern University faculty and one external faculty member.

A cumulative grade-point average of 3.000 is required for graduation. The PhD will be awarded following submission of a dissertation, approved by the candidate's dissertation committee, to the College of Science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying paper and presentation
Dissertation proposal and presentation
Candidacy
Dissertation/dissertation defense
Teaching experience

Core Requirements

Code	Title	Hours
EEMB 7103	Seminar in Sustainability Sciences	2
EEMB 8103	Readings in Sustainability Sciences	2
ENVR 5450	Applied Social-Ecological Systems Modeling	4
PSYC 5180	Quantitative Methods 1	3
PSYC 5181	Quantitative Methods 2	3
PSYC 7210	Seminar in Cognition	3

Research

Code	Title	Hours
Complete two semesters from the following:		6
PSYC 8401	Research Project	
or EEMB 8984	Research	

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
Psychology Breadth Courses		
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	

PSYC 5140	Proseminar in Biology of Behavior
PSYC 5150	Proseminar in Clinical Neuroscience
PSYC 5160	Proseminar in Personality
PSYC 5170	Proseminar in Social Psychology
Sustainability Breadth Courses	
EEMB 5130	Population Dynamics
EEMB 5506	Biology and Ecology of Fishes
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516
EEMB 5518	Ocean and Coastal Processes
EEMB 5522	Experimental Design Marine Ecology
ENVR 5115	Advanced Topics in Environmental Geology
ENVR 5150	Climate and Atmospheric Change
ENVR 5260	Geographical Information Systems
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5600	Coastal Processes, Adaptation, and Resilience
ENVR 5700	Streams and Watershed Ecology
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
ENVR 6150	Food Security and Sustainability
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
INSH 6300	Research Methods in the Social Sciences
INSH 6406	Analyzing Complex Digitized Data
INTL 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5246	Participatory Modeling for Collaborative Decision Making
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5267	Climate Policy and Justice
PPUA 5268	International Environmental Policy
Psychology Depth Courses	
PSYC 7210	Seminar in Cognition
PSYC 7240	Seminar in Biology of Behavior
PSYC 7250	Seminar in Clinical Neuroscience
PSYC 7270	Seminar in Social Psychology
PSYC 7300	Advanced Quantitative Analysis
Sustainability Depth Courses	
EEMB 7101	Seminar in Marine Sciences
EEMB 7102	Seminar in Ecology and Evolutionary Biology
EEMB 7103	Seminar in Sustainability Sciences
EEMB 7104	Seminar in Geosciences
ENVR 6102	Environmental Science and Policy Seminar 2
LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7334	Social Networks
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 7346	Resilient Cities
SOCL 7267	Environment, Health, and Society

Dissertation

Code	Title	Hours
Please enroll in either EEMB 9990 or PSYC 9990 for one semester after achieving candidacy. In the following semester, please enroll in either EEMB 9991 or PSYC 9991.		
EEMB 9990	Dissertation Term 1	
or PSYC 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	
or PSYC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Climate Science and Engineering, MS

Overview

The Master of Science in Climate Science and Engineering is offered jointly by the College of Engineering and the College of Science. The program provides training in the fundamental scientific processes that underpin the structure and dynamics of the climate, as well as the engineering strategies and technologies required for decarbonization and adaptation to climate change.

Incoming students will typically hold a bachelor's degree in a science, engineering, or related field. The program is designed to prepare students for climate-facing positions in the public or private sectors and can serve as a springboard for students interested in pursuing doctoral-level research. Students must take at least 12 semester hours of College of Science courses and at least 12 semester hours of College of Engineering courses and includes a report, thesis, or coursework option.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. In order to ensure a balance of training across science and engineering, students must take at least 12 semester hours of College of Science courses (starting with EEMB, ENVR) and at least 12 semester hours of College of Engineering courses (starting with CIVE, EECE, ENSY, MATL, ME, SBSY) from the core requirements and restricted elective course options.

Core Requirements

Code	Title	Hours
Select from the core requirements listed below; any core course not used to meet this core course requirement can be taken as a restricted elective:		20
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
CIVE 5150	Climate and Atmospheric Change	
or ENVR 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5670	Global Biogeochemistry	
or ENVR 5670	Global Biogeochemistry	
CIVE 7110	Critical Infrastructure Resilience	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives course list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
or EEMB 8984	Research	
Complete 8 semester hours from the restricted electives course list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
or EEMB 8984	Research	
Complete 4 semester hours from the restricted electives course list below.		4

Restricted Electives

Code	Title	Hours
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7282	Coastal and Hydraulic Modeling	
CIVE 7385	Public Transportation	
CIVE 7392	Special Topics in Environmental Engineering	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5563	Advanced Spatial Analysis	
INTL 5100	Climate and Development	
LAW 7634	Energy Law and Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Environmental Science and Policy, MS

The Master of Science in Environmental Science and Policy program emphasizes a broadly interdisciplinary and synthetic approach that integrates knowledge in the environmental sciences (conservation biology, climate change, fisheries science, ecosystem function, biodiversity, restoration ecology) with the social sciences (policy, economics, sociology, political science, and development) and humanities (environmental history, philosophy, and ethics). The goal of the program is to equip professionals with substantive breadth in knowledge and skills at the intersection of environmental science and policy. The program focuses on training students to think critically about the underlying causes of environmental problems and understanding the reciprocal relationships between coupled human-natural ecosystems and the interconnections between social and technological innovations. The program explores practical approaches and potential solutions that decision makers need to evaluate in policy debates related to promoting environmental sustainability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminars		
PPUA 6101	Environmental Science and Policy Seminar 1	4
ENVR 6102	Environmental Science and Policy Seminar 2	4
Skills Courses		
Complete 2 courses from the following. At least one course needs to be taken from the College of Science Skills Course List and one course from the College of Social Sciences and Humanities Skills Course List.		8
College of Science Skills Course List		
EEMB 5130	Population Dynamics	
EEMB 5522	Experimental Design Marine Ecology	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5210	Environmental Planning	
ENVR 5240	Sedimentary Basin Analysis	
ENVR 5260	Geographical Information Systems	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 6500	Biostatistics	
College of Social Sciences and Humanities Skills Course List		
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Electives

Complete five courses from the following list. At least one course must be taken from the College of Science Elective Course List and one course from the College of Social Sciences and Humanities Elective Course List. Any skills course not taken to fulfill the skills courses requirement can be taken as an elective. Students may petition to enroll in other relevant graduate courses offered by other schools at Northeastern University.

COLLEGE OF SCIENCE ELECTIVE LIST

Code	Title	Hours
EEMB 5130 - EEMB 8984		
ENVR 5115 - ENVR 6900		

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES ELECTIVE LIST

Code	Title	Hours
INSH 5302	Information Design and Visual Analytics	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PHTH 5214	Environmental Health	
PHTH 5230	Global Health	
PPUA 5100 - PPUA 7346		
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Marine Biology, MS

The MS in Marine Biology provides students the opportunity to study marine biology in three distinct environments at three world-renowned research facilities in New England, the Caribbean, and the Pacific Northwest. An internship in the field and independent research project provide the capstone to the fifteen-month graduate program.

Much more than course work in a classroom, the MS in Marine Biology delivers inquiry-based curriculum in marine science during which our students formulate research questions, design and conduct critical experiments, and interpret and present results. You will have an opportunity not only learn science, you have an opportunity to learn how to do science and become a marine scientist.

This program is for students eager to broaden their knowledge of marine biology or who want to further refine their interests.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Students register for International Study—Three Seas Program (ABRS 5120) for the fall and spring terms of year 1.

Code	Title	Hours
Seminar		
EEMB 5303	Marine Biology Careers Seminar	1-2
or EEMB 5305	Professional Development for Ocean Sciences	
Biology		
EEMB 5504 and EEMB 5505	Biology of Corals and Lab for EEMB 5504	3
EEMB 5506 and EEMB 5507	Biology and Ecology of Fishes and Lab for EEMB 5506	3
EEMB 5508	Marine Birds and Mammals	3
EEMB 5518 and EEMB 5519	Ocean and Coastal Processes and Lab for EEMB 5518	3
EEMB 5533 and EEMB 5535	Marine Invertebrate Zoology and Botany and Lab for EEMB 5533	3
Sustainability		
EEMB 5538	Conservation and Restoration of Marine Systems	3
EEMB 5542	Marine Spatial Planning	4
EEMB 5546	Sustainability of the Land-Sea Interface	3
Ecology		
EEMB 5520	Tropical Marine Ecology	2
EEMB 5522	Experimental Design Marine Ecology	3-4
or EEMB 5525	Advanced Field Methods in Marine Ecology	
EEMB 5540 and EEMB 5541	Changing Global Oceans and Lab for EEMB 5540	3
Research		
EEMB 5589	Diving Research Methods	2
Take the following (repeatable) course twice:		2
EEMB 7674	Marine Biology Research Project	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Fall Start

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
EEMB 5305	2	EEMB 5504 and EEMB 5505	3	EEMB 7674	1

EEMB 5522	4	EEMB 5506 and EEMB 5507	3	
EEMB 5589	2	EEMB 5508	3	
EEMB 5546	3	EEMB 5518 and EEMB 5519	3	
EEMB 5542	4	EEMB 5520	2	
EEMB 5533 and EEMB 5535	3	EEMB 5538	3	
		EEMB 5540 and EEMB 5541	3	
	18		**20**	**1**

Year 2

Fall	Hours
EEMB 7674	1
	1

Total Hours: 40

Summer II Start

Year 1

		Summer 2	Hours
		EEMB 5546	3
		EEMB 5589	2
		EEMB 5525	3
			8

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
EEMB 5508	3	EEMB 5542	4	EEMB 7674	1
EEMB 5538	3	EEMB 5305	2		
EEMB 5504 and EEMB 5505	3	MES Elective 5000+	4		
EEMB 5533 and EEMB 5535	3				
EEMB 5506 and EEMB 5507	3				
EEMB 5518 and EEMB 5519	3				
EEMB 5520	2				
	20		**10**		**1**

Year 3

Fall	Hours
EEMB 7674	1
	1

Total Hours: 40

Sustainability Sciences, Graduate Certificate

Overview

Environmental sustainability challenges are inherently complex and multidisciplinary and will require a workforce capable of collaborating across interdisciplinary teams. Thus, it is critical that the next generation of sustainability scientists and engineers receive broad, interdisciplinary training so that they are better prepared to address these complex challenges. This certificate will provide social science and engineering students with fundamental training in sustainability science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
Introduction to Sustainability Science		
ENVR 6102	Environmental Science and Policy Seminar 2	4
Physical and Environmental Processes and Systems		
Complete one of the following:		4
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
ENVR 5700	Streams and Watershed Ecology	
Environmental Planning, Management, and Sustainability		
Complete one of the following:		4
EEMB 6475	Advanced Wildlife Ecology	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
ENVR 6150	Food Security and Sustainability	
Research and Analytical Skills Development		
Complete one of the following:		4
EEMB 5130	Population Dynamics	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5500	Advanced Biostatistics	
ENVR 5984	Research	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Mathematics

Website (https://cos.northeastern.edu/mathematics/)

Egon Schulte, PhD
Professor and Chair

617.373.2450

Mathematics is of ever-increasing importance to our society and everyday life. It has long been the language of science and technology and provides a rich source of methods for analyzing and solving problems encountered in the physical world. Today, mathematics is essential in virtually all fields of human endeavor, including business, the arts, and the social sciences.

PhD students work with internationally recognized faculty in research programs in both pure and applied mathematics. The program is designed to provide students with a broad overview of current mathematics and a strong command of areas of specialization.

The Department of Mathematics also offers Master of Science degrees in mathematics, applied mathematics, and operations research, as well as a graduate certificate in applied mathematics. These programs prepare students for careers in business, industry, or government. Students pursuing degrees in applied math and operations research take part in Northeastern's signature co-op program.

In addition to the numerous seminars and colloquia at Northeastern, there are ample opportunities for students in the Boston area to learn about important recent advances in the field.

Programs

Doctor of Philosophy (PhD)

- Mathematics (p. 991)

Master of Science (MS)

- Applied Mathematics (p. 998)
- Mathematics (p. 1000)

Master of Science in Operations Research (MSOR)

- Operations Research (p. 1001)

Graduate Certificate

- Applied Mathematics (p. 1003)

Mathematics, PhD

Course Requirements

Students entering with a bachelor's degree are required to take 48 semester hours of coursework divided between foundational and advanced offerings. Students entering the program will be allowed to place out of some (possibly all) of the six basic-level courses; the graduate coordinator together with the first-year graduate advisor will determine the allowable course substitutions and will advise the student which foundational courses to take. Students may satisfy requirements for Algebra 1 (MATH 5111) and Analysis 1: Functions of One Variable (MATH 5101) by taking qualifying exams in algebra 1 and in analysis 1 at the start of the program. Students may satisfy foundational course requirements if they demonstrate proficiency by passing an assessment exam in the course at the beginning of the semester or by demonstrating that they have taken a similar course and have adequate knowledge of the course material (syllabus and transcript are required; a brief oral examination is also required in that case). Academic advising will happen just before the start of each term and during the add/drop period in order to plan a student's course registration for the term. A complete listing of foundational and advanced courses is available from the Department of Mathematics and the graduate dean's office. Students are not permitted to register for more than two "readings" courses and three "topics" courses for credit toward the degree without explicit permission from the graduate dean. A minimum GPA of 3.000 is required for degree conferral.

Teaching Requirement

Some teaching experience is required while in the program. Students must attend university-led TA training at the start of the program; attend a one-semester TA training course conducted by faculty from the Department of Mathematics teaching committee; spend one semester shadowing faculty in the undergraduate classroom; and perform recitations and grading for the undergraduate course they are shadowing.

Qualifying Exams

Qualifying exam sessions are given once in spring and once in fall. Students will be required to pass four qualifying exams: algebra 1, analysis 1, and two other exams. The possible additional topics for qualifying exams are algebra 2, analysis 2, combinatorics, geometry, ordinary differential equations, partial differential equations, probability, statistics, topology, and algebraic geometry. A qualifying exam may be taken twice by any student. Additional attempts may be allowed at the discretion of the graduate committee with permission from the graduate dean in the College of Science. Two qualifying exams should be passed no later than the end of the second year and all four by the end of the third year.

Doctoral Candidacy

PhD candidacy is reached when all of the following conditions are met:

- Completion of eight advanced courses
- Identification of an unsolved research problem
- Successful passing of four qualifying exams
- Assignment of PhD supervisor and creation of a 1-page initial plan
- Completion of a 3-page plan of research
- Completion of a 10-page progress report and a one-hour defense of proposal, presented to supervisor and three faculty members of graduate committee

Dissertation Requirement

Each candidate must complete a dissertation that embodies the results of extended research and makes an original contribution to the field. This work should give evidence of the candidate's ability to carry out independent investigation and interpret, in a logical manner, the results of the research. There are two stages to this process:

- **Stage 1:** Students in the PhD program must have a dissertation supervisor within two years after joining the PhD program. The department views the failure of a student to find a supervisor within two years of joining the PhD program with concern and considers this sufficient cause to review the student's status in the PhD program. The process of obtaining a dissertation supervisor always involves two choices—the student chooses the supervisor, and the supervisor chooses the student. For this reason, the department does not guarantee a dissertation supervisor for every student, but the department recognizes its responsibility to help the student find a satisfactory match. This aid is usually provided by the student's graduate advisor, who should be familiar with the student's progress in finding a dissertation supervisor. The dissertation supervisor guides the student's further education as well as directs the student's dissertation. The dissertation itself must represent an original solution of a problem in the chosen area of mathematics that makes a significant contribution to the mathematical knowledge in that area. Students must enroll in Dissertation or Dissertation Continuation while fulfilling the dissertation requirements.
- **Stage 2 (dissertation defense):** The final oral examination on the dissertation is held in accordance with university regulations and given by a dissertation committee of four faculty members (three from the university, including the supervisor, and one from outside Northeastern University). The dissertation supervisor should propose this dissertation committee to the graduate committee for its approval at least one month before the PhD dissertation defense.

Program Requirements

Bachelor's Degree Entry

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Four qualifying examinations
Annual review
Teaching requirement
Doctoral candidacy
Dissertation committee
Dissertation proposal
Progress report and presentation
Dissertation defense

Prerequisites

Code	Title	Hours
Algebra and Analysis		
Complete 0–8 semester hours from the following:		0-8
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5111	Algebra 1	

Advanced Coursework

Code	Title	Hours
Complete 32 semester hours from the advanced coursework list. Only two readings and three topics courses are allowed. (p. 993)		32

Tracks

Complete one of the following three tracks:

- Pure Track (p. 992)
- Discrete Track (p. 992)
- Probability and Statistics Track (p. 993)

Dissertation

Code	Title	Hours
MATH 9990	Dissertation Term 1	
MATH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48–56 total semester hours required
Minimum 3.000 GPA required

PURE TRACK

Code	Title	Hours
Analysis		
MATH 5102	Analysis 2: Functions of Several Variables	4
Algebra		
MATH 5112	Algebra 2	4
Foundational Courses		
Complete up to 8 semester hours from the following:		0-8
MATH 5121	Topology 1	
MATH 5122	Geometry 1	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	

DISCRETE TRACK

Code	Title	Hours
Algebra		
MATH 5112	Algebra 2	4

Probability		
MATH 7241	Probability 1	4
Foundational Courses		
Complete up to 8 semester hours from the following:		0-8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5111	Algebra 1	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7342	Mathematical Statistics	

PROBABILITY AND STATISTICS TRACK

Code	Title	Hours
Analysis		
Complete 4 semester hours from the following:		4
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 7203	Numerical Analysis 1	
Probability		
MATH 7241	Probability 1	4
or MATH 7342	Mathematical Statistics	
Foundational Courses		
Complete up to 8 semester hours from the following:		8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	

Advanced Coursework List

Code	Title	Hours
MATH 7205	Numerical Analysis 2	
MATH 7221	Topology 2	
MATH 7223	Riemannian Optimization	
MATH 7233	Graph Theory	
MATH 7234	Optimization and Complexity	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7301	Functional Analysis	
MATH 7302	Partial Differential Equations 2	
MATH 7303	Complex Manifolds	
MATH 7311	Commutative Algebra	
MATH 7315	Algebraic Number Theory	
MATH 7316	Lie Algebras	
MATH 7317	Modern Representation Theory	
MATH 7320	Modern Algebraic Geometry	
MATH 7321	Topology 3	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	
MATH 7346 to MATH 7361		
MATH 7371	Morse Theory	

MATH 7374	Riemannian Geometry and General Relativity
MATH 7976 to MATH 8986	
MATH 9984	Research
Topics	
Only three topics courses are allowed.	
MATH 7362	Topics in Algebra
MATH 7363	Topics in Algebraic Geometry
MATH 7364	Topics in Representation Theory
MATH 7375	Topics in Topology
MATH 7381	Topics in Combinatorics
MATH 7382	Topics in Probability
Readings	
Only two readings courses are allowed.	
MATH 7721	Readings in Topology
MATH 7733	Readings in Graph Theory
MATH 7734	Readings in Algebra
MATH 7735	Readings in Algebraic Geometry
MATH 7736	Readings in Discrete Geometry
MATH 7741	Readings in Probability and Statistics
MATH 7771	Readings in Geometry

Advanced Entry Program Requirements

Course Requirements

Advanced students who enter the PhD program with a master's degree (or equivalent) will be allowed to place out of some (possibly all) of the six basic-level courses; the graduate coordinator together with the first-year graduate advisor will determine the allowable course substitutions and will advise the student which foundational courses to take. Students may satisfy requirements for Algebra 1 (MATH 5111) and Analysis 1: Functions of One Variable (MATH 5101) by taking qualifying exams in algebra 1 and in analysis 1 at the start of the program. Students may satisfy foundational course requirements if they demonstrate proficiency by passing an assessment exam in the course at the beginning of the semester or by demonstrating that they have taken a similar course and have adequate knowledge of the course material (syllabus and transcript are required; a brief oral examination is also required in that case). Academic advising will happen just before the start of each term and during the add/drop period in order to plan a student's course registration for the term. A complete listing of foundational and advanced courses is available from the Department of Mathematics and the graduate dean's office. Students are not permitted to register for more than two "readings" courses and three "topics" courses for credit toward the degree without explicit permission from the graduate dean. A minimum grade-point average (GPA) of 3.000 is required for degree conferral.

Teaching Requirement

Some teaching experience is required while in the program. Students must attend university-led TA training at the start of the program; attend a one-semester TA training course conducted by faculty from the Department of Mathematics teaching committee; spend one semester shadowing faculty in the undergraduate classroom; and perform recitations and grading for the undergraduate course they are shadowing.

Qualifying Exams

Qualifying exam sessions are given once in spring and once in fall. Students will be required to pass four qualifying exams: algebra 1, analysis 1, and two other exams. The possible additional topics for qualifying exams are algebra 2, analysis 2, combinatorics, geometry, ordinary differential equations, partial differential equations, probability, statistics, topology, and algebraic geometry. A qualifying exam may be taken twice by any student. Additional attempts may be allowed at the discretion of the graduate committee with permission from the graduate dean in the College of Science. Two qualifying exams should be passed no later than the end of the second year and all four by the end of the third year.

Doctoral Candidacy

PhD candidacy is reached when all of the following conditions are met:

- Completion of eight advanced courses
- Identification of an unsolved research problem
- Successful passing of four qualifying exams
- Assignment of PhD supervisor and creation of a 1-page initial plan
- Completion of a 3-page plan of research
- Completion of a 10-page progress report and a one-hour defense of proposal, presented to supervisor and three faculty members of graduate committee

Dissertation Requirement

Each candidate must complete a dissertation that embodies the results of extended research and makes an original contribution to the field. This work should give evidence of the candidate's ability to carry out independent investigation and interpret, in a logical manner, the results of the research. There are two stages to this process:

- **Stage 1:** Students in the PhD program must have a dissertation supervisor within two years after joining the PhD program. The department views the failure of a student to find a supervisor within two years of joining the PhD program with concern and considers this sufficient cause to review the student's status in the PhD program. The process of obtaining a dissertation supervisor always involves two choices—the student chooses the supervisor, and the supervisor chooses the student. For this reason, the department does not guarantee a dissertation supervisor for every student, but the department recognizes its responsibility to help the student find a satisfactory match. This aid is usually provided by the student's graduate advisor, who should be familiar with the student's progress in finding a dissertation supervisor. The dissertation supervisor guides the student's further education as well as directs the student's dissertation. The dissertation itself must represent an original solution of a problem in the chosen area of mathematics that makes a significant contribution to the mathematical knowledge in that area. Students must enroll in Dissertation or Dissertation Continuation while fulfilling the dissertation requirements.
- **Stage 2 (dissertation defense):** The final oral examination on the dissertation is held in accordance with university regulations and given by a dissertation committee of four faculty members (three from the university, including the supervisor, and one from outside Northeastern University). The dissertation supervisor should propose this dissertation committee to the graduate committee for its approval at least one month before the PhD dissertation defense.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Four qualifying examinations
Annual review
Teaching requirement
Doctoral candidacy
Dissertation committee
Dissertation proposal
Progress report and presentation
Dissertation defense

Code	Title	Hours
Complete 0–16 semester hours of the following courses:		0-16
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5111	Algebra 1	
MATH 5112	Algebra 2	

Advanced Coursework

Code	Title	Hours
Complete 32 semester hours from the advanced coursework list. Only two readings and three topics courses are allowed. (p. 993)		32

Tracks

Complete one of the following three tracks:

- Pure Track (p. 992)
- Discrete Track (p. 992)
- Probability and Statistics Track (p. 993)

Dissertation

Code	Title	Hours
MATH 9990	Dissertation Term 1	
MATH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32–56 total semester hours required
Minimum 3.000 GPA required

PURE TRACK

Code	Title	Hours
Foundational Courses		
Complete 0–8 semester hours from the following:		0-8
MATH 5121	Topology 1	
MATH 5122	Geometry 1	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	

DISCRETE TRACK

Code	Title	Hours
Foundational Courses		
Complete 0–8 semester hours from the following:		0 - 8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5111	Algebra 1	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	

PROBABILITY AND STATISTICS TRACK

Code	Title	Hours
Foundational Courses		
Complete 0–8 semester hours from the following:		0 - 8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	

ADVANCED COURSEWORK LIST

Code	Title	Hours
MATH 7205	Numerical Analysis 2	
MATH 7221	Topology 2	
MATH 7223	Riemannian Optimization	
MATH 7233	Graph Theory	
MATH 7234	Optimization and Complexity	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7301	Functional Analysis	
MATH 7302	Partial Differential Equations 2	
MATH 7303	Complex Manifolds	
MATH 7311	Commutative Algebra	
MATH 7315	Algebraic Number Theory	
MATH 7316	Lie Algebras	
MATH 7317	Modern Representation Theory	
MATH 7320	Modern Algebraic Geometry	
MATH 7321	Topology 3	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7343	Applied Statistics	

MATH 7344	Regression, ANOVA, and Design
MATH 7346 to MATH 7361	
MATH 7371	Morse Theory
MATH 7374	Riemannian Geometry and General Relativity
MATH 7976 to MATH 8986	
MATH 9984	Research
Topics	
Only three topics courses are allowed.	
MATH 7362	Topics in Algebra
MATH 7363	Topics in Algebraic Geometry
MATH 7364	Topics in Representation Theory
MATH 7375	Topics in Topology
MATH 7381	Topics in Combinatorics
MATH 7382	Topics in Probability
Readings	
Only two readings courses are allowed.	
MATH 7721	Readings in Topology
MATH 7733	Readings in Graph Theory
MATH 7734	Readings in Algebra
MATH 7735	Readings in Algebraic Geometry
MATH 7736	Readings in Discrete Geometry
MATH 7741	Readings in Probability and Statistics
MATH 7771	Readings in Geometry

Applied Mathematics, MS

New applications of mathematics are constantly being discovered, and established techniques are being applied in new ways and in emerging fields. Students have the option to participate in one of two tracks offered: data science or coursework. The track option allows students to be able to personalize their education with more in-depth knowledge of data science or other areas of interest. Northeastern's Master of Science in Applied Mathematics caters to students who are looking to enter or who are currently working in a variety of applied math careers, such as financial service and investment firms, data science and high-tech firms, computer information and software firms, and academic institutions and research institutes.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Methods and Modeling		
MATH 5131	Introduction to Mathematical Methods and Modeling	4
Algebra and Analysis		
Complete one of the following:		4
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5110	Applied Linear Algebra and Matrix Analysis	
MATH 5111	Algebra 1	
MATH 7241	Probability 1	
Statistics		
Complete one of the following:		4
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	

Tracks

Complete one of the following two tracks:

- Data Science Track (p.)
- Coursework Track (p.)

DATA SCIENCE TRACK

Code	Title	Hours
Data Science Courses		
Complete two of the following:		8
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
Students may take other courses not on the list above from the Khoury College of Computer Sciences in consultation with their faculty advisor.		

COURSEWORK TRACK

Code	Title	Hours
Coursework		
Complete 8 semester hours from any subject area. Courses outside of MATH may be chosen with faculty approval.		8

Electives

Code	Title	Hours
Complete 12 semester hours in the following subject area:		12
MATH		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Mathematics, MS

This program offers students with a bachelor's degree in mathematics or a related field an opportunity to broaden their knowledge in the several fields of mathematics and its applications. The program is designed to prepare graduates for careers in business, industry, or government.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Algebra 1 and Analysis 1		
MATH 5101	Analysis 1: Functions of One Variable	4
MATH 5111	Algebra 1	4
Algebra 2 and Analysis 2		
MATH 5102	Analysis 2: Functions of Several Variables	4
MATH 5112	Algebra 2	4

Electives

Code	Title	Hours
Complete 16 semester hours from the following; no course can be used to satisfy both a requirement and an elective:		16
MATH 5121	Topology 1	
MATH 5122	Geometry 1	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7205	Numerical Analysis 2	
MATH 7221	Topology 2	
MATH 7223	Riemannian Optimization	
MATH 7233	Graph Theory	
MATH 7234	Optimization and Complexity	
MATH 7241	Probability 1	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7311	Commutative Algebra	
MATH 7321	Topology 3	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	
MATH 7349	Stochastic Calculus and Introduction to No-Arbitrage Finance	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Operations Research, MSOR

This program seeks to train students in the basic techniques and theory of operations research and their applications to real-world problems. Graduates should have developed their analytical skills to attack complex, large-scale optimization problems of both a deterministic and stochastic nature. Eight 4-semester-hour graduate courses are required for this degree. Previous course work will be evaluated to determine proficiency in certain content areas and degree plan may be tailored accordingly. In some cases, a student may be required to take an assessment exam to determine content and knowledge proficiency. No course can be used to satisfy both a requirement and an elective. To qualify for degree conferral, a minimum cumulative grade-point average of 3.000, equivalent to a grade of B, must be obtained. Some courses listed for this program are offered in the College of Engineering or the Khoury College of Computer Sciences.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Probability		
Complete 4 semester hours from the following:		4
MATH 7241	Probability 1	
MATH 7341	Probability 2	
OR 7230	Probabilistic Operation Research	
Statistics		
MATH 7342	Mathematical Statistics	4
or MATH 7343	Applied Statistics	
Operations Research		
OR 6205	Deterministic Operations Research	4
Optimization and Complexity		
MATH 7234	Optimization and Complexity	4

Electives

Code	Title	Hours
Complete 16 semester hours from the following:		16
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 7805	Complexity Theory	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6205	Concepts of Object-Oriented Design with C++	
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5500	Systems Engineering in Public Programs	
IE 5617	Lean Concepts and Applications	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6300	Manufacturing Methods and Processes	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
MATH 7203	Numerical Analysis 1	
MATH 7205	Numerical Analysis 2	

MATH 7223	Riemannian Optimization
MATH 7233	Graph Theory
MATH 7243	Machine Learning and Statistical Learning Theory 1
MATH 7339	Machine Learning and Statistical Learning Theory 2
MATH 7344	Regression, ANOVA, and Design
OR 7240	Integer and Nonlinear Optimization
OR 7310	Logistics, Warehousing, and Scheduling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Applied Mathematics, Graduate Certificate

Large streams of data have brought mathematical modeling to nearly every field and industry. More than ever, a deep understanding of the fundamentals and applications of these models is the differentiator between the success and failure of projects in statistics, machine learning, probabilistic modeling, and optimization. From constructing financial tools and optimizing supply chains, to computer-guided brain surgery and to quantum computing, a foundational understanding of advanced mathematics can give you the tools to create the ideas and technology that will drive the 21st century.

A graduate certificate in applied mathematics gives you the opportunity to study the fundamentals of statistical reasoning, mathematical modeling, and modern mathematical methods in a Tier 1 research department. Shorter than the full master's, the graduate certificate allows you to take up to four courses from the Department of Mathematics. Our courses cover a wide range of topics, from theory courses about the fundamental structures of mathematical objects, to project-based applied courses where students use modeling to solve research-level problems from academic and industry partners.

All applied mathematics courses are taught in the evening to accommodate working students. Mathematics and pure math courses also count toward this certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Modeling		
Complete 4 semester hours from the following:		
MATH 5110	Applied Linear Algebra and Matrix Analysis	
MATH 5131	Introduction to Mathematical Methods and Modeling	
MATH 7203	Numerical Analysis 1	
MATH 7233	Graph Theory	
MATH 7241	Probability 1	
Statistics		
Complete 4 semester hours from the following:		
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7343	Applied Statistics	

Electives

Code	Title	Hours
Complete 8 semester hours from subject area MATH, including but not limited to the following:		
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5111	Algebra 1	
MATH 5121	Topology 1	
MATH 7202	Partial Differential Equations 1	
MATH 7205	Numerical Analysis 2	
MATH 7223	Riemannian Optimization	
MATH 7234	Optimization and Complexity	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	
MATH 7349	Stochastic Calculus and Introduction to No-Arbitrage Finance	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Physics

Website (https://cos.northeastern.edu/physics/)

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Professor and Chair

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Physics PhD and Master of Science students at Northeastern University have the opportunity to explore, discover, and apply the fundamental principles that guide the universe. The program specializes in several subfields that reflect the forefront research activities of the department. These specializations include biological physics, condensed matter physics, elementary particle physics, astrophysics, nanomedicine, nanophysics, quantum science, and network science.

The Department of Physics also offers a Graduate Certificate in Nanomedicine. The certificate is designed for students, engineers, and physicians to develop competency and practical skills in the application of nanotechnology to problems in medicine. This program is appropriate for those working in or seeking careers in biotechnology, pharmaceutical, biomedical, or clinical fields.

Programs

Doctor of Philosophy (PhD)

- Physics (p. 1005)

Master of Science (MS)

- Nanomedicine (p. 1012)
- Physics (p. 1016)

Graduate Certificate

- Nanomedicine (p. 1019)

Physics, PhD

The Department of Physics offers a Doctor of Philosophy in Physics with specializations in different subfields that reflect the forefront research activities of the department, including biological physics, condensed matter physics, elementary particle physics, astrophysics, nanomedicine, and network science. The program for the PhD degree consists of the required course work, a qualifying examination, a preliminary research seminar, the completion of a dissertation based upon original research performed by the student, and a dissertation defense upon completion of the dissertation. Based on these measures, students are expected to obtain a graduate-level understanding of basic physics concepts and demonstrate the ability to formulate a research plan, communicate orally a research plan, and conduct and present independent research.

Coursework

The required courses are grouped into two sets, Part 1 and Part 2, having a total of 42 semester hours as a minimum. Part 1 courses (first-year courses) are typically taken prior to the qualifying exam. Students without a master's degree must complete all Part 1 courses in the first year to remain in good academic standing in the graduate program. Part 2 courses (second-year courses) may be taken before or after passing the qualifying exam.

Grade Requirements

The minimum grade required for the successful completion of the Part 1 courses is a B (3.000) average. Students will only be allowed to take the qualifying exam if they fulfill this requirement. The minimum grade required for the successful completion of Part 2 (excluding advanced research) is at least a B (3.000) average for the Part 2 courses. The Part 2 courses, including any makeup of grade-point-average deficiencies (see following), must be completed within two calendar years of passing the qualifying exam. The department expects students to complete the bulk of these courses in the first year after the qualifying exam. The cumulative average will be calculated each semester. No more than two courses or 8 semester hours of credit, whichever is greater, may be repeated in order to satisfy the requirement for the PhD degree. A student who does not maintain a 3.000 cumulative average for two consecutive semesters, or is otherwise not making satisfactory progress toward the PhD degree requirements, may be recommended for termination at the discretion of the graduate committee. Within the above limitations, a required course for which a grade of F is received must be repeated with a grade of C or better and may be repeated only once. In calculating the overall cumulative average, all graduate-level course work completed at the time of clearance for graduation will be counted.

Qualifying Exam Requirement

A student who fails to achieve the required B average for the Part 1 courses must petition the graduate committee in order to remain in the graduate program and be eligible to take the qualifying exam. A student who fails to achieve the required B average for the Part 2 courses must petition the graduate committee in order to remain in the graduate program. All students registered in the PhD program are required to pass a qualifying exam unless they are granted an exemption (see below). The qualifying exam may include both written and oral parts.

The qualifying exam consists of two parts:

- **Part 1:** Classical physics (based on classical mechanics and mathematical methods), electromagnetic theory, and statistical physics.
- **Part 2:** Quantum physics (based on quantum mechanics and its applications) and statistical physics. The content of the qualifying exam will be based on the content of the first-year courses, excluding Principles of Experimental Physics (PHYS 5318). A syllabus is available and on request will be distributed by the graduate coordinator to any student prior to the exam.

The qualifying exam is given twice yearly: once prior to the start of the fall semester and again within the first two weeks of the start of the spring semester. The exam will consist of one day each on Part 1 (classical physics/mathematical methods, electromagnetism, and statistical physics) and Part 2 (quantum physics and statistical physics).

All students enrolled in the PhD program must take the fall qualifying exam after completing their first-year course of study with the required grade-point average unless they are granted an exemption. Students taking the exam for the first time must take both Part 1 and Part 2. A student who does not pass the exam on his or her first attempt must pass the exam the next time it is given in order to continue in the PhD program. However, a student who passes one part of the first attempt is not required to repeat that part.

Any PhD student will be exempt from taking the quantum part of the qualifying exam if they receive both a grade of B+ or higher inQuantum Theory 1 (PHYS 7315), Quantum Theory 2 (PHYS 7316), and Statistical Physics (PHYS 7305) and have a GPA of 3.670 or higher in those three courses. To meet this standard, they must take all the above courses. Any PhD student will be exempt from taking the classical part of the qualifying exam if they receive both a grade of B+ or higher in Classical Mechanics/Math Methods (PHYS 7301), Electromagnetic Theory (PHYS 7302), and Statistical Physics (PHYS 7305) and have a GPA of 3.670 or higher in these three courses. To meet this standard, they must take all three of these courses.

A student who fails the written exam by less than 5 percent of the total possible score on the second attempt for that part will be automatically given an oral exam. A student who fails the written exam by more than 10 percent is excluded from taking an oral exam. These provisions apply separately to Parts 1 and 2 of the exam.

PhD Candidacy

Degree candidacy is established when the student has passed the qualifying examination and completed both the Part 1 and Part 2 course requirements. PhD candidacy may be achieved before completion of the advanced elective if the elective in the student's specialization is not offered

in a given year. The elective must be taken at the next opportunity. PhD degree candidacy is certified by the college. A maximum of five years after the establishment of doctoral degree candidacy is allowed for the completion of degree requirements.

PhD Dissertation Requirement

All PhD students are required to complete a dissertation based upon new and original research in one of the three following options:

- In one of the current theoretical or experimental research programs in the department, under direct supervision of an advisor from the Department of Physics. A dissertation committee will be formed consisting of the advisor, two full-time members of the department, and an additional member, either from within the department or from an outside department or institution.
- In a recognized interdisciplinary field involving another research area of the university, under the direct supervision of a faculty member in that field. In this case, an interdisciplinary committee is formed under the approval of the graduate committee, consisting of the direct supervisor, a departmental advisor, one other member of the department, and an additional member of either the department or the external department.
- In an area of applied research in one of the industrial or high-technology laboratories associated with the department's industrial PhD program. The direct supervisor is associated with the institution where the research is performed. In this case, a dissertation advisory committee is established by the graduate committee, consisting of the direct supervisor, the departmental advisor, and two other members of the department.

PhD students must select their departmental advisor no later than the end of the spring semester of their second year or their second semester after having passed the qualifying examination, whichever comes first. This process should start as soon as the student has identified a field of research or has passed the qualifying exam.

PhD Dissertation Committee, Preliminary Thesis Proposal, and Preliminary Research Seminar

By the end of the spring semester of the third year or the second semester in which the student is enrolled for PhD dissertation, whichever comes first, each PhD student must have an approved dissertation committee and thesis proposal.

The student (with the aid and approval of his or her thesis advisor) will submit a PhD thesis proposal to the graduate committee clearly outlining a plan to carry out new and original research in the context of previously published research in the scientific literature and also describe the methodologies to be employed. The thesis proposal is limited to 15 pages or less, including references. A proposed makeup of the dissertation committee will be submitted at the same time.

The graduate committee will evaluate the merit of the proposal and make recommendations for improvements when necessary, including any changes to the composition of the dissertation committee. No more than two submissions for a particular proposal may be made. In the case where a revised proposal does not meet a minimum academic standard that provides a basis for making such improvements, the graduate committee may instruct the student to select a different thesis topic or advisor.

After approval by the graduate committee, the proposal is circulated to the general faculty for comments. If the graduate coordinator receives any objections, the proposal will be referred back to the graduate committee for final resolution.

After the proposal and dissertation committee have been approved, the student will make a public presentation of the material in the preliminary research seminar before the dissertation committee in a format open to the full department and advertised one week in advance. The dissertation committee will then meet in closed session to evaluate the seminar. The preliminary research seminar must take place no later than the semester after the thesis proposal is approved and, normally, in the same semester.

In the event that the dissertation advisor is changed, a new committee must be formed, with the approval of the graduate committee, and a new preliminary research seminar given.

PhD Dissertation Defense

The dissertation defense consists of a public presentation, followed by a question period conducted by the dissertation committee and limited to them and the department faculty. The date of the dissertation presentation must be publicized and a copy of the thesis deposited with the graduate program coordinator at least one week prior to the defense. If during this posting period or in the two business days following the defense a written objection to the thesis is lodged with the department chair by a member of the faculty, the chair may appoint an ad hoc postdefense review committee to provide advice on the scientific issues raised by the objection. Students should note that they must be registered for Dissertation or Dissertation Continuation during the semester in which they defend their dissertation and that they should schedule their defenses well in advance of the end of the semester in order to accommodate the review/waiting period and the time required to deposit the thesis.

The final dissertation defense is held in accordance with the College of Science regulations.

PhD Specialization Options

Students choose a specialization in biological physics; particle physics; condensed matter physics; or, with preapproval of a faculty member, in the following areas: nanomedicine or network science.

Multiple specializations are allowed if the individual requirements for each specialization are met.

Note that the specialization will not appear on the degree diploma or on the official transcript but can be listed as the field of study on CVs and grant proposals.

Transfer Credit

Students must petition in writing through the graduate committee to the director of graduate student services for all transfer credit. A copy of an official transcript must be attached to the Request for Transfer Credit form. A maximum of 9 semester hours of credit obtained at another institution may be accepted toward the PhD degree provided that the credits transferred consist of a grade of B or better; are graduate-level courses; have been earned at an accredited institution; and have not been used toward any other degree. Grades are not transferred.

Course Waivers

Course waivers may be accepted toward the PhD degree course requirements, though they will not change the numbers of credits required for the program. The student must have received a B grade or better in equivalent graduate-level core courses that have been earned at an accredited institution. Students must petition in writing to the graduate committee for all course waivers and provide documentation in the form of official transcripts to support their petition.

Residence Requirement

The residence requirement is satisfied by at least one year of full-time graduate work (i.e., enrollment in PhD Dissertation, for two consecutive semesters). Students must be continually enrolled throughout the pursuit of the dissertation.

Internship Option

A PhD candidate may spend one year in a participating high-technology, industrial, or government laboratory immediately after passing the PhD qualifying examination. In this program, the student is expected to remain in touch with the university by taking one course per semester at the university and by frequent contact with a faculty advisor. After the one-year paid internship, the student returns to the university to do the dissertation. Eligibility for this program is contingent on acceptance both by the department and by the external laboratory.

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Two qualifying examinations
Annual review
Candidacy
Preliminary research seminar proposal with proposed dissertation committee
Preliminary research seminar talk
Dissertation defense

Core Requirements [1]

Code	Title	Hours
Principles		
PHYS 5318	Principles of Experimental Physics	4
Computational		
PHYS 7301	Classical Mechanics/Math Methods	4
PHYS 7305	Statistical Physics	4
PHYS 7321	Computational Physics	4
Theory		
PHYS 7302	Electromagnetic Theory	4
PHYS 7315	Quantum Theory 1	4
PHYS 7316	Quantum Theory 2	4
Research		
PHYS 7210	Introduction to Research in Physics (Take this repeatable course twice)	0
PHYS 9984	Advanced Research	1-8

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
If preapproved to specialize in nanomedicine or network science, consult program director.		
PHYS 7322	Nonequilibrium Physics	
PHYS 7323	Elementary Particle Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7325	Quantum Field Theory 1	
PHYS 7731	Biological Physics 1	

Specialization Elective	
Choose 4 semester hours from your specialization below:	4

PhD Specialization Options

A specialization is required.[2]
Note: Specialization in nanomedicine or network science requires prior approval.

Code	Title	Hours
Biological Physics [3]		
PHYS 7731	Biological Physics 1	4
PHYS 7741	Biological Physics 2	4
Particle Physics [4]		
PHYS 7323	Elementary Particle Physics	4
PHYS 7733	Topics: Elementary Particle Physics and Cosmology	4
Condensed Matter Physics		
PHYS 7324	Condensed Matter Physics	4
PHYS 7734	Topics: Condensed Matter Physics	4
Nanomedicine		
NNMD 5270	Foundations in Nanomedicine: Therapeutics	3
NNMD 5370	Nanomedicine Research Techniques	4
Network Science		
PHYS 5116	Network Science 1	4
PHYS 7335	Dynamical Processes in Complex Networks	4

Dissertation

Code	Title	Hours
Taken third year and beyond.		
PHYS 9990	Dissertation Term 1	
PHYS 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PHYS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

42 total semester hours required
Minimum 3.000 GPA required

1 Methods for Teaching in the Introductory Physics Laboratory 1 (PHYS 7220) and Methods for Teaching Introductory Physics Laboratory 2 (PHYS 7230) are required for students awarded a Teaching Assistantship.

2 Note that the specialization will not appear on the degree diploma or on the official transcript but can be listed as the field of study on CVs and grant proposals.

3 By approval of the graduate committee, biological physics students may substitute graduate courses in biology, physics, or chemistry from the following list instead of Biological Physics 2 (PHYS 7741):
Biochemistry (BIOL 6300), Molecular Cell Biology (BIOL 6301), Optical Methods of Analysis (CHEM 5613), Molecular Modeling (CHEM 5638), .
Additional appropriate courses may also be substituted by approval of the physics graduate committee.

4 Elementary Particle Physics (PHYS 7323) is required for a specialization in particle physics. The advanced elective may be Topics: Elementary Particle Physics and Cosmology (PHYS 7733).

Plan of Study

Year 1			
Fall	**Hours**	**Spring**	**Hours**
PHYS 7210	0	PHYS 5318	4
PHYS 7301	4	PHYS 7210	0
PHYS 7302	4	PHYS 7305	4
PHYS 7315	4	PHYS 7316	4
	12		**12**

Year 2				
Fall	**Hours**		**Spring**	**Hours**
PHYS 7321		4	PHYS 9984	2-8
Electives		8	Advanced elective	4
		12		**6-12**

Year 3				
Fall	**Hours**		**Spring**	**Hours**
PHYS 9990		0	PHYS 9991	0
		0		**0**

Total Hours: 42-48

Advanced Entry Program Requirements

The Department of Physics offers a Doctor of Philosophy in Physics with specializations in different subfields that reflect the forefront of research activities of the department, including biological physics, condensed matter physics, elementary particle physics, nanomedicine, and network science. The program for the PhD degree consists of the required coursework, a qualifying examination, a preliminary research seminar, the completion of a dissertation based upon original research performed by the student, and a dissertation defense upon completion of the dissertation. Based on these measures, students are expected to obtain a graduate-level understanding of basic physics concepts and demonstrate the ability to formulate a research plan, communicate orally a research plan, and conduct and present independent research.

Coursework

Students entering with a master's degree from a U.S. institution in physics or a related area approved by the department will be required to take 10 semester hours of courses. The courses will be determined by the graduate director based on the student's transcripts. Students entering with a MS degree awarded by an institution outside the United States will need to consult the graduate director for a transcript evaluation to determine required coursework and course waivers.

Grade Requirements

The minimum grade required is a B (3.000) average. A student who does not maintain a 3.000 cumulative average for two consecutive semesters, or is otherwise not making satisfactory progress toward the PhD degree requirements, may be recommended for termination at the discretion of the graduate committee.

Qualifying Exam Requirement

All students registered in the PhD program are required to pass a qualifying exam unless they are granted an exemption. The qualifying exam may include both written and oral parts. Students who enter with a master's degree from a U.S. institution may take either the classical or the quantum exam, or both, at the first opportunity upon entering the program in the fall. In this case, the exam will count as a first attempt only if the student submits the exam to the examiner.

The qualifying exam consists of two parts:

- **Part 1:** Classical physics (based on classical mechanics and mathematical methods), electromagnetic theory, and statistical physics.
- **Part 2:** Quantum physics (based on quantum mechanics and its applications) and statistical physics. A syllabus is available and on request will be distributed by the graduate coordinator to any student prior to the exam.

The qualifying exam is given twice yearly: once prior to the start of the fall semester and again within the first two weeks of the start of the spring semester. The exam will consist of one day each on Part 1 (classical physics/mathematical methods, electromagnetism, and statistical physics) and Part 2 (quantum physics and statistical physics).

All students enrolled in the PhD program must take the fall qualifying exam after completing their first-year course of study with the required grade-point average. Students taking the exam for the first time must take both Part 1 and Part 2. A student who does not pass the exam on their first attempt must pass the exam the next time it is given in order to continue in the PhD program. However, a student who passes one part of the first attempt is not required to repeat that part.

A student who fails the written exam by less than 5% of the total possible score on the second attempt for that part will be automatically given an oral exam. A student who fails the written exam by more than 10% is excluded from taking an oral exam. These provisions apply separately to Parts 1 and 2 of the exam.

PhD Candidacy

Degree candidacy is established when the student has passed the qualifying examination and completed 10 semester hours of courses. PhD degree candidacy is certified by the college. A maximum of five years after the establishment of doctoral degree candidacy is allowed for the completion of degree requirements.

PhD Dissertation Requirement

All PhD students are required to complete a dissertation based upon new and original research in one of the three following options:

- In one of the current theoretical or experimental research programs in the department, under direct supervision of an advisor from the Department of Physics. A dissertation committee will be formed consisting of the advisor, two full-time members of the department, and an additional member, either from within the department or from an outside department or institution.
- In a recognized interdisciplinary field involving another research area of the university, under the direct supervision of a faculty member in that field. In this case, an interdisciplinary committee is formed under the approval of the graduate committee, consisting of the direct supervisor, a departmental advisor, one other member of the department, and an additional member of either the department or the external department.
- In an area of applied research in one of the industrial or high-technology laboratories associated with the department's industrial PhD program. The direct supervisor is associated with the institution where the research is performed. In this case, a dissertation advisory committee is established by the graduate committee, consisting of the direct supervisor, the departmental advisor, and two other members of the department.

PhD students must select their departmental advisor no later than the end of the spring semester of their second year or their second semester after having passed the qualifying examination, whichever comes first. This process should start as soon as the student has identified a field of research or has passed the qualifying exam.

PhD Dissertation Committee, Preliminary Thesis Proposal, and Preliminary Research Seminar

By the end of the spring semester of the third year or the second semester in which the student is enrolled for PhD dissertation, whichever comes first, each PhD student must have an approved dissertation committee and thesis proposal.

The student (with the aid and approval of their thesis advisor) will submit a PhD thesis proposal to the graduate committee clearly outlining a plan to carry out new and original research in the context of previously published research in the scientific literature and also describe the methodologies to be employed. The thesis proposal is limited to 15 pages or less, including references. A proposed makeup of the dissertation committee will be submitted at the same time.

The graduate committee will evaluate the merit of the proposal and make recommendations for improvements when necessary, including any changes to the composition of the dissertation committee. No more than two submissions for a particular proposal may be made. In the case where a revised proposal does not meet a minimum academic standard that provides a basis for making such improvements, the graduate committee may instruct the student to select a different thesis topic or advisor.

After approval by the graduate committee, the proposal is circulated to the general faculty for comments. If the graduate coordinator receives any objections, the proposal will be referred back to the graduate committee for final resolution.

After the proposal and dissertation committee have been approved, the student will make a public presentation of the material in the preliminary research seminar before the dissertation committee in a format open to the full department and advertised one week in advance. The dissertation committee will then meet in closed session to evaluate the seminar. The preliminary research seminar must take place no later than the semester after the thesis proposal is approved and, normally, in the same semester.

In the event that the dissertation advisor is changed, a new committee must be formed, with the approval of the graduate committee, and a new preliminary research seminar given.

PhD Dissertation Defense

The dissertation defense consists of a public presentation, followed by a question period conducted by the dissertation committee and limited to them and the department faculty. The date of the dissertation presentation must be publicized and a copy of the thesis deposited with the graduate program coordinator at least one week prior to the defense. If during this posting period or in the two business days following the defense a written objection to the thesis is lodged with the department chair by a member of the faculty, the chair may appoint an ad hoc postdefense review committee to provide advice on the scientific issues raised by the objection. Students should note that they must be registered for Dissertation or Dissertation Continuation during the semester in which they defend their dissertation and that they should schedule their defenses well in advance of the end of the semester in order to accommodate the review/waiting period and the time required to deposit the thesis.

The final dissertation defense is held in accordance with the College of Science regulations.

Residence Requirement

The residence requirement is satisfied by at least one year of full-time graduate work (i.e., enrollment in PhD Dissertation, for two consecutive semesters). Students must be continually enrolled throughout the pursuit of the dissertation.

Internship Option

A PhD candidate may spend one year in a participating high-technology, industrial, or government laboratory immediately after passing the PhD qualifying examination. In this program, the student is expected to remain in touch with the university by taking one course per semester at the university and by frequent contact with a faculty advisor. After the one-year paid internship, the student returns to the university to do the dissertation. Eligibility for this program is contingent on acceptance both by the department and by the external laboratory.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Two qualifying examinations
Annual review
Candidacy
Preliminary research seminar proposal with proposed dissertation committee
Preliminary research seminar talk
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 10 semester hours of coursework. The courses required will be determined by the graduate program director based on the student's transcripts. [1]		10

Dissertation

Code	Title	Hours
PHYS 9990	Dissertation Term 1	
PHYS 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PHYS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

[1] Methods for Teaching in the Introductory Physics Laboratory 1 (PHYS 7220) is required for students awarded a teaching assistantship.

Nanomedicine, MS

Overview

Northeastern University's Master of Science in Nanomedicine is a flexible, interdisciplinary, industry-aligned professional master's degree program. It is designed for scientists, engineers, and clinicians who want to develop competencies and skills in nanomedicine research, innovation, and commercialization. Our students receive hands-on training in nanomedicine challenges and opportunities, research tools and techniques, and translation from bench to bedside. The curriculum integrates immersive experiential learning with industry co-ops to prepare graduates for high-demand research and entrepreneurship roles in biotechnology, pharmaceutical, biomedical, and healthcare industries.

This two-year, full-time master's program consists of six core courses, year-round professional seminars, and a full-time co-op experience. In year two, students tailor their curriculum by selecting one of the following concentrations (or selecting 18 semester hours of electives).

Nanoformulation Research Concentration

The nanoformulation research concentration integrates nanoparticle design, formulation, characterization, and translation. Students gain experience in nanomedicine theory, materials and methods, advanced laboratory techniques, and state-of-the-art instrumentation through a combination of expert-led lectures, instrument demonstrations, and collaborative interdisciplinary project-based laboratory experiences. Students have an opportunity to acquire research and project management skills for roles in research, development, and manufacturing.

Translation and Commercialization Concentration

The translation and commercialization concentration studies scientific discovery, business, and management from the perspective of delivering nanomedicine products to patients. Students build real-world knowledge and skills in innovation, business development, and regulatory affairs—from initial discovery and R&D to FDA approval and launch—through a combination of case studies, industry-mentored projects, and creation of a virtual startup company.

Vaccine Development Concentration

Innovations in nanoparticle-based vaccine delivery during the SARS-CoV-2 pandemic have fundamentally changed the way we develop and test vaccines. The vaccine development concentration provides training in scientific, business, and regulatory principals of vaccine R&D. Students integrate molecular tools for vaccine design, knowledge of vaccine-tissue interactions, and best practices for biopharmaceutical cell culture and manufacturing to develop the industry-aligned skills needed at the forefront of vaccine development.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
BIOL 6381	Ethics in Biological Research	2
NNMD 5270	Foundations in Nanomedicine: Therapeutics	3
NNMD 5271	Foundations in Nanomedicine: Diagnostics	3
NNMD 5570	Preclinical and Clinical Study Design	3
NNMD 6272	Professional Nanomedicine Seminar	0
PHSC 5560	Nanotoxicity	3
PHSC 6214	Experimental Design and Biostatistics	2
Co-op		
Co-op may be started in the summer of Year 1, Year 2, or both.		
NNMD 6500	Professional Development for Co-op	0
NNMD 6964	Co-op Work Experience	0

Concentrations or Electives Option

A concentration is not required. Students may complete electives (from the electives list below) in lieu of a concentration.

- Nanoformulation Research (p. 1013)
- Translation and Commercialization (p. 1014)
- Vaccine Development (p. 1014)
- Electives Option (p. 1014)

Electives List

Code	Title	Hours
Complete electives from the following (electives not on this list may be chosen with faculty advisor approval):		
Laboratory Research		
BIOT 5145	Basic Biotechnology Lab Skills	
BIOT 7245	Biotechnology Applications Laboratory	
NNMD 5370	Nanomedicine Research Techniques	
NNMD 6370	Nanomedicine Experiential Capstone (Nanomedicine Experiential Capstone)	
NNMD 6984	Research	
PHSC 5212	Research Skills and Ethics	
Nanomaterials Design and Application		
BIOE 5820	Biomaterials	
BIOE 6100	Medical Physiology	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 5910	Vaccines and Immunization	
BIOT 5930	Molecular Tools for Vaccine Design	
CHEM 5610	Polymer Chemistry	
CHME 5630	Biochemical Engineering	
CHME 5631	Biomaterials Principles and Applications	
CHEM 5640	Biopolymeric Materials	
CHME 5683	Introduction to Polymer Science	
PHSC 6216	Human Physiology and Pathophysiology	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
PHYS 7731	Biological Physics 1	
Drug Delivery		
CHEM 5648	Chemical Principles and Application of Drug Metabolism and Pharmacokinetics	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 7350	Transport Phenomena	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	
Commercialization and Regulatory Affairs		
BIOT 5219	The Biotechnology Enterprise	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	
BIOT 5920	Foundations in Vaccine Regulatory Science	
BIOT 6290	Foundation in Quality for Biotechnology	
BIOT 6310	CGMP Statutes and Regulation	
BIOT 6320	Quality Management Systems and Validation	
BIOT 6340	Sterile Manufacturing Operations	
CHME 5631	Biomaterials Principles and Applications	
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

NANOFORMULATION RESEARCH CONCENTRATION

Code	Title	Hours
BIOE 5820	Biomaterials	4
or CHME 5631	Biomaterials Principles and Applications	
CHEM 5648	Chemical Principles and Application of Drug Metabolism and Pharmacokinetics	3

or PMST 6252	Pharmacokinetics and Drug Metabolism	
NNMD 5370	Nanomedicine Research Techniques	4
NNMD 6370	Nanomedicine Experiential Capstone (Nanomedicine Experiential Capstone)	4
Electives (see electives course list)		3

TRANSLATION AND COMMERCIALIZATION CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
or BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5219	The Biotechnology Enterprise	2
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 6290	Foundation in Quality for Biotechnology	3
BIOT 6310	CGMP Statutes and Regulation	3
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	3
Electives (see electives course list)		3

VACCINE DEVELOPMENT CONCENTRATION

Code	Title	Hours
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 5910	Vaccines and Immunization	3
BIOT 5920	Foundations in Vaccine Regulatory Science	3
BIOT 5930	Molecular Tools for Vaccine Design	3
BIOT 6310	CGMP Statutes and Regulation	3
Electives (see electives course list)		3

ELECTIVES OPTION

Code	Title	Hours
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	3-4
or NNMD 5370	Nanomedicine Research Techniques	
Electives (see electives course list)		15

Plan of Study

Sample Plans of Study

YEAR 1

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOL 6381	2	NNMD 5570	3	NNMD 6964	0
NNMD 5270	3	NNMD 5271	3	(Co-op option 1: May–Aug.)	
NNMD 6500	0	NNMD 6272	0		
PHSC 5560	3	PHSC 6214	2		
	8		**8**		**0**

Total Hours: 16

YEAR 2

NANOFORMULATION RESEARCH CONCENTRATION

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOE 5820 or CHME 5631	4	CHEM 5648 or PMST 6252	3	NNMD 6964	0
NNMD 5370	4	NNMD 6272	0	(Co-op option 2: May–Aug.)	
NNMD 6272	0	NNMD 6370	4	(Co-op option 3: July-Dec.)	
		Elective	3		
	8		**10**		**0**

Total Hours: 18

TRANSLATION AND COMMERCIALIZATION CONCENTRATION

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOT 5145 or 5220	1	BIOT 5120	3	NNMD 6964	0
BIOT 5219	2	BIOT 5225	3	(Co-op option 2: May–Aug.)	
BIOT 6310	3	NNMD 6272	0	(Co-op option 3: July–Dec.)	
NNMD 5470	3	Elective	3		
NNMD 6272	0				
	9		**9**		**0**

Total Hours: 18

VACCINE DEVELOPMENT CONCENTRATION

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOT 5631	3	BIOT 5920	3	NNMD 6964	0
BIOT 5910	3	BIOT 5930	3	(Co-op option 2: May–Aug.)	
BIOT 6310	3	NNMD 6272	0	(Co-op option 3: July–Dec.)	
NNMD 6272	0	Elective	3		
	9		**9**		**0**

Total Hours: 18

Physics, MS

The Department of Physics offers a Master of Science degree with several options. The standard physics MS can be earned by taking a specified set of courses without an MS thesis. Alternatively, an MS thesis may substitute for 8 semester hours of coursework. Both of these options may be pursued either full time or part time. Upon completion of the MS degree in physics, students should be able to apply graduate-level knowledge and solve problems in the areas of electrodynamics, quantum mechanics, classical mechanics, statistical mechanics, and advanced mathematical methods.

Grade Requirements

To qualify for the MS degree, a cumulative average of 3.000, equivalent to a grade of B, must be obtained. No more than two courses or 6 semester hours of credit, whichever is greater, may be repeated in order to satisfy the requirements for the MS degree. A student who does not maintain a 3.000 cumulative average for two consecutive semesters, or is otherwise not making satisfactory progress toward the MS degree requirements, may be recommended for termination at the discretion of the graduate committee.

Within the above limitations, a required course for which a grade of F is received must be repeated with a grade of C or better and may be repeated only once. Elective courses in which an F has been received may be repeated once to obtain a C or better.

Transfer Credit

Students must petition, in writing, through the graduate committee to the director of graduate student services for all transfer credit. An official transcript must be attached to the Request for Transfer Credit form. A maximum of 9 semester hours of credit obtained at another institution may be accepted toward the MS degree provided that the credits transferred consist of a grade of B or better in graduate-level courses and have not been used toward any other degree. Grades are not transferred.

Current MS Students Interested in the PhD Program

Physics MS students interested in applying to the Physics, PhD (p. 1005) program must submit a complete application for admission.

Special Student Status

Special students are allowed to earn credit for a maximum of 12 semester hours. Students interested in taking more than 12 semester hours must make a formal application to the degree program online.

Coursework

The MS degree requires successful completion of a minimum of 32 semester hours of coursework. There are three options for the MS degree:

The first option is the standard physics MS without an MS thesis, requiring a minimum of 32 semester hours of coursework.

The second option is the standard physics MS with an MS thesis, requiring a minimum of 1 semester hour of thesis. Up to 8 semester hours of thesis can substitute for coursework.

The third option is the physics MS with thesis and specialization in applied physics, engineering physics, biophysics, chemical physics, material physics, mathematical physics, and computational physics.

Graduate students desiring the MS with thesis option should arrange a thesis with a faculty advisor. The thesis must demonstrate the individual's capacity to execute independent work based on original material. The thesis must be approved by the graduate committee. The thesis may be completed in one semester (e.g., summer semester) or in consecutive semesters. Students who have not completed their thesis after the required number of thesis credits must register for Thesis Continuation until the thesis is approved by the graduate school and submitted electronically to Proquest.

The degree requires a minimum of 32 semester hours of graduate credit. The 32 semester hours may include up to 9 semester hours of transfer credit, as approved by the department's graduate committee and the graduate school.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Computational Coursework		
PHYS 7301	Classical Mechanics/Math Methods	4
PHYS 7305	Statistical Physics	4
PHYS 7321	Computational Physics	4
Theory Coursework		
PHYS 7302	Electromagnetic Theory	4

PHYS 7315	Quantum Theory 1	4
PHYS 7316	Quantum Theory 2	4

Options

- Coursework (p.)
- Thesis (p. 1017)
- Thesis with specialization (p. 1017)[1]

COURSEWORK OPTION

Note: In consultation with your faculty advisor, you may choose an area of specialization from physics, engineering, chemistry, biology, mathematics, psychology, or computer science. Elective courses from the Physics, PhD (p. 1005) program may substitute for these electives with advisor approval.

Code	Title	Hours
Electives		
Complete 8 semester hours from the following:		8
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5117	Advanced Astrophysics Topics	
PHYS 5118	General Relativity and Cosmology	
PHYS 5125	Advanced Quantum Mechanics	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
PHYS 5318	Principles of Experimental Physics	
PHYS 7322	Nonequilibrium Physics	
PHYS 7323	Elementary Particle Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7325	Quantum Field Theory 1	
PHYS 7731	Biological Physics 1	

THESIS

Code	Title	Hours
Complete 8 semester hours from the following:		8
PHYS 7990	Thesis (In consultation with your faculty advisor, any remaining semester hours may be completed with electives.)	

In consultation with your faculty advisor, any remaining semester hours may be completed with electives.

THESIS WITH SPECIALIZATION[1]

Applied physics, engineering physics, biophysics, chemical physics, materials physics, mathematical physics, or computational physics.

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
PHYS 7990	Thesis (A minimum of 1 semester hour is required and up to 8 semester hours may be used toward the thesis option.)	

Complete a minimum of 8 semester hours of specialization coursework in consultation with your faculty advisor.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Note that the specialization will not appear on the degree diploma or on the official transcript but can be listed as the field of study on CVs and grant proposals.

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 7301	4	PHYS 7305	4
PHYS 7302	4	PHYS 7316	4
PHYS 7315	4	Elective (optional)	4

PHYS 7321 (can be taken year 1 or year 2)	4	
	16	**12**

Year 2

Fall	**Hours**
Elective or thesis	4
Additonal elective	4
	8

Total Hours: 36

Nanomedicine, Graduate Certificate

The Graduate Certificate in Nanomedicine is designed for scientists, engineers, and physicians to develop competency and practical skills in the application of nanotechnology to problems in medicine. This program is appropriate for those working in or seeking careers in biotechnology, pharmaceutical, biomedical, or clinical fields. Program participants receive advanced training in the fundamental and applied aspects of nanomedicine, as well as nanomedicine commercialization from bench to bedside. The curriculum includes a variety of activities for scientific and professional development, including lectures, case studies, journal readings, term projects, and close interactions with distinguished faculty and experts drawn from academia, hospitals, industry, and government.

The certificate consists of five nanomedicine (NNMD) courses, totaling 12 semester-hour credits. This is a part-time, 12-credit graduate program that can be completed in as little as two semesters.

Program Requirements

Complete all requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
NNMD 5270	Foundations in Nanomedicine: Therapeutics	3
NNMD 5272	Nanomedicine Seminar	1
NNMD 5274	Nanomedicine Seminar 2	1
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	3

Electives

Code	Title	Hours
Complete NNMD 5370 or choose 4 semester hours of electives from the list.		4
Research Techniques		
NNMD 5370	Nanomedicine Research Techniques	
Or choose 4 semester hours of electives.		
BIOE 6100	Medical Physiology	
BIOL 6381	Ethics in Biological Research	
BIOT 5145	Basic Biotechnology Lab Skills	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 7245	Biotechnology Applications Laboratory	
CHME 7350	Transport Phenomena	
PHSC 6216	Human Physiology and Pathophysiology	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
PHYS 7731	Biological Physics 1	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Psychology

Website (https://cos.northeastern.edu/psychology/)

Peter Bex, PhD
Professor and Chair

617.373.3076
617.373.8714 (fax)

The doctoral program in the Department of Psychology offers a research-intensive environment within a supportive community of faculty and students. Its areas of research specialization include behavioral neuroscience, cognition/cognitive neuroscience, perception, and social/personality—with crosscutting themes in health, affective science, and life span development.

During the program, students complete a series of topical seminars and courses in quantitative analysis while gaining research skills through working closely with their advisors. They are also expected to develop their own research program, beginning with their master's thesis and culminating in their dissertation. Students' professional development is supported by attending colloquia, serving as teaching assistants, and modest annual stipends for research/travel.

Programs

Doctor of Philosophy (PhD)

- Human Behavior and Sustainability Sciences (p. 980)
- Psychology (p. 1024)

Human Behavior and Sustainability Sciences, PhD

Overview

Admissions to this program begin Fall 2024.

The persistent failure to integrate the social, behavioral, and cognitive sciences with ecological and geophysical sciences is a critical friction point reducing the viability and effectiveness of sustainability solutions. Therefore, a degree program that combines training in psychology with the ecological and geophysical sciences will produce boundary-breaking scholars who can accelerate sustainability solutions that are robustly informed by the results of scientific research. The proposed curriculum integrates degree requirements from existing PhD programs in psychology and marine and environmental sciences (sustainability sciences concentration), with the addition of a set of specialized core courses and integrated cross-disciplinary research training. It also allows students broad latitude in designing their specialty within the parameters of the program.

The PhD in Human Behavior and Sustainability Sciences program provides students with the following advanced coursework and training. Students must pass two examinations during the course of their graduate studies to achieve candidacy:

1. A qualifying paper that the student will write and present to their dissertation committee.
2. A proposal defense presented to the student's dissertation committee that explains the research areas that the student proposes to work in.

At the end of the program, students will defend their written dissertation, which consists of a public seminar, public question-and-answer period, and private defense of their work to their dissertation committee. Dissertation committees consist of at least four Northeastern University faculty and one external faculty member.

A cumulative grade-point average of 3.000 is required for graduation. The PhD will be awarded following submission of a dissertation, approved by the candidate's dissertation committee, to the College of Science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying paper and presentation
Dissertation proposal and presentation
Candidacy
Dissertation/dissertation defense
Teaching experience

Core Requirements

Code	Title	Hours
EEMB 7103	Seminar in Sustainability Sciences	2
EEMB 8103	Readings in Sustainability Sciences	2
ENVR 5450	Applied Social-Ecological Systems Modeling	4
PSYC 5180	Quantitative Methods 1	3
PSYC 5181	Quantitative Methods 2	3
PSYC 7210	Seminar in Cognition	3

Research

Code	Title	Hours
Complete two semesters from the following:		6
PSYC 8401	Research Project	
or EEMB 8984	Research	

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
Psychology Breadth Courses		
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	

PSYC 5140	Proseminar in Biology of Behavior
PSYC 5150	Proseminar in Clinical Neuroscience
PSYC 5160	Proseminar in Personality
PSYC 5170	Proseminar in Social Psychology
Sustainability Breadth Courses	
EEMB 5130	Population Dynamics
EEMB 5506	Biology and Ecology of Fishes
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516
EEMB 5518	Ocean and Coastal Processes
EEMB 5522	Experimental Design Marine Ecology
ENVR 5115	Advanced Topics in Environmental Geology
ENVR 5150	Climate and Atmospheric Change
ENVR 5260	Geographical Information Systems
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5600	Coastal Processes, Adaptation, and Resilience
ENVR 5700	Streams and Watershed Ecology
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
ENVR 6150	Food Security and Sustainability
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
INSH 6300	Research Methods in the Social Sciences
INSH 6406	Analyzing Complex Digitized Data
INTL 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5246	Participatory Modeling for Collaborative Decision Making
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5267	Climate Policy and Justice
PPUA 5268	International Environmental Policy
Psychology Depth Courses	
PSYC 7210	Seminar in Cognition
PSYC 7240	Seminar in Biology of Behavior
PSYC 7250	Seminar in Clinical Neuroscience
PSYC 7270	Seminar in Social Psychology
PSYC 7300	Advanced Quantitative Analysis
Sustainability Depth Courses	
EEMB 7101	Seminar in Marine Sciences
EEMB 7102	Seminar in Ecology and Evolutionary Biology
EEMB 7103	Seminar in Sustainability Sciences
EEMB 7104	Seminar in Geosciences
ENVR 6102	Environmental Science and Policy Seminar 2
LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7334	Social Networks
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 7346	Resilient Cities
SOCL 7267	Environment, Health, and Society

Dissertation

Code	Title	Hours
Please enroll in either EEMB 9990 or PSYC 9990 for one semester after achieving candidacy. In the following semester, please enroll in either EEMB 9991 or PSYC 9991.		
EEMB 9990	Dissertation Term 1	
or PSYC 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	
or PSYC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Psychology, PhD

The PhD program in the Department of Psychology covers a wide spectrum of contemporary behavioral science within a close-knit community of faculty and students. The program offers four overlapping areas of experimental emphasis: behavioral neuroscience, cognition, perception, and social/personality. The program does not offer training in clinical or counseling psychology. The objective of the PhD program is to prepare students to become experts in research and teaching in psychology. To accomplish this goal, the department takes a mentoring approach whereby the graduate students are apprentices in faculty laboratories, working closely with their faculty mentors throughout their time in the program. The basic apprenticeship relationship is supplemented by other activities, such as required courses (concentrated in the first and second years), advanced seminars and/or course work in this as well as other departments or universities, a colloquium series, assignments as teaching assistants, the master's project, and the dissertation and its oral defense. After the first year, the structure of the doctoral program, including course work, is flexible and assumes that the process of learning and scientific discovery must be individualized. Graduate students also have an opportunity to develop their teaching and research skills through close mentoring of undergraduate research assistants. The PhD program is a five-year, twelve-months-per-year program.

The dissertation committee must include at least three tenured or tenure-track faculty members from within the psychology department—two from the student's interest area and one from another area. The oral defense committee consists of the dissertation committee plus additional tenured and tenure-track faculty members from the psychology department.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Psychology *(*https://catalog.northeastern.edu/graduate/science/psychology/psychology-ms/*) degree. Note that no students will be admitted directly into the Psychology program to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

First-year paper
Master's proposal
Master's paper
Master's presentation
Annual review
Dissertation committee
Dissertation proposal
Dissertation
Dissertation defense
At least two assigned courses as teaching assistant

Core Requirements

All graduate courses within the Department of Psychology are graded S/U. A grade of S is required in each psychology department course.

Code	Title	Hours
Proseminar		
Complete 12 semester hours from the following:		12
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	
PSYC 5140	Proseminar in Biology of Behavior	
PSYC 5150	Proseminar in Clinical Neuroscience	
PSYC 5160	Proseminar in Personality	
PSYC 5170	Proseminar in Social Psychology	
Quantitative Methods		
PSYC 5180	Quantitative Methods 1	3
PSYC 5181	Quantitative Methods 2	3
Ethics		
PSYC 7302	Ethics and Professional Issues	3
Research		
PSYC 7301	Research Methodologies Psychology	3

Project		
Take the following (repeatable) course three times:		9
PSYC 8401	Research Project	
Thesis		
Take the following (repeatable) course twice:		6
PSYC 7990	Thesis	

Electives

Code	Title	Hours
Complete 11 semester hours from the following:		11
Note: Proseminars not taken to fulfill core requirements and courses outside the department may be taken if approved by faculty adviser and Director of Graduate Studies.		
PSYC 7200 to PSYC 7300		
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	
PSYC 5140	Proseminar in Biology of Behavior	
PSYC 5150	Proseminar in Clinical Neuroscience	
PSYC 5160	Proseminar in Personality	
PSYC 5170	Proseminar in Social Psychology	

Dissertation

Code	Title	Hours
PSYC 9990	Dissertation Term 1	
PSYC 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PSYC 9996	Dissertation Continuation	

Program Credit/GPA Requirements

50 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Complete 6 semester hours of the following:	6	Complete 6 semester hours of the following:	6	PSYC 8401	3
PSYC 5100		PSYC 5100		Elective	6
PSYC 5110		PSYC 5110			
PSYC 5120		PSYC 5120			
PSYC 5130		PSYC 5130			
PSYC 5140		PSYC 5140			
PSYC 5150		PSYC 5150			
PSYC 5160		PSYC 5160			
PSYC 5170		PSYC 5170			
Complete the following:	6	Complete the following:	6		
PSYC 5180		PSYC 5181			
PSYC 8401		PSYC 8401			
	12		**12**		**9**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PSYC 7990	3	Complete one of the following:	3	PSYC 7996	0
Elective	5	PSYC 7301			

		PSYC 7302			
		Complete the following:	3		
		PSYC 7990			
	8		**6**		**0**
Year 3					
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**
PSYC 9990	0	Complete one of the following:	3	PSYC 9996	0
		PSYC 7301			
		PSYC 7302			
		Complete the following:	0		
		PSYC 9991			
	0		**3**		**0**
Year 4					
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**
PSYC 9996	0	PSYC 9996	0	PSYC 9996	0
	0		**0**		**0**
Year 5					
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**
PSYC 9996	0	PSYC 9996	0	PSYC 9996	0
	0		**0**		**0**

Total Hours: 50

Advanced Entry Program Requirements

The PhD program in the Department of Psychology covers a wide spectrum of contemporary behavioral science within a close-knit community of faculty and students. Advanced Entry is for students who enter possessing a master's degree in psychology or another acceptable field. The program offers four overlapping areas of experimental emphasis: behavioral neuroscience, cognition, perception, and social/personality. The program does not offer training in clinical or counseling psychology. The objective of the PhD program is to prepare students to become experts in research and teaching in psychology. To accomplish this goal, the department takes a mentoring approach whereby the graduate students are apprentices in faculty laboratories, working closely with their faculty mentors throughout their time in the program. The basic apprenticeship relationship is supplemented by other activities, such as required courses (concentrated in the first and second years), advanced seminars and/or course work in this as well as other departments or universities, a colloquium series, assignments as teaching assistants, the master's project, and the dissertation and its oral defense. After the first year, the structure of the doctoral program, including course work, is flexible and assumes that the process of learning and scientific discovery must be individualized. Graduate students also have an opportunity to develop their teaching and research skills through close mentoring of undergraduate research assistants. The PhD program is a five-year, 12-months-per-year program.

For students who enter the program with a suitable master's degree, degree candidacy is established through completion of a set of requirements determined on an individual basis. An additional 20 semester hours beyond the master's degree are required for the PhD degree. The dissertation committee must include at least three tenured or tenure-track faculty members from within the psychology department—two from the student's interest area and one from another area. The oral defense committee consists of the dissertation committee plus additional tenured and tenure-track faculty members from the psychology department.

Complete all courses and requirements listed below unless otherwise indicated. Individual programs of study will be tailored to acknowledge students' previous coursework.

Milestones

Master's presentation
Annual review
Dissertation committee
Dissertation proposal
Dissertation
Dissertation defense
At least two assigned courses as teaching assistant

Core Requirements

A grade of S is required in each psychology department course.

Code	Title	Hours
Consult your faculty adviser and director of graduate studies for acceptable coursework.		10

Electives

Code	Title	Hours
Consult your faculty adviser and graduate director for acceptable electives.		10

Dissertation

Code	Title	Hours
PSYC 9990	Dissertation Term 1	
PSYC 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PSYC 9996	Dissertation Continuation	

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Note: The number of semester hours to complete this program may be more than 20. The number of semester hours and the specific required courses will be determined by a review of previous coursework by the graduate director and faculty adviser.

Interdisciplinary Programs

Programs

Doctor of Philosophy

- Network Science (p. 273)

Master of Science

- Applied Physics and Engineering (p. 421)
- Climate Science and Engineering (p. 385)
- Environmental Science and Policy (p. 985)

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Applied Physics and Engineering, MS

The combined MS program in applied physics and engineering allows graduate students to receive training in one of three concentrations of the electrical and computer engineering department while also receiving fundamental graduate-level physics training that is relevant to that area.

Thesis Option

A student may complete an additional 8 semester hours of thesis. Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) (4 semester hours) or Thesis (PHYS 7990) (4 semester hours), depending on the affiliation of the thesis advisor. A thesis committee is composed of an advisor and two faculty members from physics or electrical engineering.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Concentrations

Complete one of the following concentrations:

- Microsystems, Materials, and Devices (p. 421)
- Electromagnetics, Plasma, and Optics (p. 421)
- Analysis, Modeling, and Computation (p. 422)

MICROSYSTEMS, MATERIALS, AND DEVICES

Code	Title	Hours
Core Courses		
EECE 7201	Solid State Devices	4
PHYS 7324	Condensed Matter Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5606	Micro- and Nanofabrication	
EECE 5680	Electric Drives	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7240	Analog Integrated Circuit Design	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7353	VLSI Design	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7302	Electromagnetic Theory	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7734	Topics: Condensed Matter Physics	

ELECTROMAGNETICS, PLASMA, AND OPTICS

Code	Title	Hours
Core Courses		
EECE 7203	Complex Variable Theory and Differential Equations	4
PHYS 7302	Electromagnetic Theory	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5698	Special Topics in Electrical and Computer Engineering (Subsurface Imaging)	
EECE 7105	Optics for Engineers	
EECE 7202	Electromagnetic Theory 1	

EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7270	Electromagnetic Theory 2	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7275	Antennas and Radiation	
EECE 7293	Modern Imaging	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7731	Biological Physics 1	

ANALYSIS, MODELING, AND COMPUTATION

Code	Title	Hours
Core Courses		
EECE 7205	Fundamentals of Computer Engineering	4
PHYS 7321	Computational Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7374	Fundamentals of Computer Networks	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5116	Network Science 1	
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7305	Statistical Physics	
PHYS 7335	Dynamical Processes in Complex Networks	

Thesis Option

Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) or Thesis (PHYS 7990) , depending on the affiliation of the thesis advisor. Thesis credits cannot be substituted for any of the coursework listed above. This option requires a total of 40 semester hours for the master's degree.

Program Credit/GPA Requirements

32–40 total semester hours required
Minimum 3.000 GPA required

Environmental Science and Policy, MS

The Master of Science in Environmental Science and Policy program emphasizes a broadly interdisciplinary and synthetic approach that integrates knowledge in the environmental sciences (conservation biology, climate change, fisheries science, ecosystem function, biodiversity, restoration ecology) with the social sciences (policy, economics, sociology, political science, and development) and humanities (environmental history, philosophy, and ethics). The goal of the program is to equip professionals with substantive breadth in knowledge and skills at the intersection of environmental science and policy. The program focuses on training students to think critically about the underlying causes of environmental problems and understanding the reciprocal relationships between coupled human-natural ecosystems and the interconnections between social and technological innovations. The program explores practical approaches and potential solutions that decision makers need to evaluate in policy debates related to promoting environmental sustainability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminars		
PPUA 6101	Environmental Science and Policy Seminar 1	4
ENVR 6102	Environmental Science and Policy Seminar 2	4
Skills Courses		
Complete 2 courses from the following. At least one course needs to be taken from the College of Science Skills Course List and one course from the College of Social Sciences and Humanities Skills Course List.		8
College of Science Skills Course List		
EEMB 5130	Population Dynamics	
EEMB 5522	Experimental Design Marine Ecology	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5210	Environmental Planning	
ENVR 5240	Sedimentary Basin Analysis	
ENVR 5260	Geographical Information Systems	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 6500	Biostatistics	
College of Social Sciences and Humanities Skills Course List		
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Electives

Complete five courses from the following list. At least one course must be taken from the College of Science Elective Course List and one course from the College of Social Sciences and Humanities Elective Course List. Any skills course not taken to fulfill the skills courses requirement can be taken as an elective. Students may petition to enroll in other relevant graduate courses offered by other schools at Northeastern University.

COLLEGE OF SCIENCE ELECTIVE LIST

Code	Title	Hours
EEMB 5130 - EEMB 8984		
ENVR 5115 - ENVR 6900		

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES ELECTIVE LIST

Code	Title	Hours
INSH 5302	Information Design and Visual Analytics	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PHTH 5214	Environmental Health	
PHTH 5230	Global Health	
PPUA 5100 - PPUA 7346		
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Climate Science and Engineering, MS

Overview

The Master of Science in Climate Science and Engineering is offered jointly by the College of Engineering and the College of Science. The program provides training in the fundamental scientific processes that underpin the structure and dynamics of the climate, as well as the engineering strategies and technologies required for decarbonization and adaptation to climate change.

Incoming students will typically hold a bachelor's degree in a science, engineering, or related field. The program is designed to prepare students for climate-facing positions in the public or private sectors and can serve as a springboard for students interested in pursuing doctoral-level research. Students must take at least 12 semester hours of College of Science courses and at least 12 semester hours of College of Engineering courses and includes a report, thesis, or coursework option.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. In order to ensure a balance of training across science and engineering, students must take at least 12 semester hours of College of Science courses (starting with EEMB, ENVR) and at least 12 semester hours of College of Engineering courses (starting with CIVE, EECE, ENSY, MATL, ME, SBSY) from the core requirements and restricted elective course options.

Core Requirements

Code	Title	Hours
Select from the core requirements listed below; any core course not used to meet this core course requirement can be taken as a restricted elective:		20
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
CIVE 5150	Climate and Atmospheric Change	
or ENVR 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5670	Global Biogeochemistry	
or ENVR 5670	Global Biogeochemistry	
CIVE 7110	Critical Infrastructure Resilience	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives course list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
or EEMB 8984	Research	
Complete 8 semester hours from the restricted electives course list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
or EEMB 8984	Research	
Complete 4 semester hours from the restricted electives course list below.		4

Restricted Electives

Code	Title	Hours
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7282	Coastal and Hydraulic Modeling	
CIVE 7385	Public Transportation	
CIVE 7392	Special Topics in Environmental Engineering	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5563	Advanced Spatial Analysis	
INTL 5100	Climate and Development	
LAW 7634	Energy Law and Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Graduate Certificate Programs

The College of Science is pleased to offer several graduate certificate programs for working professionals as well as postbaccalaureate students who want to build their knowledge in growing fields. Graduate certificates are offered in biotechnology, bioinformatics, applied mathematics, nanomedicine, and sustainability sciences. These programs are ideal for people already in the field who want to enhance their career or people who are looking to make a change.

Programs

Biology

- Bioinformatics (p. 948)
- Omics (p. 950)

Chemistry and Chemical Biology

- Biodefense and Biosecurity (p. 963)
- Biopharmaceutical Analytical Sciences (p. 964)
- Biotechnology (p. 965)
- Biotechnology Enterprise (p. 966)
- Biotechnology Regulatory Science (p. 967)
- Experimental Biotechnology (p. 968)
- Manufacturing and Quality Operations in Biotechnology (p. 969)
- Molecular Biotechnology (p. 970)
- Pharmaceutical Technologies (p. 971)
- Process Science (p. 972)
- Vaccine Development (p. 973)

Marine and Environmental Sciences

- Sustainability Sciences (p. 989)

Mathematics

- Applied Mathematics (p. 1003)

Physics

- Nanomedicine (p. 1019)

College of Social Sciences and Humanities

Website (http://www.northeastern.edu/cssh/)

Ronald Sandler, PhD, Interim Dean
Thomas J. Vicino, PhD, Associate Dean, Graduate Studies

CSSH Graduate Office
180 Renaissance Park
617.373.5990
gradcssh@northeastern.edu

CSSH Graduate Programs General Regulations (p. 1041)

Our Mission

The departments and programs of the College of Social Sciences and Humanities—with disciplines ranging from economics and history to English and international affairs, just to name a few—form an interdisciplinary collaborative of scholars with global perspectives. The CSSH mission is:

- To contribute to the experiential liberal arts education of all Northeastern University students
- To produce cutting-edge knowledge about and solutions to the political and social problems of our contemporary world
- To foster ethical reasoning and critical thought, with attention to the enduring significance of history, literature, and culture

This mission, along with a strong international focus, gives CSSH a central role in fulfilling Northeastern's ambition of educating global citizens.

CSSH Graduate Programs

Graduate education at Northeastern integrates the highest level of scholarship across disciplinary boundaries with significant research and experiential learning opportunities. This multidimensional learning environment offers students an opportunity to develop critical thinking and creative problem-solving skills while introducing them to new perspectives in their fields. CSSH supports 16 master's programs, eight doctoral programs, and 12 graduate certificate programs. Some courses and degree programs are offered in an online or hybrid format that provides additional flexibility for learners. Graduate programs in CSSH provide fertile ground and resources for advanced study and research. CSSH faculty members' cutting-edge interdisciplinary work inspires the development of new programs, research fellowship opportunities, and mentoring relationships.

All CSSH master's programs offer an optional cooperative education experience to eligible students. Cooperative education is central to both the Northeastern experience and to the CSSH experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with up to six months of work experiences in businesses, nonprofits, and government agencies in Boston, across the United States, and around the world. Through the co-op experience and integrative cocurricular coursework, graduate students apply what they have learned across contexts, bringing knowledge and skills gained in community learning spaces back to our campus learning spaces.

Our doctoral, master's, and professional degree programs produce graduates who are well prepared for the diverse demands of careers in academia, industry, and the professions. Please visit the College of Social Sciences and Humanities (http://www.northeastern.edu/cssh/) website for additional information, including latest news and upcoming events.

General Regulations

- General Information (p. 1042)
- Academic Appeals Procedures (p. 1043)
- Regulations for All Students (p. 1046)
- Doctor of Philosophy (PhD) (p. 1048)
- Master's Degrees (MA, MPA, MPP, MS) (p. 1050)

General Information

For information about other academic policies and procedures; student responsibilities; student academic and cocurricular life; faculty rights and responsibilities; or general personnel policies, benefits, and services, please refer to university policies (p. 44) and related procedural guides, as appropriate.

Student Classification

Regular student—Students who are admitted to a degree or certificate program.

Special student—Nonmatriculated students who are enrolled in College of Social Sciences and Humanities graduate courses on a part-time basis (fewer than 8 semester hours per semester). Special students may earn up to 12 semester hours over time. Special students who do not register for four consecutive semesters (excluding summer semester) may be subject to review and possible withdrawal by the college. Graduate certificates and degrees cannot be conferred upon students in special student status. In keeping with university regulations, international students cannot be admitted as special students.

Doctoral degree candidate—Doctoral students who have completed departmental, college, and university requirements except for dissertation.

Student Status

For academic purposes, a graduate student is considered a full-time student if enrolled in a minimum of 8 semester hours of credit for the semester, with the following exceptions:

- Students who hold Stipended Graduate Assistantships will be considered full time if enrolled for a minimum of 6 semester hours of credit. However, some departments may require more credits for maintaining departmental progression standards.
- Students enrolled in Doctoral Research or full-time co-op are considered full time.
- All graduate students who are formally registered in a continuation status—Dissertation, Dissertation Continuation, Doctoral Research, or Qualifying/Comprehensive Exam Preparation courses—may be considered full time. It is ordinarily assumed that such students will be in residence.
- Students in their last semester of coursework may be enrolled in fewer than 8 semester hours to complete degree requirements. *Note:* To be eligible for some types of financial aid, the minimum full-time load may be defined differently. For information, contact the Graduate Student Financial Services Office.

Continued registration in the CSSH is contingent upon receiving all official transcripts and test scores within 30 days of matriculation. Please note that you may be asked to provide us with these if you did not include official copies in your application.

Grading System

The student's performance in graduate courses will be graded according to the following numerical equivalents in the Academic Catalog (p. 55).

Grading Policies

Grading policies applying to all students may be found in the Academic Catalog (p. 44).

In the CSSH, not more than two courses or 6 semester hours of credit, whichever is greater, may be repeated to satisfy the requirements for the degree. Only such repeats will be counted in calculating the cumulative grade-point average. No grade changes are permitted after the end of the final examination period one calendar year from the semester in which the student registered for the course. This includes the clearance of incomplete grades (p. 61). In calculating the overall cumulative average, all graduate-level coursework completed at the time of clearance for graduation will be counted.

Students cannot elect a pass/fail grading scheme for CSSH courses unless the course grading scheme is designated pass/fail.

Class Credits

All credits are entered as semester hours. Graduate office policy states that in calculating the overall GPA, all graduate-level coursework completed at the time of clearance for graduation will be counted unless otherwise designated at the time of registration or unless counted toward a previous degree.

Academic Appeals Procedures

Northeastern University affirms that it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, or otherwise unfairly treated. Information about the university appeals process and procedures can be found in the Academic Catalog. (p. 70)

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, and that this constitutes a substantive basis for the appeal, they should consult with the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/)as soon as they become aware of alleged prohibited harassment or discrimination, and they are not required to wait until a term grade or determination is received before seeking advice or redress. If the Office for University Equity and Compliance is advised of such alleged prohibited conduct as part of an academic appeal, the appeal shall first be pursued and investigated through the Office for University Equity and Compliance. Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures.

In cases that do not involve sexual harassment or discrimination, students may speak informally to their instructors or academic advisors about any determination or grade about which they have questions. If students choose to pursue an appeal, the College of Social Sciences and Humanities process is described in the appeals section that follows. The Graduate Academic Advisory Committee, which is comprised of an elected body of full-time CSSH faculty, serves as the Academic Appeals Committee for the CSSH.

Graduate Academic Advisory Committee

The GAAC shall be responsible for ensuring that the graduate curriculum of the college promotes the college's and university's evolving intellectual and pedagogical aims. The GAAC acts on all matters relating to the academic life of graduate students in the college in accordance with guidelines approved by the college and the GAAC. The responsibilities of the GAAC are:

a. Oversight over the quality and scope of the college's graduate curricula, including recommendations for changes to the general program of the college, approval of graduate degree and certificate programs, and review of proposed changes to those programs.

b. Review of student appeals on decisions concerning grades, academic dismissals, academic probation, change in requirements, permission to resume studies, academic warning, and repeating of courses. The GAAC shall adhere to all policies and procedures adopted by the faculty of the college and the Faculty Senate.

In addition, the GAAC shall adhere to policies and procedures issued by the Office of the Provost. Actions on graduate matters taken by the GAAC shall constitute the recommendations by the faculty on these matters. The GAAC shall make recommendations on behalf of the faculty directly to the dean (or the dean's designee). If the dean supports them, the recommendations shall, as needed, then be sent to the University Graduate Curriculum Committee for consideration. The GAAC's and dean's actions shall be reported periodically to the units involved and to the college council for informational purposes.

The GAAC is charged with review of student appeals on decisions concerning grades, academic probation, change in requirements, permission to resume studies, academic warning, and repeating of courses. Members of the GAAC from the student's own unit are recused from the appeal process. Graduate students may request permission to present their appeals in person. If a student believes that all pertinent information has not been presented, the student may request that the GAAC reconsider its decision. If the GAAC reaffirms its action, and the student is still not satisfied, an appeal for review may be made through the university's Academic Appeals Resolution Committee. The appeals procedure is described in the Academic Catalog (p. 70).

Grade Appeals

If a graduate student wishes to dispute a grade in a course taught by a member of the CSSH faculty, the first step is for the student to discuss their concerns with the faculty member who taught the course to see if it is possible to reach agreement on the issue(s). If the student is not able to resolve the issues with the faculty member who taught the course, the student should work with the department/program director to attempt a department-level resolution.

If these informal attempts to resolve the issue fail, the student can enter the formal procedure at the college level.

The student should meet with the associate dean for graduate studies who will attempt to resolve the issue by working with the instructor and the department/program. Contact the Graduate Office at gradcssh@northeastern.edu to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine whether or not there is just cause to convene the GAAC. In the event of an alleged violation of the Student Code of Conduct, the associate dean will first seek a determination of the violation from the Office of Student Conduct and Conflict Resolution (http://www.northeastern.edu/osccr/).

The decision to convene the GAAC will be based upon the following:

- The student attempted to resolve the complaint with the professor and the department/program.
- The complaint is substantive in nature (adjudication could affect a student's course grade and/or academic record).
- The complaint has been brought forward in a timely manner.

- The statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student.
- If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of the degree conferral date.

FORMAL COMPLAINT

If the associate dean determines the appeal should be brought to the GAAC, the student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean.

- The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint.
  - It is the student's responsibility to make their case. Students may submit any evidence such as emails, quizzes, examinations, etc.
- Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the faculty member and to the department/program director and convene a meeting of the GAAC.
- If the student fails to provide a well-reasoned written summary of the case, then the matter will be considered closed at the college level.
- The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

APPEALS MEETING

- The GAAC serves as the Academic Appeals Committee for the CSSH.
- The GAAC is convened in order to determine whether a fair and due process was used to determine the student's grade.
- The role of the committee is to conduct a review when a grade appeal is filed by a student regarding one of the following reasons:
  - Concern that the course grading policy was not applied consistently to all students within a class and/or section.
  - Concern that the instructor's method of assigning grades differed from the method outlined in the instructor's course syllabus.
  - Concern that the instructor failed to provide a clear policy on how grades would be assigned.

The student and the faculty member have the right to attend and present their case orally to the GAAC. The faculty member and the student aren't required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the GAAC may have. If the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. The complainant and the faculty member both have the right to testify privately and separately before the committee. Lawyers are not permitted in these proceedings. Generally, the faculty member and complainant are each given a 15-minute period to present their case.

The student usually presents their complaint to the committee first. This is followed by a brief Q&A of the student by the GAAC. The GAAC may ask the complainant any questions they have based upon either the written statement submitted by the complainant or the complainant's oral presentation. The faculty member then presents their case, which is followed by a brief Q&A of the faculty member. After both the complainant and faculty member have addressed the GAAC, the GAAC then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the GAAC believes it cannot resolve any issues without additional information, the GAAC may request any information needed from either the complainant, faculty member, or department/program. This information must be provided to the GAAC within one week of the meeting. If the requested information is not provided in the required time frame, then the GAAC may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the GAAC will be made based on a simple majority (51%) vote.
- Members of the GAAC from the student's own unit are recused from the appeal process.
- The associate dean is chair of the GAAC and only votes when there is a tie.
- The student bringing the complaint to the GAAC carries the burden of proof based on the weight of the evidence in demonstrating that the grade is incorrect or unjustified.
- If the GAAC decides that the grading process was unfair, the GAAC can request that the instructor changes the student's grade.
  - If an acceptable agreement involves a change of grade, the instructor is responsible for submitting a change of grade to the Office of the University Registrar in a timely manner following notification of the GAAC's decision.
- The student shall be notified within three business days of a decision being reached.

If the student is not satisfied with the GAAC's disposition of the matter, or if the grade appeal is not resolved within 35 calendar days after the written statement is submitted to the college, the student may further pursue the matter by requesting in writing that the university convene an Academic Appeals Resolution Committee to review the issue. This must be submitted within 10 calendar days of the notification from the college. This committee has been designated as the final authority on these matters. Students may obtain information on this process by contacting the Office of the Provost.

Academic Dismissal Appeal

If a student wishes to dispute an academic dismissal, the first step is to consult the graduate director about appealing to the department/program. If and when all departmental appeals are exhausted, the student can enter the formal procedure at the college level.

The student will meet with the associate dean for graduate studies who will attempt to resolve the issue by working with the department/program. Contact the Graduate Office at gradcssh@northeastern.edu to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine if the complaint is substantive and there is just cause to convene the GAAC.

FORMAL COMPLAINT

The student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean. The statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student. The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint. Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the department/program director and convene a meeting of the GAAC. If the student fails to provide a thoughtful and well-reasoned written summary of the case, then the matter will be considered closed at the college level. In the event of an alleged violation of the Student Code of Conduct, the associate dean will first seek a determination of the violation from the Office of Student Conduct and Conflict Resolution (http://www.northeastern.edu/osccr/).

The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

APPEALS MEETING

- The GAAC serves as the Academic Appeals Committee for the CSSH.
- The GAAC is convened in order to determine whether a fair and due process was used.

The student has the right to attend and present their case orally to the committee. The student isn't required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the GAAC may have. If the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. Lawyers are not permitted in these proceedings.

The student usually presents their complaint to the GAAC first. This is followed by a brief Q&A of the student by the GAAC. The GAAC may ask the complainant questions based upon either the written case submitted by the complainant or the complainant's oral presentation. The GAAC then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the GAAC believes it cannot resolve any issues without additional information, the GAAC may request any information needed from either the complainant or department/program. This information must be provided to the GAAC within one week of the meeting. If the needed information is not provided in the time frame required, then the GAAC may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the GAAC will be made based on a simple majority (51%) vote.
- Members of the GAAC from the student's own unit are recused from the appeal process.
- The associate dean is chair of the GAAC and only votes when there is a tie.
- The student bringing the complaint to the GAAC carries the burden of proof based on the weight of the evidence in demonstrating that the dismissal is incorrect or unjustified.
- If the GAAC decides that the academic dismissal should be revoked, the GAAC can request that the department reinstate the student immediately.

If the student is not satisfied with the GAAC's disposition of the matter, or if the dismissal appeal is not resolved within 35 calendar days after the written statement is submitted to the college, the student may further pursue the matter by requesting in writing that the university convene an Academic Appeals Resolution Committee to review the issue. This must be submitted within 10 calendar days of the notification from the college. This committee has been designated as the final authority on these matters. Students may obtain information on this process by contacting the Office of the Provost.

Regulations for All Students

Registration

Students must register via the Student Hub (https://me.northeastern.edu). Procedures to do so are available on the Office of the University Registrar's website. Consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/) for important registration dates.

Students are encouraged to obtain advisor approval of course selections each semester. This approval is required for all assistantship recipients and by some departments for all students. Students should check with individual departments for specific guidelines.

Students are expected to only complete the courses and semester hours required for the degree or certificate. Any courses taken outside of those requirements must be approved by the director of the graduate program.

Transfer Credit

For general regulations concerning transfer credit in Northeastern University's graduate degree programs, please visit Regulations Applying to All Degree Programs (p. 91).

Degree students may petition to transfer credit through their departments to the College of Social Sciences and Humanities Graduate Office by completing the Transfer Credit form on the Office of the University Registrar's website. An official transcript must be attached to the petition.

Awards

Only those students who are registered in degree programs are eligible for awards. Award recipients will receive an official award letter from the CSSH Graduate Office. Please pay attention to this letter as it is an official contract that should be read carefully. In order to maintain awards, students must be making satisfactory progress toward their degrees. Please refer to the Satisfactory Academic Progress section below for more information.

Students receiving a Stipended Graduate Assistantship must be in full-time status and be registered for a minimum of 6 semester hours. The standard duration of the SGA funding window is five years beginning from the time of admission and is not changed based on the source of funding or if the stipend is declined in any given semester(s). The health plan fee (NUSHP) is covered by the SGA award whereas the University Health and Counseling Services fee is not. Students on an SGA must be available to come to campus during normal business hours and are expected to spend 20 hours per week supporting their assignment. Unsatisfactory progress in either the graduate program or performance in assistantship-related duties or any deviation from the above may result in the early termination of the assistantship. Near the end of each funded term, student performance will be evaluated by their assignment supervisor and that evaluation will be filed with the CSSH Graduate Office.

CSSH Dean's Scholarship and Excellence Fellowship recipients must be in full-time status and be registered for a minimum of 8 semester hours.

Withdrawal from Courses

To withdraw from a course, a student must drop the course via the Student Hub within the deadlines as established by the Office of the University Registrar. Consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/) for more information.

Satisfactory Academic Progress

Satisfactory academic progress means satisfying requirements in the graduate program's general regulations and in the regulations specified by each department.

The college sets minimum standards for all students to fulfill, including:

- Maintaining the graduation requirement of a cumulative grade-point average of 3.000 (3.500 for doctoral programs) in their coursework
- Timely completion of coursework
- Timely completion of comprehensive/qualifying examinations

Departments and programs may have additional requirements that exceed those of the college. These requirements can be found in the Academic Catalog and department guides. Failure to maintain satisfactory academic progress may result in academic probation or dismissal from the program.

Receipt of financial support administered by the college is contingent on satisfactory academic progress toward the degree and on meeting department-specific guidelines. The college requires that all students receiving awards will generally have two semesters to reach a 3.000 GPA. Students whose cumulative GPA is below 3.000 (3.500 for doctoral programs) will be reviewed by their departments and by the CSSH Graduate Office and may have their funding terminated on recommendation of their department or by decision of the college in consultation with their department. In addition, continued funding for SGAs is contingent on satisfactorily carrying out duties as assigned.

Students enrolled in a program offering a cooperative education or internship option must be approved to participate. A minimum GPA of 3.000 is required at the time the co-op job or internship begins. Some departments may require a higher minimum GPA for co-op. Please refer to the Academic Catalog for program-specific information.

Leave of Absence

Full-time students who will not be involved in any academic endeavor for a period of time are required to petition via the Request for Leave of Absence form on the Student Hub (https://me.northeastern.edu). The CSSH Graduate Office will not accept retroactive leave requests. Please note that if a

student is requesting a leave for medical reasons (p. 57), a Medical Leave of Absence form must be completed. Students should contact University Health and Counseling Services.

Leaves of absence generally are not approved for more than one calendar year at a time. Further, a leave of absence is generally not appropriate for an international student on a student visa, unless the student is leaving the United States. The student must consult with an international student advisor at the Office of Global Services.

Leaves of absence are not appropriate for master's or doctoral students who are working on a thesis or dissertation but are away from the Northeastern campus.

Except in the case of medical leaves, being on an approved leave of absence does not extend the amount of time allowed for degree completion or the makeup of incomplete grades.

Time Limitations

Graduate course credits earned in the program of graduate study or accepted by transfer are valid for a maximum of seven years.

If students wish to apply for an extension of the university's seven-year time limit, they must submit a petition to their department of study. The petition must include a detailed plan for the completion of all remaining degree requirements. In the case of master's time-limit extension requests for coursework, the department must certify that the content of each of the courses has not changed since the time the student completed the course. If deemed appropriate, the department will recommend the approval of an extension to the college. The associate dean has final approval of time-limit extensions.

Application for the Diploma

Application for the diploma is made by applying to graduate. More information is available on the Commencement website (https://www.northeastern.edu/commencement/). Even though all other degree requirements may have been met, the application to graduate must be completed in order to assure that the degree will be conferred on the appropriate graduation date. It is the responsibility of the student to make sure that degree requirements have been met. Once degree requirements have been met, the student will be cleared for commencement. Please note that there are no honors distinctions awarded at the graduate level.

Changes in Requirements

The continuing development of the college may result in regular revision of curricula. When curriculum changes are made, students are allowed to complete the degree requirements of the program when they matriculated. If a student wishes to complete the degree requirements of the new curriculum, the student may request this in writing to the CSSH Graduate Office via gradcssh@northeastern.edu.

Doctor of Philosophy

The Doctor of Philosophy degree is awarded to candidates who give evidence of high scholastic attainment and research ability in their major field. Specific degree requirements are administered by a committee in charge of the degree program. It is the responsibility of the chair of this committee to certify to the college the completion of each requirement for each candidate. Note that advanced standing is determined at the time of admission by the graduate program director.

Continuity of Registration

Students are expected to maintain satisfactory progress toward their intended degree. All students must register as approved by their advisors or the departmental graduate program directors. After establishing degree candidacy, registration must be continuous until graduation requirements are complete unless a leave of absence is allowed by and recommended by the departmental graduate committee and approved by the college. For each of the first two semesters that a doctoral candidate has established candidacy, the student must register for Doctoral Dissertation. For each semester beyond the two Dissertation registrations, the student must register for Doctoral Dissertation Continuation until the dissertation is approved by the college and submitted to ProQuest. During the terms when a student is registered for Doctoral Dissertation or Dissertation Continuation, coursework is not permitted as the course requirements for the degree have already been met. If the academic program requires enrollment in seminars or courses in addition to Dissertation or Dissertation Continuation, the graduate program director will make a recommendation to the college. Approval of the college must happen prior to registration. Students must be registered for Dissertation or Dissertation Continuation during the semester in which they take the final oral examination (including the full summer semester if that is when defense occurs). Any student who does not attend Northeastern University for a period of one year may be required to apply for readmission.

Awards

Funding eligibility is contingent upon making satisfactory progress. See Regulations for All Students (p. 1046) for more information.

Course Requirements

Course requirements in each doctoral program are specified by the committee in charge of the doctoral program and departmental regulations. These are detailed in the academic catalog for the student's term of entry.

GPA Requirements

For all College of Social Sciences and Humanities doctoral degree programs, the minimum cumulative grade-point average is 3.500. To qualify for the degree, the minimum cumulative GPA must be obtained. This average will be calculated each semester according to the grading system noted in the academic catalog and will exclude any transfer credits or repeated courses. Individual programs may have additional GPA requirements. These can be found in the academic catalog or program policies and procedure documents. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be placed on academic probation or dismissed from the program. A student cannot begin working on exam requirements with a GPA that is below the program minimum.

Annual Student Progress Review

All PhD degree students are required to meet with their faculty advisor for an annual student progress review. The reviews will be submitted to the departmental graduate committee, which will determine whether satisfactory progress is being made and students are eligible to proceed to complete their graduate work. The CSSH Graduate Office will receive a copy of each student's review.

Residence Requirement

All PhD students must spend the equivalent of at least one academic year in residence at the university as a full-time graduate student. The departmental graduate committee specifies the method by which the residence requirement is satisfied. Residency is required of all students receiving a stipended graduate assistantship.

Qualifying Examinations

In programs where comprehensive or qualifying exams are required, students must complete these requirements within the time limit set by the program.

Dissertation Proposal

All CSSH doctoral programs require an approved prospectus or successful proposal defense for candidacy.

Doctoral Degree Candidacy

PhD degree candidacy is established when students have completed all departmental requirements for candidacy. These requirements vary by department and include completing the minimum number of graduate semester hours required of doctoral students by the department (this may include an earned master's degree accepted by the department) and passing a qualifying examination and/or a comprehensive examination. All CSSH doctoral programs require an approved prospectus or successful proposal defense for candidacy. Once students reach doctoral degree candidacy they will be certified, in writing, by the college. Registration in coursework is not permitted once a student reaches candidacy.

Doctoral Dissertation

Each doctoral student must complete a dissertation that embodies the results of extended research and makes an original contribution to the field. This work should give evidence of the candidate's ability to carry out independent investigation and interpret in a logical manner the results of the

research. The method of approval of the dissertation is established by the departmental graduate committee. No dissertation committee shall have fewer than three faculty members, two of whom shall be from Northeastern. The chair of the dissertation committee will be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold an appropriate doctorate. A research faculty member may chair a dissertation committee if the faculty member holds an appropriate doctorate and has received the approval to do so from the tenured and tenure-track faculty members of the unit(s) in which their appointment resides.

Final Oral Examination

The final oral examination will be on the subject matter of the doctoral dissertation and on important developments in the field of the dissertation. Other fields may be included if recommended by the examining committee. This examination will be taken after completion of all other degree requirements and must be held at least four weeks prior to the commencement at which the degree is to be awarded. All internal and external committee members are expected to participate in the defense. The college must be notified of all scheduled defenses and expects that the defense will be publicly advertised for at least two weeks prior to the scheduled date. Some programs may require up to 30 days' notice.

- Upon successful defense of the dissertation, the student must have a dissertation approval record signed by the members of the dissertation committee and the department chair. Contact the CSSH Graduate Office at gradcssh@northeastern.edu for the approval form template.
- The student must have the dissertation approval record approved by a representative from the CSSH Graduate Office.
- The student must submit an electronic copy of the dissertation to ProQuest, following the directions outlined at the University Library website.

Master's Degrees

Academic Requirements

A candidate for the master's degree must complete a minimum of 30 semester hours of graduate-level coursework and additional requirements as determined by the department in which the student is registered.

To qualify for the degree, a minimum cumulative average of 3.000, equivalent to a grade of B, must be obtained. This average will be calculated each semester according to the grading system noted on the Office of the University Registrar's website and will exclude any transfer credits and nonrepeatable courses that have been retaken. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be dismissed from the program.

Continuity of Registration

Students are expected to maintain satisfactory progress toward their intended degrees. All students must be registered in the last semester of their program. Any student who does not attend Northeastern University for a period of one year will be required to apply for readmission.

Comprehensive Examination

Some programs require a final written or oral comprehensive examination. This examination will be given by the department concerned at least two weeks before the commencement at which the degree is expected. Students should check with individual departments for specific guidelines.

Thesis

Some programs require or offer Master's Thesis. Theses should demonstrate the individual's capacity to execute independent work based on original material. Registration for XXXX 7990 Thesis is required. In cases in which a grade is required, theses must receive a grade of B (3.000) or better to be accepted. Students who have not completed their thesis after having registered for the specified number of thesis credits must register for XXXX 7996 Master's Thesis Continuation in the subsequent semester. Master's Thesis Continuation will carry no credit but will be recorded on the student transcript with the appropriate grade (S or U). Master's Thesis Continuation is not repeatable.

- Upon successful defense of the thesis, the student must have a thesis approval record signed by the members of the thesis committee. Visit Thesis and Dissertation Formatting Guidelines (https://cssh.northeastern.edu/resources/theses-and-dissertations/) for the approval form template and additional guidance.
- The student must have the thesis approval record approved by a representative from the CSSH Graduate Office.
- The student must submit an electronic copy of the thesis to ProQuest, following the directions outlined on the University Library website.

School of Criminology and Criminal Justice

Website (https://cssh.northeastern.edu/sccj/)

Amy Farrell, PhD
Professor and Director

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Professor and Associate Director

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CSSH Graduate Programs General Regulations (p. 1041)

The School of Criminology and Criminal Justice prepares students for meaningful careers in criminology, justice policy, the law, criminal justice, and related fields, including professional research careers. We do this by applying multidisciplinary social science tools that predict and explain crime, as well as deepening the understanding of policies that improve our systems of justice. Our approach is experiential, and our methods for teaching are rooted in knowledge creation as a top-tier research program. Our goal is to create ethical problem solvers who are prepared to tackle important crime and justice issues facing society. Our educational goals for students include a commitment to identify and address the role of systemic racism and intersecting dimensions of oppression in the development and application of justice system policies and practices, crime and justice theory, and research.

The school offers a Master of Science degree in criminology and criminal justice and a PhD degree in criminology and justice policy. In addition, the school offers a JD/MS in criminology and criminal justice program and a JD/PhD in criminology and justice policy in conjunction with the School of Law.

Programs

Doctor of Philosophy (PhD)

- Criminology and Justice Policy (p. 1052)

Master of Science (MS)

- Criminology and Criminal Justice (p. 1055)

Dual Degrees

- Law, JD/Criminology and Justice Policy, PhD (p. 778)
- Law, JD/Criminology and Criminal Justice, MS (p. 779)

Criminology and Justice Policy, PhD

The doctoral program in criminology and justice policy at the School of Criminology and Criminal Justice at Northeastern University seeks to prepare students for professional and research careers in criminal justice, criminology, and related fields by applying multidisciplinary and comparative social science to understand, predict, and explain crime and contribute to the development of public policy within urban communities. Using an active-learning approach, the school seeks to develop its students intellectually and ethically, while providing them with a keen appreciation for the complexities of crime and public and private efforts to make communities safer and to ensure justice.

The program is full time and is small and student centered. Students may enter the program with either a bachelor's degree or a master's degree. It is expected that students will be able to complete the program in four to five years, and students entering with a master's degree will be able to complete the program in three to five years.

Year one in the doctoral program offers students an opportunity to obtain a broad foundational knowledge in the discipline: one semester on theories of criminal justice process, two semesters of criminological theory, two semesters of statistics, and one semester of advanced research methods. To ensure that all students have mastered the foundational material emphasized across the required courses for the PhD program and can successfully integrate theory, research, and policy, all PhD students take a "foundations" qualifying examination at the end of their first year in the doctoral program.

After demonstrating mastery of the foundational knowledge in year one, students devote themselves to a more specific area of research in years two and three. Students demonstrate this commitment through the second and third qualifying examinations: an area exam and a publishable paper.

Following successful completion of the three qualifying examinations, and required and elective course work, the students proceed to a formal dissertation proposal defense.

Doctoral Degree Candidacy

A student achieves candidacy when they have successfully completed all course work (54 semester hours for students entering with a bachelor's degree or 42 semester hours for students entering with advanced standing), passed all three qualifying examinations, and deposited the final version of their dissertation proposal (approved by their full committee) with the school's graduate program office. Candidacy is certified, in writing, by the college.

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Three qualifying examinations—foundations exam, area exam, and publishable paper
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Pro-Seminar		
CRIM 7001	PhD Pro-Seminar in Criminology and Justice Policy 1	0
CRIM 7002	PhD Pro-Seminar in Criminology and Justice Policy 2	0
Criminal Justice Process		
CRIM 7203	Theories of Criminal Justice Process	4
Criminological Theory		
CRIM 7710	Criminology and Public Policy 1	4
CRIM 7711	Criminology and Public Policy 2	4
Analysis & Methods		
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	4
INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4
Practicum		
CRIM 7706	Practicum in Writing and Publishing	2
CRIM 7700	Practicum in Teaching	0

Electives

Code	Title	Hours
Complete 28 semester hours in the following ranges. Courses in additional disciplines with PhD program director approval.		28
CRIM 6000 to CRIM 7999		
INSH 6000 to INSH 7999		
POLS 6000 to POLS 7999		
PPUA 6000 to PPUA 7999		
SOCL 6000 to SOCL 7999		

Dissertation

Code	Title	Hours
Exam Preparation		
Students register for CRIM 8960 when they have completed required coursework but are still taking qualifying exams, and for CRIM 8986 when they have passed qualifying exams and are working on proposals.		
CRIM 8960	Exam Preparation—Doctoral	
CRIM 8986	Research	
Dissertation		
CRIM 9990	Dissertation Term 1	
CRIM 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of CRIM 9990 and CRIM 9991, registration in the following class is required in each subsequent semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
CRIM 9996	Dissertation Continuation	

Program Credit/GPA Requirements

54 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Advanced Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Three qualifying examinations—foundations exam, area exam, and publishable paper
Dissertation committee
Dissertation proposal
Candidacy achieved
Dissertation defense

Core Requirements

Code	Title	Hours
Pro-Seminar		
CRIM 7001	PhD Pro-Seminar in Criminology and Justice Policy 1	0
CRIM 7002	PhD Pro-Seminar in Criminology and Justice Policy 2	0
Criminal Justice Process		
CRIM 7203	Theories of Criminal Justice Process	4
Criminological Theory		
CRIM 7710	Criminology and Public Policy 1	4
CRIM 7711	Criminology and Public Policy 2	4
Analysis & Methods		
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	4
INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4
Practicum		

CRIM 7706	Practicum in Writing and Publishing	2
CRIM 7700	Practicum in Teaching	0

Electives

Code	Title	Hours
Complete 16 semester hours in the following range.		16
CRIM 6000 to CRIM 7999		
INSH 6000 to INSH 7999		
POLS 6000 to POLS 7999		
PPUA 6000 to PPUA 7999		
SOCL 6000 to SOCL 7999		

Dissertation

Code	Title	Hours
Exam Preparation		
Students register for CRIM 8960 when they have completed required coursework but are still taking qualifying exams, and for CRIM 8986 when they have passed qualifying exams and are working on proposals.		
CRIM 8960	Exam Preparation—Doctoral	
CRIM 8986	Research (Exam Preparation)	
Dissertation		
CRIM 9990	Dissertation Term 1	
CRIM 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of CRIM 9990 and CRIM 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
CRIM 9996	Dissertation Continuation	

Program Credit/GPA Requirements

42 total semester hours required
Minimum 3.500 GPA required

Criminology and Criminal Justice, MS

The master's program in criminology and criminal justice at Northeastern University concentrates both on the problem of crime as a form of deviant behavior and on the criminal justice and private security systems that deal with it. The program emphasizes a systems approach to criminal justice, stressing policy development and analysis, as well as the impact these policies have on the individuals and organizations charged with delivering justice in a fair and equitable manner. In concept and scope, the MS degree encompasses such related disciplines as law, sociology, political science, psychology, criminology, and public administration.

The master's program is comprised of required courses encompassing both substantive and technical skills. Additionally, students choose elective courses from offerings within the graduate program in criminal justice or in other graduate programs in the College of Social Sciences and Humanities. The course offerings afford students the flexibility to customize their own programs, which may include an internship, directed study, or master's thesis.

For students interested in criminal justice in an increasingly digital world, the Master of Science in Criminology and Criminal Justice with a Concentration in Cybersecurity offers a strong criminal justice foundation coupled with the conceptual and practical skills that enables them to contribute to ensuring the reliability and security of cyberspace. Successful students will learn the principles, practices, and responsibilities of criminal justice professionals alongside the fundamental knowledge of computer science skills necessary for practical applications in the field. The concentration in cybersecurity provides criminal justice students an opportunity to learn how social behavior, policy, and legal rules can affect cybersecurity and the tools of information technology.

Faculty members in the graduate program represent several different academic disciplines, and teaching activities vary in nature depending on the instructors' specific objectives. The faculty's specialized interests help make possible a broad range of program offerings, including courses on the criminal justice process, victimology, security management, criminal law, juvenile justice, law and psychology, and terrorism.

The master's program offers an optional cooperative education experience (co-op) to eligible students. Students extend the two-semester program to 18 months through a co-op work experience and Experiential Integration (INSH 6864), the associated experiential integration course. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Briefly stated, the graduate program endeavors to:

- Assist in developing criminal justice and private security leaders capable of assuming responsibility for policy planning and administration
- Offer students an opportunity to acquire the necessary skills and knowledge to conduct applied research while assisting them in developing the ability to apply this research in a variety of criminal justice settings
- Provide an opportunity for a solid educational foundation for those who wish to pursue more advanced graduate study beyond the Master of Science degree

Graduate study in criminology and criminal justice may be pursued on either a full- or part-time basis. All candidates for the Master of Science in Criminology and Criminal Justice degree must successfully complete a minimum of 32 semester hours of credit in course work.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
CRIM 6200	Criminology	4
CRIM 6202	The Criminal Justice Process	4
Research and Statistics		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4

Electives

Code	Title	Hours
Complete 16 semester hours in the following range.		16
CRIM 5000 to CRIM 7999		
INSH 5000 to INSH 7999		
POLS 5000 to POLS 7999		

PPUA 5000 to PPUA 7999	
SOCL 5000 to SOCL 7999	

Optional Concentration in Cybersecurity

Students adding a concentration in cybersecurity must use 12 semester hours of their elective credits to complete the following courses:

Code	Title	Hours
Required		
CY 5001	Cyberspace Technology and Applications	4
Choose two courses from the following:		8
CRIM 6262	Evidence-Based Crime Policy	
CY 5010	Foundations of Information Assurance	
CY 5200	Security Risk Management and Assessment [1]	
CY 5210	Information System Forensics [1]	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	

[1] Instructor approval

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms.		1-2
CRIM 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (33-34 with optional co-op)
Minimum 3.000 GPA required

Law, JD / Criminology and Justice Policy, PhD

The JD/PhD program will expand the knowledge base and career options of students. The disciplines of criminology and justice policy and law share common interests in identifying opportunities to create conditions for justice, equality, and societal well-being. The dual degree will provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the sociopolitical, legal, and economic context in which they are found. Solving problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the PhD degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the law school. Students will take criminology courses during semesters spent in SCCJ. Please consult the School of Law (https://www.northeastern.edu/law/) for more information about JD requirements. Additionally, please consult SCCJ (https://cssh.northeastern.edu/sccj/) for more information about PhD requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Criminology and Criminal Justice, MS

The JD/MS program will expand the knowledge base and career options of students. The disciplines of criminal justice and law share common interests in identifying opportunities to create the conditions for justice, social equality, and societal well-being. The dual degree is designed to provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the social, political, legal, economic context in which they are found. Solving these problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the MS degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the School of Law. Students will take criminology courses during semesters spent in in the School of Criminology and Criminal Justice. Please consult the School of Law for more information about JD requirements. Additionally, please consult SCCJ for more information about MS requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Economics

Website (https://cssh.northeastern.edu/economics/)

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Professor and Chair

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CSSH Graduate Programs General Regulations (p. 1041)

The Department of Economics offers both a Master of Science and a Doctor of Philosophy in Applied Economics. The most distinctive feature of these programs is their emphasis on applied economics, coupled with attention to providing a solid grounding in microeconomic and macroeconomic theory, and econometrics. Students come from all over the world, and the curriculum is designed with this in mind, striving for balance in coverage of economies that are rich and poor, large and small, mixed and market. This gives a unique flavor to the course of study, making it well suited to the analysis of the emerging global economy of the 21st century.

The Master of Science program is in applied economic policy analysis, with broad specialization areas. The program is large enough to support a full slate of core and area courses each year, yet small enough to maintain a sense of community among the students.

The program is especially appropriate for those who wish to work in or return to positions in government, teaching, finance, or industry while providing a rigorous basis for those who want to continue their studies to the doctoral level.

Our signature co-op program offers qualified MS students the opportunity to apply for paid work positions as practicing economists for up to six months as part of their academic program. This paid work experience enhances our MS degree and its emphasis on application. Students have an opportunity to learn how to apply their knowledge, solve problems, and make a difference in the world before they graduate. Our graduates either find full-time work in their area of specialty or go on to earn additional graduate degrees. All of our graduates find jobs after completing our program.

Master of Science students may choose to pursue a concentration in data science. The concentration strategically combines econometrics and machine-learning techniques to analyze and predict outcomes with Big Data. Students in Seattle are required to select this concentration.

Our master's program-specific learning courses also feature "tracks." Along with the core MS classes, these tracks help our students prepare for different career paths. The Department of Economics currently offers three tracks (https://cssh.northeastern.edu/economics/graduate/ma/):

- Policy
- Quantitative analysis
- Academic

The PhD program is small and focused, and we welcome applications from those with a bachelor's or master's degree who have had prior training in macroeconomic and microeconomic theory and possess strong quantitative skills. Students take coursework in industrial organization, competition policy, and regulatory and labor economics. Health economics or development economics are additional areas that may be integrated into the primary fields noted above.

Programs

Doctor of Philosophy (PhD)

- Economics (p. 1060)

Master of Science (MS)

- Economics (p. 1064)

Economics, PhD

The PhD program in economics offers specializations in ***industrial organization, competition policy, and regulatory economics*** and ***labor economics*.**

Timeline

The PhD program for each student has two phases: the coursework phase followed by the dissertation phase. The coursework phase consists of required coursework and field courses, as well as taking and passing the three qualifying examinations.

A student moves into the dissertation phase upon successful completion of required coursework and upon passing the qualifying examinations. In the dissertation phase the student must prepare a dissertation proposal and present and defend the dissertation proposal before the student's proposal review committee. A student who successfully defends the dissertation proposal achieves candidacy. At the end of the dissertation phase, the student must defend their completed dissertation.

Coursework

Students entering the doctoral program will take seven core classes (28 semester hours), two classes in each of two doctoral fields (16 semester hours), and one elective (4 semester hours), for a total program requirement of 48 semester hours.

Core courses are focused on developing an advanced theoretical and quantitative foundation (macroeconomic theory, microeconomic theory, and applied econometrics). The remainder of the coursework is focused on the sophisticated application of analytical tools in the chosen field of concentration.

PhD students are expected to take three classes per semester as necessary to meet the degree's coursework requirements in the minimum number of semesters.

Field Coursework and Grade Requirement

Students must take four field courses, and they are strongly encouraged to take as many field courses as possible. Students should plan to take the two labor and two industrial organization courses, even if they arrange to do a field in development or health economics. Students interested in customizing their fieldwork should consult the PhD Program Guidelines on the website.

To maintain satisfactory standing in the PhD program, students must earn a grade of B or higher in at least four field courses. Students who do not earn a B in at least four field courses will be offered one opportunity to meet the grade standard. Consult PhD Program Guidelines on the website for further details.

Examinations

THREE QUALIFYING EXAMINATIONS—MACROECONOMICS, MICROECONOMICS, AND ECONOMETRICS

Three qualifying examinations are required upon completion of Macroeconomics 2, Microeconomics 2, and Econometrics 2. Students must receive a minimum grade of B– in the associated theory class to sit for its exam. Students are given a maximum of two attempts to pass each exam to continue in the program. Failure to sit for an exam at the appropriate time without prior consent of the graduate program director will result in an automatic fail on that exam.

Proposal Review

Students must complete the proposal review within two years of finishing their coursework; however, the department expects that a doctoral candidate's **dissertation committee** will be formed and the dissertation proposal presented within one year of reaching degree candidacy, which is normally by the end of the student's third year.

A **dissertation proposal** states the question or hypothesis, reviews the relevant literature, and explains how the proposed work will contribute to that literature and general understanding. The proposal sets forth data sources, models, and econometric issues in sufficient detail so that any faculty member not in the field will be able to assess its merits. Normally, the proposal should not exceed 30 double-spaced pages. The proposal is first approved by the dissertation committee and then presented at an open seminar.

Consult PhD Program Guidelines on the website for further details.

Doctoral Degree Candidacy

Upon successful completion of the proposal review, the student becomes a degree candidate. Candidacy may make the student eligible for a higher stipend and is an essential step in making satisfactory progress. Degree candidacy must be achieved within two years of completion of required coursework.

DISSERTATION

Students must complete their dissertation defense within five years of finishing their coursework, and postponing the proposal review does not alter the total time that students may use to complete their PhD. Under extenuating circumstances, a student may request an extension of this time frame from the Graduate Office.

One month in advance of the prospective date of the defense, the completed dissertation that is to be defended must be circulated to the committee members. At that time, all members of the committee must sign off on their agreement that the dissertation is ready for defense. Each student will have a dissertation committee chaired by a faculty member with an appointment in the economics department and at least two other members.

Committees may have two cochairs. Committees should not have more than four members (except at interim stages if faculty are leaving the committee). Committees may include members outside the economics department, but at least two committee members must have an appointment in the economics department. The composition of the committee should be set before the proposal review and again, if changes occur, before the dissertation defense. Committee compositions must be approved by the graduate program director and department chair.

The dissertation defense normally takes place during the student's fifth year. Those who have not defended by the end of their fifth year must submit a status report and timetable for approval by their dissertation advisor and the PhD program director. Consult PhD Program Guidelines on the website for further details

WRITING THE DOCTORAL DISSERTATION

Writing the dissertation entails working with the principal advisor and other committee members until it is determined that a dissertation is complete and the candidate is ready to present and defend the work at an open seminar. Candidates must arrange a date and time for the defense at least three weeks in advance. Students must familiarize themselves with the Theses and Dissertations Formatting Guidelines (https://cssh.northeastern.edu/resources/theses-and-dissertations/). The guide provides links to formatting tips, sample introductory pages, sample approval record, and deadlines. In addition, a checklist is provided to ensure students have fulfilled the required steps in the commencement clearance process.

Milestones

Maintaining satisfactory academic progress during doctoral candidacy requires the following:

PHD ANNUAL STUDENT PROGRESS REVIEW

Each PhD student will have an annual review of their progress toward the degree. Receipt of financial support administered by the graduate school is contingent upon satisfactory academic progress toward the degree and satisfactory performance in assigned duties. See the CSSH General Regulations (p. 1041) for further details.

FIELD WORKSHOP PARTICIPATION

All PhD students registered for Doctoral Dissertation or Continuation who are in residence are expected to regularly attend a field seminar in industrial organization or labor. These seminars meet roughly every week, and their purpose is to assist students in choosing and evaluating dissertation topics as well as advancing and completing their dissertation. All doctoral candidates will be expected to present their research at various stages of writing their dissertation.

SEMINAR SERIES PARTICIPATION

All PhD students registered for Doctoral Dissertation or Continuation who are in residence are expected to regularly attend academic seminars by speakers invited to campus through the Department of Economics Seminar Series. Participation in these seminars is an important component of doctoral training and is intended to expose students to current research in their field while helping to develop and hone their own presentation skills.

PRACTICAL EXPERIENCE IN APPLIED ECONOMICS PROGRAM

Participation in at least one semester of the Practical Experience in Applied Economics program is required of all students who have reached doctoral candidacy. The program is offered in the spring semester every other year. In this program, a variety of prominent practitioners working in consulting and government agencies in the fields of industrial organization and labor will describe their practical experience applying economics to a variety of consulting and policy problems, including antitrust, regulation, labor market policy, education, and health policy. This is a participatory class that will require advanced reading and preparation of questions for the practitioners in addition to other assignments.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations—microeconomics, macroeconomics, and econometrics

Annual reviews

Dissertation committee

Dissertation proposal

Dissertation defense

Field workshops (and present following completion of coursework)

Economics Seminar Series and Job Talks

Practical Experience in Economics series

Core Requirements

Code	Title	Hours
Quantitative		
ECON 6105	Advanced Mathematics and Statistics for Economists	4
ECON 6140	Advanced Applied Econometrics	4

ECON 7740	Applied Econometrics 2	4
Theory		
ECON 6110	Advanced Microeconomic Theory	4
ECON 6120	Advanced Macroeconomic Theory	4
ECON 7710	Microeconomic Theory 2	4
ECON 7720	Macroeconomic Theory 2	4
Field		
To maintain satisfactory standing in the PhD program, students must earn a grade of B or higher in at least four field courses.		
Labor Economics Field		
ECON 7763	Labor Market Analysis	4
ECON 7764	Topics in Labor Economics	4
Industrial Organization Field		
ECON 7771	Framework of Industrial Organization	4
ECON 7772	Public Policy Toward Business	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following:		4
ECON 7200 to ECON 7299		
ECON 7976	Directed Study	

Dissertation

Code	Title	Hours
Proposal Stage		
ECON 9986	Research	
Dissertation Candidacy Stage		
ECON 9990	Dissertation Term 1	
ECON 9991	Dissertation Term 2	
Following completion of ECON 9990 and ECON 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
ECON 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations—microeconomics, macroeconomics, and econometrics|
PhD annual student progress review
Meet minimum 3.000 grade requirement in at least four field classes to attain doctoral degree candidacy
Dissertation committee
Dissertation proposal
Dissertation defense
Field workshop participation throughout program (and required following completion of coursework)
Economics Seminar Series participation throughout program

Core Requirements

Code	Title	Hours
Quantitative		
ECON 7740	Applied Econometrics 2	4
Theory		

ECON 7710	Microeconomic Theory 2	4
ECON 7720	Macroeconomic Theory 2	4
Field		
Labor Economics Field		
ECON 7763	Labor Market Analysis	4
ECON 7764	Topics in Labor Economics	4
Industrial Organization Field		
ECON 7771	Framework of Industrial Organization	4
ECON 7772	Public Policy Toward Business	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following:		4
ECON 7200 to ECON 7299		
ECON 7976	Directed Study	

Dissertation

Code	Title	Hours
Proposal		
ECON 9986	Research	
Dissertation		
Registration in the following class is required in the fall and spring semesters following achievement of doctoral candidacy:		
ECON 9990	Dissertation Term 1	
ECON 9991	Dissertation Term 2	
Following completion of ECON 9990 and ECON 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
ECON 9996	Dissertation Continuation	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.500 GPA required

Economics, MS

The Master of Science program focuses on applied economic policy analysis, with broad specialization areas. The program is large enough to support a full slate of core and area courses each year, yet small enough to maintain a sense of community among the students. The program is especially appropriate for those who wish to work in or return to positions in government, teaching, finance, or industry while providing a rigorous basis for those who want to continue their studies to the doctoral level.

The Master of Science in Economics offers the opportunity for master's students to apply for paid work positions through Northeastern University's world-famous co-op program. Qualified and approved master's students can participate in co-op as practicing economists for up to six months as part of their academic program (note that a minimum GPA of 3.000 is required in order to apply). This paid work experience enhances the degree and its emphasis on application. Students have an opportunity to learn how to apply their knowledge, solve problems, and make a difference in the world before they graduate. Our graduates either find full-time work in their area of specialty or go on to earn additional graduate degrees. All of our graduates find jobs after completing our program. For more information, please visit the Master of Science in Economics (https://cssh.northeastern.edu/economics/program/ms-graduate-program/) website.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Quantitative		
ECON 5105	Math and Statistics for Economists	4
or ECON 6105	Advanced Mathematics and Statistics for Economists	
ECON 5140	Applied Econometrics	4
or ECON 6140	Advanced Applied Econometrics	
Theory		
ECON 5110	Microeconomic Theory	4
or ECON 6110	Advanced Microeconomic Theory	
ECON 5120	Macroeconomic Theory	4
or ECON 6120	Advanced Macroeconomic Theory	

Electives

With prior approval from the graduate program director, the following courses may substitute for electives: Thesis (ECON 7990) or Internship In Economics (ECON 8550). Additionally, a student may select a maximum of 8 graduate semester hours offered by other departments.

Code	Title	Hours
Complete 16 semester hours from the following range (excluding any class taken to fulfill core requirements above):		16
ECON 5200 to ECON 7772		

Concentration in Data Science for Economics

The concentration may be taken in place of the elective section. Seattle students are required to complete the concentration.

Code	Title	Hours
Required		
CS 5800	Algorithms	4
DS 5110	Introduction to Data Management and Processing	4
Complete 4 semester hours from the following courses:		4
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
DS 5500	Data Science Capstone	
Economics Elective		
Complete 4 semester hours from the following range:		4
ECON 5200 to ECON 7772		

OPTIONAL CO-OP EXPERIENCE

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		
ECON 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

English

Website (https://cssh.northeastern.edu/english/experiential-academics/majors-minors-grad-programs/#Graduate)

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CSSH Graduate Programs General Regulations (p. 1041)

The graduate program in English is grounded in the study of British and American literature through the most current modes of humanistic inquiry and in the disciplines of writing and rhetoric. Both in coursework and through the NULab for Texts, Maps, and Networks (https://web.northeastern.edu/nulab/), the graduate program in English also offers training in the digital humanities. Altogether, our degree programs provide a challenging, flexible, and wide-ranging education in English studies today.

Programs

Doctor of Philosophy (PhD)

- English (p. 1067)

Master of Arts (MA)

- English (p. 1070)

Graduate Certificate

- Digital Humanities (p. 1072)

English, PhD

The PhD program seeks to train students to be productive scholars and teachers in the fields of both literary studies and rhetoric and composition. In course work, students read and analyze the important texts, current issues, and critical methodologies of the discipline. Drawing on the breadth of this preparation, students demonstrate their ability to recognize and produce scholarly arguments in designing the three comprehensive field papers in areas of scholarly interest and competence corresponding to recognized and emerging fields of study. Finally, the dissertation offers students an opportunity to design a focused research project in consultation with a dissertation advisor. Throughout the program, faculty works closely with doctoral students to develop their scholarly and professional identities in preparation for careers.

Academic Standing/Progress

To be considered in good academic standing, PhD students must be making progress toward their degree requirements, including maintaining a 3.500 minimum cumulative grade-point average (GPA) and completing the comprehensive examination within one year of finishing coursework.

Doctoral Degree Candidacy

Students entering with a relevant BA must complete 48 semester hours; students entering with a relevant MA must complete 24 semester hours. All students must complete the language requirement, pass the comprehensive examination, and submit their approved prospectus within six months after completing the comprehensive examination to reach candidacy.

General Regulations

Program requirements are described in the CSSH Graduate Programs General Regulations (p. 1041) and the Graduate Program in English PhD Guide (https://cssh.northeastern.edu/english/resources/resources-for-current-grad-students/). Both documents are updated annually.

Program Requirements

Bachelor's Degree Entrance

Milestones

Annual progress review
Reading proficiency in two languages other than English
Comprehensive exam
Dissertation committee
Dissertation prospectus
Doctoral degree candidacy
Public prospectus/dissertation work-in-progress presentation
Dissertation defense

Core Requirements

Code	Title	Hours
Proseminar		
ENGL 5103	Proseminar	4
Theories and Methods		
Complete 4 semester hours from the following:		4
ENGL 7351	Topics in Literary Study	
ENGL 7358	Topics in Literature and other Disciplines	
ENGL 7370	Introduction to Digital Humanities	
ENGL 7380	Topics in Digital Humanities	
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7976	Directed Study (GCWS Consortium, selected topics only)	
Writing and Rhetoric		
Complete 4 semester hours from the following (if completing 12 semester hours of Literary Period requirements).		4-8
Complete 8 semester hours of the following (if completing 8 hours of Literary Period requirements).		
ENGL 7360	Topics in Rhetoric	
ENGL 7392	Writing and the Teaching of Writing	
ENGL 7395	Topics in Writing	
Literary Periods		
Complete 8 semester hours from TWO of the following Literary Periods (if completing 8 semester hours of Writing and Rhetoric requirements), or complete 12 semester hours from THREE of the following Literary Periods (if completing 4 semester hours of Writing and Rhetoric requirements):		
Literature Pre-1700		
ENGL 7281	Topics in Medieval Literature	

ENGL 7282	Topics in Renaissance Literature
Literature 1700–1900	
ENGL 7284	Topics in 18th-Century Literature
ENGL 7352	Topics in Genre
Literature Post-1900	
ENGL 7211	Topics in American Literature
ENGL 7244	African-American Novel

Electives

Code	Title	Hours
Complete 24 semester hours of ENGL courses, or non-ENGL courses through successful petition.		24

Dissertation

Code	Title	Hours
Exam Preparation		
ENGL 8960	Exam Preparation—Doctoral (Only needed for PhD students who have completed coursework but have yet to complete the comprehensive exams. Repeatable.)	
Research		
ENGL 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	
Dissertation		
ENGL 9990	Dissertation Term 1	
ENGL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of ENGL 9990 and ENGL 9991, registration in the following class is required in each fall and spring semester for all students and each summer semester for those within funding until the dissertation is completed (students outside of funding must also register in the summer semester if it is their terminal term):		
ENGL 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual progress review
Reading proficiency in two languages other than English
Comprehensive exam
Dissertation committee
Dissertation prospectus
Doctoral degree candidacy
Public prospectus/dissertation work-in-progress presentation
Dissertation defense

Core Requirements

Code	Title	Hours
Proseminar		
ENGL 5103	Proseminar	4

Electives

Code	Title	Hours
Complete 20 semester hours of ENGL courses.		20

Dissertation

Code	Title	Hours
Exam Preparation		
ENGL 8960	Exam Preparation—Doctoral (Only needed for PhD students who have completed coursework but have yet to complete the comprehensive exams. Repeatable.)	
Research		
ENGL 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	
Dissertation		
ENGL 9990	Dissertation Term 1	
ENGL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of ENGL 9990 and ENGL 9991, registration in the following class is required in each fall and spring semester for all students and each summer semester for those within funding until the dissertation is completed (students outside of funding must also register in the summer semester if it is their terminal term):		
ENGL 9996	Dissertation Continuation	

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.500 GPA required

English, MA

The Master of Arts degree launches students into the study of literature, writing, and rhetoric at the graduate level. The program offers one and a half to two years of intensive study in the major fields of British and American literature, covering the debates and approaches that animate the discipline of English. Our MA graduates are fully prepared to proceed to study at the doctoral level, and their training in critical thinking, language skills, and cultural history has also proven to be fruitful preparation for a range of careers outside of academia.

The master's program offers an optional cooperative education experience to eligible students. Co-op is central to both the Northeastern University experience and the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the co-curricular experiential integration course.

Academic Standing/Progress

To be considered in good academic standing, MA students must be making progress toward their degree requirements, including maintaining a 3.000 minimum cumulative grade-point average.

General Regulations

Program requirements are described in the CSSH Graduate Programs General Regulations (p. 1041) and the Graduate Program in English MA Guide (https://cssh.northeastern.edu/english/resources/resources-for-current-grad-students/). Both documents are updated annually.

Program Requirements

Milestones

Annual progress review
Reading proficiency in a language other than English

Core Requirements

Code	Title	Hours
Proseminar		
ENGL 5103	Proseminar	4
Theories and Methods		
Complete 4 semester hours from the following:		4
ENGL 7351	Topics in Literary Study	
ENGL 7358	Topics in Literature and other Disciplines	
ENGL 7370	Introduction to Digital Humanities	
ENGL 7380	Topics in Digital Humanities	
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7976	Directed Study (GCWS Consortium, selected topics only)	
Writing and Rhetoric		
Complete 4 semester hours from the following (if completing 12 semester hours of literary period requirements); or complete 8 semester hours from the following (if completing 8 semester hours of literary period requirements):		4-8
ENGL 7360	Topics in Rhetoric	
ENGL 7392	Writing and the Teaching of Writing	
ENGL 7395	Topics in Writing	
Literary Periods		
Complete 8 semester hours from two of the following literary periods (if completing 8 semester hours of writing and rhetoric requirements); or complete 12 semester hours from three of the following literary periods (if completing 4 semester hours of writing and rhetoric requirements):		8-12
Literature Pre-1700		
ENGL 7281	Topics in Medieval Literature	
ENGL 7282	Topics in Renaissance Literature	
Literature 1700–1900		
ENGL 7284	Topics in 18th-Century Literature	
ENGL 7352	Topics in Genre	
Literature Post-1900		
ENGL 7211	Topics in American Literature	
ENGL 7244	African-American Novel	

Electives

Code	Title	Hours
Complete 8 semester hours of ENGL courses, or non-ENGL courses with prior approval.		8
ENGL 5000-ENGL 7980		
ENGL 7990	Thesis (minimum 3.500 GPA required)	

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms		1-2
ENGL 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

Digital Humanities, Graduate Certificate

CSSH Graduate Programs General Regulations (p. 1041)

The Graduate Certificate in Digital Humanities allows students to pursue an organized course of study in digital humanities with the interdisciplinary faculty of the NULab for Texts, Maps, and Networks (https://cssh.northeastern.edu/nulab/). This certificate can be completed both by Northeastern University doctoral and master's students in the course of their existing program of study as well as those seeking a stand-alone certificate.

Digital humanities is an emerging field of research that is interdisciplinary in scope and collaborative in nature. The field is developing in relation to new digital technologies that have changed the objects of study, methods, and opportunities for research and teaching in existing humanities fields. Digitized texts are now read and accessed in new ways; digitized corpora of texts make possible new modes of quantitative and qualitative analysis (including "distant reading," text mining, mapping, and network analysis); born digital objects constitute new primary sources in need of humanistic theorization, approaches, and critical vocabularies; and modes of encoding, aggregating, and connecting texts enable the creation of new archival resources that are changing our understanding of the archive itself as well as revealing new historical, literary, and cultural patterns.

The field is new and developing rapidly. Many students are eager for training in this area—both because DH is at the cutting edge of disciplinary work and because it offers new opportunities for employment within the academy and outside of it.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Final Project

The student will complete a final independent DH research project located in the student's home program (such as a thesis, or a portion thereof) or participation in a collaborative DH project with substantial student participation. The final project will be overseen by the NULab faculty members teaching the NULab project seminar during its development; NULab workshop instructors will advise students on their projects and help students get guidance from other faculty as appropriate. Final projects will be submitted with three components: the project itself, a written project description of about 3,000 words, and a presentation to the NULab community. The DH certificate committee will formally approve all final projects.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Topics/Readings/Methods		
ENGL 7370	Introduction to Digital Humanities (Introduction to Digital Humanities)	4
or HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
Lab Project Seminar		
Complete the following (repeatable) course twice:		4
INSH 7910	NULab Project Seminar	

Elective

Code	Title	Hours
Complete 4 semester hours from the following:		4
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5150	Information Visualization Principles and Practices	
CS 6120	Natural Language Processing	
CS 7250	Information Visualization: Theory and Applications	
CS 7260	Visualization for Network Science	
CS 7290	Special Topics in Data Science	
ENGL 7380	Topics in Digital Humanities	
HIST 7219	Topics in Cultural History (selected topics only)	
HIST 7239	Space and Place	
HIST 7250	Topics in Public History (selected topics only)	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
INSH 5602	Documenting Fieldwork Narratives: Oral History, Ethnography, Archival Practices	

INSH 6406	Analyzing Complex Digitized Data
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
JRNL 6355	Seminar in Investigative Reporting
POLS 7334	Social Networks
PPUA 5263	Geographic Information Systems for Urban and Regional Policy

Program Credit/GPA Requirements

Minimum 12 total semester hours required
Minimum 3.000 GPA required

History

Website (https://cssh.northeastern.edu/history/)

Gretchen Heefner, PhD
Associate Professor and Chair

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gradhistory@northeastern.edu

CSSH Graduate Programs General Regulations (p. 1041)

Graduate work in history focuses on global and world history, which study the interactions among geographical regions and historical processes around the globe. Students at both the master's and doctoral levels concentrate their work on the history of regions or peoples in Africa, Asia, Europe, Latin America, or the United States, with attention to the intersections and connections between national, regional, and global developments. The Department of History also offers a master's degree with a concentration in public history that emphasizes the study of topics such as material culture, historical exhibits and museums, historical agencies, and archival administration. Recent doctoral students have been the recipients of major fellowships for conducting dissertation research abroad, including Fulbright, Fulbright-Hays, Social Science Research Council, and Chateaubriand fellowships.

Programs

Doctor of Philosophy (PhD)

- History (p. 1075)

Master of Arts (MA)

- History (p. 1078)

Graduate Certificate

- Public History (p. 1080)

History, PhD

The PhD program, with a focus on global, transnational, and comparative history, seeks to train research historians who plan to teach at the college and university level. Systematic training in theory and methodology and preparation for college teaching are distinctive features of the Northeastern program.

Academic Standing/Progress

Students are required to maintain an overall GPA of at least 3.500. In addition, the PhD annual review is based on a report by the student's advisor with attention to:

1. Success in setting up a doctoral committee
2. Passing the departmental language examination in the language of their field
3. Successful performance of teaching assistant duties
4. Successful completion of courses in the tiered system (i.e., the required course sequence)
5. Successful completion, where appropriate, of other required activities, including construction of the comprehensive examination list and the dissertation proposal and scheduling of comprehensive examinations

Doctoral Degree Candidacy

Students entering without an MA in history must complete 45 semester hours of coursework; pass the qualifying examination; and successfully defend a dissertation proposal by the end of the third year in the program. Students entering with an MA in history must complete 37 semester hours of coursework; pass the qualifying examination; and successfully defend a dissertation proposal by the end of the third year in the program. Upon completion of these requirements, students will be deemed PhD degree candidates by the college.

Program Requirements

Milestones

Qualifying examination
Annual review
Language
PhD candidacy
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
HIST 5102	Theory and Methodology 2	4
Digital History		
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	4
Readings or Directed Study		
Complete 20 semester hours in either Readings or Directed Study:		20
HIST 8982	Readings	
or HIST 7976	Directed Study	
Research Seminar		
HIST 7314	Research Seminar in World History	4
Practicum		
HIST 8409	Practicum in Teaching	1

Electives

Code	Title	Hours
Complete 8 semester hours from the following range:		8
HIST 7200 to HIST 7702		

Dissertation

Code	Title	Hours
Exam Preparation		
Only needed for PhD students who have completed all coursework but have not yet passed the comprehensive exam:		
HIST 8960	Exam Preparation—Doctoral	
Dissertation		
HIST 9990	Dissertation Term 1	
HIST 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of HIST 9990, registration in the following class is required in each semester (excluding summers) until the dissertation is completed:		
HIST 9996	Dissertation Continuation	

Program Credit/GPA Requirements

45 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Language
PhD Candidacy
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
HIST 5102	Theory and Methodology 2	4
Digital History		
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	4
Readings or Directed Study		
Complete 12 semester hours of either Readings or Directed Study:		12
HIST 8982	Readings	
or HIST 7976	Directed Study	
Research Seminar		
HIST 7314	Research Seminar in World History	4
Practicum		
HIST 8409	Practicum in Teaching	1

Electives

Code	Title	Hours
Complete 8 semester hours from the following range:		8
HIST 7200 to HIST 7702		

Dissertation

Code	Title	Hours
Exam Preparation		
Only needed for PhD students who have completed all coursework but have yet to pass the comprehensive exam. Not repeatable.		
HIST 8960	Exam Preparation—Doctoral	

Dissertation	
HIST 9990	Dissertation Term 1
HIST 9991	Dissertation Term 2
Dissertation Continuation	
Following completion of two semesters of HIST 9990, registration in the following class is required in each semester (excluding summers) until the dissertation is completed:	
HIST 9996	Dissertation Continuation

Program Credit/GPA Requirements

37 total semester hours required
Minimum 3.500 GPA required

History, MA

CSSH Graduate Programs General Regulations (p. 1041)

The Master of Arts in History offers two concentrations: public history and world history.

Public history encompasses the practice of history outside the academy in museums, state and local historical societies, archives, the National Park Service, and more. Public history includes the study of such topics as material culture, historical exhibits and museums, historical agencies, archival administration, and how difficult issues including slavery and site of violence are presented to the public.

World history focuses on the history of regions or peoples in Africa, Europe, Latin America, Asia, or the United States, with attention to the intersections and connections between national, regional, and global developments.

The master's program offers an optional cooperative education experience ("co-op") to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences as practicing public historians. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Academic Standing/Progress

Students are expected to maintain a 3.000 grade-point average (GPA). Should the GPA drop below 3.000, the student will be placed on academic probation and allowed one more semester to bring their GPA to the 3.000 level. If the student is not able to meet this requirement by the end of the following semester, the student may be asked to leave the program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

The Master of Arts in History offers two concentrations: world history (p. 1078) and public history (p. 1078). The program requires a concentration. Please consult with a Department of History graduate program director for additional details.

Concentration in World History

CORE REQUIREMENTS

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
HIST 5102	Theory and Methodology 2	4
Research Seminar		
HIST 7301 to HIST 7325		4

ELECTIVES

Code	Title	Hours
Complete 20 semester hours from the following:		20
HIST 5101 to HIST 5295		
HIST 7205 to HIST 7218		
HIST 7220 to HIST 7297		

Concentration in Public History

CORE REQUIREMENTS

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
Public History		
HIST 5237	Issues and Methods in Public History	4
Digital History		
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	4
Fieldwork		
Complete the following (repeatable) course twice:		4
HIST 8410	Fieldwork in History 1	

Research Seminar	
Complete 4 semester hours from the following:	4
HIST 7301 to HIST 7325	
HIST 5000 to 5900	

ELECTIVES

Code	Title	Hours
Complete 12 semester hours from the following:		12
HIST 5238 to HIST 5248		
HIST 5295 to HIST 6966		
HIST 7201 to HIST 7297		

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration. Each of the following courses must be taken twice.		2
HIST 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

Public History, Graduate Certificate

The Graduate Certificate in Public History allows students to pursue an organized course of study in public history. Students have an opportunity to gain a knowledge of core methods and issues in the field of public history and are enabled to use public history approaches in their own research and work.

Public history is a well-established field of practice that marries academic research and methods to public applications and collaborations. Public historians typically work in museums, archives, historical societies, documentary film production, and social activism, though training in public history is useful to a wide variety of humanistic, social science, and legal fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Issues and Methods		
HIST 5237	Issues and Methods in Public History	4
Fieldwork		
Complete the following (repeatable) course twice:		4
HIST 8410	Fieldwork in History 1	

Elective

Code	Title	Hours
Complete one of the following:		4
HIST 5241	Exhibits and Museums	
HIST 7219	Topics in Cultural History	
HIST 7250	Topics in Public History (Sites of Violence and Public Memory)	
HIST 7250	Topics in Public History (Public History and Slavery)	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Political Science

Website (https://cssh.northeastern.edu/polisci/)

Costas Panagopoulos, PhD
Professor and Chair
c.panagopoulos@northeastern.edu (c.panagopoulos@northeastern.edu)

Program Directors and Staff Members (https://cssh.northeastern.edu/polisci/staff-and-department-leadership/)

CSSH Graduate Programs General Regulations (p. 1041)

Graduate training in political science prepares students to analyze important issues in world affairs and succeed in a wide array of careers—from government and academia to the nonprofit and private sectors. Graduate programs in political science, public policy, public administration, security and resilience studies, and international affairs at Northeastern University explore the theory and practice of politics, public policy, and public management in the United States and throughout the world. In teaching and research, faculty members in the department cover a broad range of topics and issues in the field of political science. Core areas of inquiry within our department include national and international security, international and U.S. public policy, resilience, network science, European studies, Middle East studies, and democratization and development.

Programs

Doctor of Philosophy (PhD)

- Political Science (p. 1082)

Master of Arts (MA)

- Political Science (p. 1085)

Master of Science (MS)

- Security and Resilience Studies (p. 1088)

Graduate Certificate

- Security and Resilience Studies (p. 1091)

Political Science, PhD

The Doctor of Philosophy in Political Science is grounded in the core fields of the discipline—American government and politics, comparative politics, international relations, and public policy. Students identify a primary and secondary field as areas of emphasis. The curriculum introduces students to the core fields and also seeks to develop their research skills through a series of methods courses. Students may develop a traditional, academic focus in one of the fields, or they may combine it with public policy to highlight a policy orientation. The program focuses on preparing students to be academic scholars and teachers as well as practitioners in research and public service. The PhD degree includes completion of required courses, passing a written and oral comprehensive examination, and the successful defense of the dissertation before a faculty committee.

Credit Requirements and Advanced Standing

Students entering with a bachelor's degree must complete 56 semester hours. Students currently in the MA or MPA program and accepted into the PhD program before completing the MA or MPA must complete 56 semester hours as well as all curriculum requirements of the PhD program.

Students entering with a master's degree may receive advanced standing for relevant prior coursework but must complete a minimum of 40 semester hours. Students entering with a Northeastern MA in political science or international affairs must complete a minimum of 24 semester hours while also satisfying all PhD course requirements. Master's-level coursework that results in advanced standing is evaluated by the graduate program director to determine its applicability to the PhD curriculum.

Doctoral Degree Candidacy

Doctoral degree candidacy is attained after successfully completing all coursework, the comprehensive examination, and the dissertation proposal defense.

Academic Standing/Progress

All doctoral students must maintain an overall cumulative grade-point average (GPA) of 3.500 while making progress toward the degree requirements. Students who fall below any applicable standard for two consecutive semesters are subject to dismissal from the graduate program. Additionally, receipt of financial support administered by the department, college, or university is contingent on satisfactory academic progress toward the degree and specific guidelines as published in the terms of award. Students who have ungraded courses or courses graded as incomplete risk no longer being eligible for financial aid awards.

Language Proficiency

Students who conduct research in a language other than English must demonstrate proficiency as necessary for completion of the dissertation. Language courses do not count as electives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
Dissertation proposal oral defense
Language (as determined by committee)
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Seminars		
Complete 12 semester hours from the following (complete both field seminars in the two areas in which you wish to take the comprehensive exams):		12
POLS 7204	Seminar in Public Policy	
POLS 7205	Seminar in American Government and Politics	
POLS 7206	Seminar in Comparative Politics	
POLS 7207	Seminar in International Relations	
Inquiry and Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
INSH 6500	Statistical Analysis	4

INSH 7400	Quantitative Analysis	4
Advanced methods courses from other disciplines may be chosen in consultation with your faculty advisor.		

Electives

Courses from other disciplines may be chosen in consultation with your faculty advisor.

Code	Title	Hours
Complete 32 semester hours in the following:		32
POLS 7200 to POLS 7990		

Dissertation

Code	Title	Hours
Exam Preparation		
POLS 8960	Exam Preparation—Doctoral (Only required for PhD students who have completed coursework but have yet to complete the comprehensive exam. Required for students who must maintain full-time status while completing thesis or comprehensive exam.)	
Research		
POLS 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	
Dissertation		
POLS 9990	Dissertation Term 1	
POLS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of POLS 9990 and POLS 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in the summer) until the dissertation is completed:		
POLS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

56 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
Dissertation proposal oral defense
Language (as determined by committee)
PhD candidacy
Dissertation defense

Core Requirements

Consult the graduate program director regarding which major-required courses apply to your individual plan of study.

Code	Title	Hours
Seminar		
Complete 12 semester hours from the following: [1]		12
POLS 7204	Seminar in Public Policy	
POLS 7205	Seminar in American Government and Politics	
POLS 7206	Seminar in Comparative Politics	
POLS 7207	Seminar in International Relations	
Inquiry and Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
INSH 6500	Statistical Analysis	4

or INSH 7400	Quantitative Analysis	
INSH 7500	Advanced Quantitative Analysis	4
Advanced methods courses from other disciplines may be chosen in consultation with your faculty adviser.		

Electives

Code	Title	Hours
Complete 0-16 semester hours in the following. Courses from other disciplines may be chosen in consultation with your faculty adviser.		0-16
POLS 7200 to POLS 7990		

Dissertation

Code	Title	Hours
Exam Preparation		
POLS 8960	Exam Preparation—Doctoral (Only required for PhD students who have completed coursework but have yet to complete the comprehensive exam.)	0
Research		
POLS 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	0
Dissertation		
POLS 9990	Dissertation Term 1	
POLS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of POLS 9990 and POLS 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
POLS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

24-40 total semester hours required
Minimum 3.500 GPA required

[1] You must complete both field seminars in the two areas you wish to take the comprehensive exams in.

Political Science, MA

Graduate Studies in Political Science
617.373.4404
gradpolisci@northeastern.edu

CSSH Graduate Programs General Regulations (p. 1041)

The Master of Arts program focuses on the core scholarly areas of political science. Students specialize in one of five concentration areas: American government and politics, comparative government and politics, international relations, public policy, and security studies. Courses in the MA program serve as a foundation for work in a doctoral program or as preparation for careers in government, nonprofit organizations, or related work in the private sector.

To earn the Master of Arts in Political Science degree at Northeastern, you must successfully complete 32 semester hours (typically eight courses) of credit. Full-time students can expect to complete the degree within two academic years. Course work consists of 4 semester hours in a required statistics course, 12 semester hours within a chosen concentration, and 16 semester hours of electives (including the experiential education requirement). To see the full breakdown, click the Program Requirements tab above.

Academic Standing/Progress

Satisfactory progress in the MA program includes maintaining a grade-point average (GPA) of 3.000 overall as well as in the student's concentration area. A final cumulative GPA of at least 3.000 in all course work is required to qualify for the Master of Arts degree. Any course in which a student earns lower than a C grade cannot be used to fulfill concentration area requirements. A student who fails to make satisfactory progress is placed on academic probation, which is a warning that the student may not be allowed to continue in the graduate program unless the deficiency is addressed.

Experiential Learning Requirement

In addition to in-class course work, students are required to complete an experiential education component that advances their learning, research, and/or career objectives. Experiential education offers MA students a direct experience with focused reflection relevant to their academic studies. For students with research interests, the experience focuses on related activities, such as primary source analysis and data gathering. For other students, the experience involves engagement with areas of practice and policy, such as an internship. Students register for the relevant course with a minimum of 4 semester hours and maximum of 8 semester hours to satisfy the experiential education requirement.

An optional cooperative education experience (co-op) can also satisfy the experiential education requirement. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities Experiential Liberal Arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
Methods Course		
Complete 4 SH from the list below.		4
CS 6220	Data Mining Techniques	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	

Concentrations

- American Government and Politics (p. 1085)
- Comparative Politics (p. 1086)
- International Relations (p. 1086)
- Public Policy (p. 1086)
- Security Studies (p. 1087)

AMERICAN GOVERNMENT AND POLITICS CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7205	Seminar in American Government and Politics	4

American Government Courses		
Complete 8 semester hours from the following:		8
POLS 7341	Security and Resilience Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5240	Health Policy and Politics	
PPUA 5245	Education Policy in the United States	
PPUA 5270	Food Systems and Public Policy	
PPUA 6220	How Healthcare Works: Business and Policy Innovations	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6522	Administrative Ethics and Public Management	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	

COMPARATIVE POLITICS CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7206	Seminar in Comparative Politics	4
Comparative Politics Courses		
Complete 8 semester hours from the following:		8
POLS 7325	Contemporary Issues in Third World Development	
POLS 7346	Resilient Cities	
or PPUA 7346	Resilient Cities	
POLS 7366	Genocide in a Comparative Perspective	
POLS 7376	Government and Politics of the Middle East	
PPUA 5240	Health Policy and Politics	
PPUA 5266	Urban Theory and Science	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	

INTERNATIONAL RELATIONS CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7207	Seminar in International Relations	4
International Relations Courses		
Complete 8 semester hours from the following:		8
POLS 7341	Security and Resilience Policy	
POLS 7343	Counterterrorism	
POLS 7344	Hard Power, Soft Power, and Smart Power	
POLS 7369	International Security	
POLS 7387	Global Governance	
POLS 7441	Cyberconflict	

PUBLIC POLICY CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7204	Seminar in Public Policy	4
or PPUA 6506	Techniques of Policy Analysis	
Public Policy Courses		
Complete 8 semester hours from the following:		8
POLS 7341	Security and Resilience Policy	
PPUA 5240	Health Policy and Politics	
PPUA 5245	Education Policy in the United States	

PPUA 6500	Principles of Public Administration
PPUA 6506	Techniques of Policy Analysis
PPUA 6507	Institutional Leadership and the Public Manager
PPUA 6509	Techniques of Program Evaluation
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs

SECURITY STUDIES CONCENTRATION

Code	Title	Hours
Seminar		
Security Studies Courses		
POLS 7341	Security and Resilience Policy	4
Complete 8 semester hours from the following:		8
POLS 7207	Seminar in International Relations	
POLS 7343 to POLS 7346		
POLS 7366	Genocide in a Comparative Perspective	
POLS 7369	International Security	
POLS 7376	Government and Politics of the Middle East	
POLS 7387	Global Governance	

Electives

Code	Title	Hours
Complete 12 semester hours in the following range:		12
POLS 5408 to POLS 7976		

Experiential Learning Component [1]

Code	Title	Hours
Complete 4 semester hours from the following:		4
POLS 7980	Capstone Project	
POLS 7976	Directed Study	
POLS 7990	Thesis	
POLS 8407	Internship	

Optional Co-op Experience

Code	Title	Hours
Complete two consecutive semesters of Co-op Work Experience and Experiential Integration: Each of the following courses must be taken twice.		2
POLS 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

[1] Students who decide to fulfill the Experiential Learning Requirement with the optional Co-op, will enroll in one additional elective course and graduate with 34 semester hours instead of 32.

Security and Resilience Studies, MS

Overview

Security and resilience studies is an emerging field of inquiry that focuses on how global, national, and subnational actors manage a range of chronic transnational challenges—such as terrorism, organized crime, weapons proliferation, cyberattacks, bioterrorism, climate change and catastrophic disasters, migration, and radicalization—that can be destabilizing to societies. It explores how strategic doctrines, organization processes, bureaucratic behaviors, and security tools and tactics are adapting to these challenges by placing greater emphasis on resilience. Resilience is a concept rooted in multiple disciplines that is gaining widespread currency at the community, societal, and global levels given the prevalence of human-made and naturally occurring threats that do not lend themselves to preventive and protective measures. Strategies for dealing with these threats emphasize measures that mitigate, respond to, recover from, and adapt to risk in order to safeguard essential functions and societal values. Many of these measures involve the role of technologies, system design, and engineering as well as policy, regulatory, and governance issues. Students at Northeastern who enroll in the Master of Science in Security and Resilience Studies have an opportunity to become prepared to inform and support domestic and international efforts to deal with the major sources of turbulence in the 21st century.

The master's program offers an optional cooperative education experience (co-op) to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

To earn the Master of Science in Security and Resilience Studies degree at Northeastern, you must successfully complete 32 semester hours (34 semester hours with co-op). Full-time students can expect to complete the degree within one calendar year. This program can be completed either at Northeastern University's Boston campus or online. Cost per semester hour may vary based on the college that offers the course. See Tuition and Fees (p. 40) for more information.

Academic Standing/Progress

Satisfactory progress in the MS program includes maintaining a minimum grade-point average of 3.000.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core Courses		
POLS 7341	Security and Resilience Policy [1]	4
Research Method		
INSH 6300	Research Methods in the Social Sciences	4
or INSH 6500	Statistical Analysis	
or PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
Core Elective Courses		
Complete 8 semester hours from the following:		8
CRIM 6200	Criminology [1]	
CY 5010	Foundations of Information Assurance [1]	
POLS 7343	Counterterrorism	
POLS 7346	Resilient Cities	
or PPUA 7346	Resilient Cities	
POLS 7369	International Security	
or POLS 5408	International Security	
POLS 7441	Cyberconflict	
PPUA 5390	Special Topics in Public Policy and Urban Affairs [1]	

Capstone

Code	Title	Hours
Choose one of the following options in consultation with faculty advisor and program director:		4
POLS 7980	Capstone Project [1]	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	

Electives

Electives are organized by themes to allow students to think thematically.

Code	Title	Hours
Complete 12 semester hours from any combination of the following elective themes:		12

- Administration, Management, and Policy (p. 1089)
- Counterterrorism and Conflict Studies (p. 1089)
- Criminal Justice (p.)
- Cybersecurity Policy (p. 1089)
- Resilient Cities (p. 1089)

ADMINISTRATION, MANAGEMENT, AND POLICY

Code	Title	Hours
CRIM 6202	The Criminal Justice Process	
POLS 7387	Global Governance	
POLS 7704	Critical Infrastructure Resilience [1]	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6503	Managing People in Public and Nonprofit Sectors [1]	
PPUA 6505	Public Budgeting and Financial Management [1]	
PPUA 6506	Techniques of Policy Analysis [1]	
PPUA 6507	Institutional Leadership and the Public Manager [1]	

COUNTERTERRORISM AND CONFLICT STUDIES

Code	Title	Hours
CRIM 5201	Global Criminology	
POLS 7343	Counterterrorism	
POLS 7344	Hard Power, Soft Power, and Smart Power	
POLS 7366	Genocide in a Comparative Perspective	
POLS 7369	International Security	
or POLS 5408	International Security	

CRIMINAL JUSTICE

Code	Title	Hours
CRIM 5201	Global Criminology	
CRIM 6200	Criminology [1]	
CRIM 6202	The Criminal Justice Process	
CRIM 6262	Evidence-Based Crime Policy	

CYBERSECURITY POLICY

Code	Title	Hours
CY 5001	Cyberspace Technology and Applications	
CY 5010	Foundations of Information Assurance	
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
POLS 7441	Cyberconflict [1]	

RESILIENT CITIES

Code	Title	Hours
CRIM 6200	Criminology	
CRIM 6262	Evidence-Based Crime Policy	
CRIM 6270	Crime and Community Context	

LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7346	Resilient Cities
or PPUA 7346	Resilient Cities
POLS 7704	Critical Infrastructure Resilience [1]
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities [1]
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 7237	Advanced Spatial Analysis of Urban Systems

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms.		1-2
POLS 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours (33-34 with optional co-op) required
Minimum 3.000 GPA required

[1] Occasional online offering

Security and Resilience Studies, Graduate Certificate

The goal of the Graduate Certificate in Security and Resilience Studies is to prepare students to manage contemporary transnational risks by offering them an opportunity to gain a comprehensive understanding of the principles and policies for security and resilience of critical systems. This goal is achieved by:

- Passing a core course in security and resilience policy that introduces students to a comprehensive approach to managing transnational risks
- Passing recommended foundation courses for cyberspace policy, security administration, and counterterrorism specializations that provide a broad perspective on transnational threats and the means states use to address them
- Learning how to work with others in groups and exercise leadership in teams by completing group assignments and projects

The certificate requires students to take three courses for a total of 12 semester hours. This program can be completed at Northeastern University's Boston campus or online.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
POLS 7341	Security and Resilience Policy	4

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
CRIM 6200	Criminology	
POLS 7343	Counterterrorism	
POLS 7346	Resilient Cities	
POLS 7369	International Security	
or POLS 5408	International Security	
POLS 7441	Cyberconflict	
PPUA 5390	Special Topics in Public Policy and Urban Affairs	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

School of Public Policy and Urban Affairs

Website (https://cssh.northeastern.edu/policyschool/)

Maria Ivanova, PhD
Director, School of Public Policy and Urban Affairs
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617.373.8900
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The School of Public Policy and Urban Affairs is nationally and internationally recognized for excellence and innovation in policy-oriented education, applied research, and engagement. Our mission is to educate professional master's and doctoral students who are sought after as policy analysts, program evaluators, and leaders of nonprofit, public, private sector, and academic institutions; to create and disseminate policy-relevant knowledge and analytical methods of value to policymakers and the public; and to serve the broader community through policy analysis and technical assistance.

The school is committed to excellence in research and education on pressing and emerging policy issues of the day—public health, climate change, environmental challenges, the court and justice systems, and creating sustainable and resilient cities that provide economic opportunity for their residents. We define our approach as locally informed and internationally relevant. Our hallmark is to engage students in building the world that they would like to live in through experiential learning opportunities and applied research.

Programs

Doctor of Philosophy (PhD)

- Public Policy (p. 1093)

Master of Arts (MA)

- International Affairs (p. 1098)

Master of Public Administration (MPA)

- Public Administration (p. 1100)

Master of Public Policy (MPP)

- Public Policy (p. 1103)

Master of Science (MS)

- Engineering and Public Policy (p. 387)
- Environmental Science and Policy (p. 985)
- Urban Informatics (p. 1111)
- Urban Planning and Policy (p. 163)

Dual Degree

- Law, JD / Public Policy, MPP (p. 781)

Graduate Certificates

- Nonprofit Sector, Philanthropy, and Social Change (p. 1120)
- Public Policy Analysis (p. 1121)
- Sustainability and Climate Change Policy (p. 1122)
- Urban Analytics
- Urban Studies (p. 1124)

Public Policy, PhD

Website (https://cssh.northeastern.edu/policyschool/)

CSSH Graduate Programs General Regulations (p. 1041)

The PhD in Public Policy is an interdisciplinary program that combines social science and legal theoretical perspectives with quantitative and qualitative research methodologies. The faculty in the School of Public Policy and Urban Affairs support students' research and dissertations in three broad areas of inquiry—urban and regional policy, sustainability and resilience, and health management and policy. Students work with faculty advisors to formulate a plan of study within their field of concentration by choosing from graduate programs offered in the School of Public Policy and Urban Affairs, the College of Social Sciences and Humanities, and in other colleges and schools at Northeastern University. Students study a common body of knowledge in core courses in policy theory, research methods, and statistics, followed by courses in each student's respective concentration. The school's research centers and faculty research projects provide opportunities for students to develop insight, experience, and synergies to help with their own research goals. The college and school offer a high level of support allowing all students to be devoted full time to their studies and research. The program is full time and in residence only.

Doctoral Degree Candidacy

Complete all required coursework with a minimum 3.500 grade-point average, pass the comprehensive examinations, and defend a dissertation proposal. Students entering without a JD or master's degree must complete 55 semester hours. Students entering with a JD or master's degree must complete 47 semester hours.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

A grade of B+ or higher is required in each course.

Code	Title	Hours
Seminar		
POLS 7204	Seminar in Public Policy	4
Complete the following two courses for a minimum of 4 semester hours total:		4
PPUA 7976	Directed Study	
PPUA 9984	Research	
Research and Statistical Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6302	Qualitative Methods	4
INSH 7400	Quantitative Analysis	4
Advanced Methods		
Complete one of the following (an additional concentration elective may be taken in lieu of the advanced methods elective):		4
INSH 7500	Advanced Quantitative Analysis	
or INSH 7600	Multilevel Theorizing and Analysis	

Experiential Research Residency

A PhD research residency or waiver is required.

Code	Title	Hours
PPUA 9980	Experiential PhD Research Residency	0

Concentrations

Complete one of the following concentrations:

- Health Policy and Management (p. 1094)
- Sustainability and Resilience (p. 1094)
- Urban and Regional Policy (p. 1095)

Exam and Dissertation

Code	Title	Hours
Exam Prep		
Only needed for PhD students who have completed all coursework but have not yet passed the comprehensive exam/proposal defense. Repeatable.		
PPUA 8960	Exam Preparation—Doctoral	
Dissertation		
PPUA 9990	Dissertation Term 1	
PPUA 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of dissertation (PPUA 9990 and PPUA 9991), registration in the following class is required in each semester (including summer if the dissertation is submitted in summer) until the dissertation is completed:		
PPUA 9996	Dissertation Continuation	

Program Credit/GPA Requirements

55 total semester hours required
Minimum 3.500 GPA required

HEALTH POLICY AND MANAGEMENT CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6220	How Healthcare Works: Business and Policy Innovations	4
Health Organization		
HRMG 6220	Health Organization Management	3
Business Elective		
Complete 3 semester hours from the following:		3
FINA 6220	Healthcare Finance	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	
Law Requirement		
LW 7335	Health Law	3
Electives		
Complete a minimum of 18 semester hours from the following:		18
ECON 7200	Topics in Applied Economics	
LPSC 7311	Strategizing Public Policy	
PPUA 5240	Health Policy and Politics	
PPUA 6509	Techniques of Program Evaluation	
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	
PHTH 6000–9999 (public health elective, by advisement)		

SUSTAINABILITY AND RESILIENCE CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6101	Environmental Science and Policy Seminar 1	4
Law Requirement		
LW 7329	Environmental Law	3
Electives		
Complete 24 semester hours from the following:		24
CIVE 7110	Critical Infrastructure Resilience	
LPSC 7311	Strategizing Public Policy	

LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7341	Security and Resilience Policy
POLS 7704	Critical Infrastructure Resilience
PPUA 6509	Techniques of Program Evaluation
PPUA 7237	Advanced Spatial Analysis of Urban Systems
PPUA 7346	Resilient Cities
PPUA 7976	Directed Study
SOCL 7267	Environment, Health, and Society

URBAN AND REGIONAL POLICY CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 7521	Seminar in Urban Theory	4
Law Requirement		
Consult an advisor when selecting courses from the following:		3
LW 6000–9999		
Electives		
Complete 24 semester hours from the following:		24
ARCH 5210	Environmental Systems	
CRIM 6270	Crime and Community Context	
ECON 7240	Workshop in Applied Econometrics	
ECON 7250	International Economic Development	
ECON 7261	Urban Economic Development	
ECON 7266	Economics of Government	
ECON 7270	Economics of Law and Regulation	
ECON 7740	Applied Econometrics 2	
ECON 7763	Labor Market Analysis	
LPSC 7311	Strategizing Public Policy	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
PPUA 7976	Directed Study	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

A grade of B+ or higher is required in each course.

Code	Title	Hours
Seminar		
POLS 7204	Seminar in Public Policy	4
Complete the following two courses for a minimum of 4 semester hours total:		4
PPUA 7976	Directed Study	

PPUA 9984	Research	
Research and Statistical Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6302	Qualitative Methods	4
INSH 7400	Quantitative Analysis	4
Advanced Methods		
Complete one of the following (an additional concentration elective may be taken in lieu of the advanced methods elective):		4
INSH 7500	Advanced Quantitative Analysis	
or INSH 7600	Multilevel Theorizing and Analysis	

Experiential Research Residency

A PhD research residency or waiver is required.

Code	Title	Hours
PPUA 9980	Experiential PhD Research Residency	0

Concentrations

Complete one of the following concentrations:

- Health Policy and Management (p. 1094)
- Sustainability and Resilience (p. 1094)
- Urban and Regional Policy (p. 1095)

Exam and Dissertation

Code	Title	Hours
Exam Prep		
Only required for students who have completed PhD coursework but have yet to complete the comprehensive exam/proposal defense. Repeatable.		
PPUA 8960	Exam Preparation—Doctoral	
Dissertation		
PPUA 9990	Dissertation Term 1	
PPUA 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of PPUA 9990 and PPUA 9991, registration in the following class is required in each semester (including summer if the dissertation is submitted in summer) until the dissertation is completed:		
PPUA 9996	Dissertation Continuation	

Program Credit/GPA Requirements

47 total semester hours required
Minimum 3.500 GPA required

HEALTH POLICY AND MANAGEMENT CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6220	How Healthcare Works: Business and Policy Innovations	4
Health Organization		
HRMG 6220	Health Organization Management	3
Business Elective		
Complete 3 semester hours from the following:		3
FINA 6220	Healthcare Finance	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	
Law Requirement		
LW 7335	Health Law	3
Electives		
Complete a minimum of 10 semester hours from the following:		10

ECON 7200	Topics in Applied Economics
LPSC 7311	Strategizing Public Policy
PPUA 5240	Health Policy and Politics
PPUA 6509	Techniques of Program Evaluation
SOCL 7267	Environment, Health, and Society
SOCL 7287	Social Movements in Health
PHTH 6000 to PHTH 9999 (public health elective, by advisement)	

SUSTAINABILITY AND RESILIENCE CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6101	Environmental Science and Policy Seminar 1	4
Law Requirement		
LW 7329	Environmental Law	3
Electives		
Complete 16 semester hours from the following:		16
CIVE 7110	Critical Infrastructure Resilience	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
POLS 7341	Security and Resilience Policy	
POLS 7704	Critical Infrastructure Resilience	
PPUA 6509	Techniques of Program Evaluation	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
PPUA 7346	Resilient Cities	
PPUA 7976	Directed Study	
SOCL 7267	Environment, Health, and Society	

URBAN AND REGIONAL POLICY CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 7521	Seminar in Urban Theory	4
Law Requirement		
Consult an advisor when selecting courses from the following:		3
LW 6000 to LW 9999		
Electives		
Complete 16 semester hours from the following:		16
ARCH 5210	Environmental Systems	
CRIM 6270	Crime and Community Context	
ECON 7240	Workshop in Applied Econometrics	
ECON 7250	International Economic Development	
ECON 7261	Urban Economic Development	
ECON 7266	Economics of Government	
ECON 7270	Economics of Law and Regulation	
ECON 7740	Applied Econometrics 2	
ECON 7763	Labor Market Analysis	
LPSC 7311	Strategizing Public Policy	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	
PPUA 6509	Techniques of Program Evaluation	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
PPUA 7976	Directed Study	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	

International Affairs, MA

School of Public Policy and Urban Affairs (https://cssh.northeastern.edu/policyschool/)

We live in an increasingly interconnected global environment where people, goods, ideas, and conflicts traverse borders with rising frequency. Leaders in the activist, policy, and academic spheres must learn not only how to critically analyze these phenomena but also to envisage harnessing their constructive potential. The Master of Arts in International Affairs is an interdisciplinary graduate program dedicated to preparing tomorrow's global citizens.

A holistic approach to enhancing our understanding of the world must span the limits of any one academic field and embrace cross-disciplinary analytical competencies. Spanning several social sciences and humanities, our courses are taught by leading scholars who research democratization, gender, globalization, ethnic conflict and cooperation, human rights and international law, international relations, social activism, social justice, and many other topics. Through its core courses, its two thematic emphases—globalization, development, and social justice and international public policy—as well as global, policy, and methodological electives, this graduate program allows students to pursue a variety of themes.

The master's program offers an optional cooperative education experience ("co-op") to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Please review the tuition and fee (p. 31) page as credit costs differ depending on the College in which the course is located.

Sustainability and Climate Change Policy Concentration

This graduate concentration is available to students in the Master of International Affairs (MIAF) program in the College of Social Sciences and Humanities. It is designed to enable MIAF students to develop deeper insights into the policy dimensions of these intertwined but conceptually distinct realms of inquiry and action, and in both domestic and international domains. The concentration is comprised of three courses.

CSSH Graduate Programs General Regulations (p. 1041)

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Political Economy		
Complete 8 semester hours from the following:		8
POLS 7387	Global Governance	
PPUA 5268	International Environmental Policy	
SOCL 7221	Globalization, Development, and Social Justice	
Social Science Methods		
Complete 4 semester hours from the following:		4
ECON 5110	Microeconomic Theory	
ECON 5120	Macroeconomic Theory	
ECON 7251	International Finance	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
INSH 6302	Qualitative Methods	
Public Policy		
Complete 4 semester hours from the following:		4
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6507	Institutional Leadership and the Public Manager	

PPUA 6509	Techniques of Program Evaluation
PPUA 6551	Nonprofit Organizations and Social Change

Concentration Option or Elective Option

SUSTAINABILITY AND CLIMATE CHANGE POLICY CONCENTRATION

Code	Title	Hours
Complete 12 semester hours from the following course list:		12
ENVR 6150	Food Security and Sustainability	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5100	Climate and Development	
PPUA 5231	Transportation Policy	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5249	Sustainable Urban Coastal Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	
PPUA 6101	Environmental Science and Policy Seminar 1	
Complete 8 semester hours of elective courses from the list below:		8

ELECTIVES OPTION

Selected in consultation with faculty advisor.

Code	Title	Hours
Complete 20 semester hours from the following list of courses:		20
INTL 7990	Thesis	
LPSC 5000 to LPSC 7999		
PPUA 5000 to PPUA 7999		
CRIM 5000 to CRIM 7999 (by advisement only)		
ECON 5000 to ECON 7999 (by advisement only)		
ENGL 5000 to ENGL 7999 (by advisement only)		
HIST 5000 to HIST 7999 (by advisement only)		
POLS 5000 to POLS 7999 (by advisement only)		
SOCL 5000 to SOCL 7999 (by advisement only)		

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration. Each of the following courses must be taken twice.		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

36 total semester hours required (38 with optional co-op)
Minimum 3.000 GPA required

Public Administration, MPA

Website (https://publicaffairs.northeastern.edu/master-of-public-administration/)

CSSH Graduate Programs General Regulations (https://www.northeastern.edu/cssh/graduate/current_students/)

The Master of Public Administration is the management and leadership degree for those seeking to serve the public good. The program seeks to equip its students with skills in policy analysis, program evaluation, research methods, and written and verbal communications.

Students have an opportunity to develop competencies in budgeting and human resources, organizational management and leadership, and the interplay between ethics and accountability in a diverse society.

Throughout the degree program, students gain career-oriented experience through internships, small group projects, and other interactions with professionals in the field. These experiences are designed to enable the Northeastern University MPA graduate to move into a wide array of public and nonprofit sector positions at the local, state, national, and international levels. The Northeastern MPA program is nationally accredited by NASPAA.

Mission Statement

The mission of the MPA program at Northeastern is to serve the needs of the public affairs community, including students, working professionals, faculty, and researchers, by providing a practice-oriented and research-based graduate educational experience. The faculty pledges the best instruction available in a set of courses designed to integrate theoretical foundations with practical skills. The MPA program is designed to prepare students to be effective in a dynamic and increasingly diverse professional environment. We also commit ourselves to assisting students in every possible way to secure internships, postgraduate employment, and overall career advancement. Students, in turn, are expected to meet high levels of academic excellence combined with ethical and professional integrity. Committed to the ideals of public service and advancing the public interest, we seek students who share the same enthusiasm.

The MPA program requires all students to pursue an internship experience and offers an optional cooperative education experience to eligible students. Co-op is central to both the Northeastern experience and to the experiential liberal arts framework of the College of Social Sciences and Humanities. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States.

Healthcare Management and Policy Concentration

This graduate concentration is available to students in the MPA program in the School of Public Policy and Urban Affairs. It is designed to enable students in the MPA program to develop a deeper understanding of the contemporary healthcare sector, including the intricacies of U.S. health policy, and competencies in healthcare management. The concentration is comprised of three courses, one from each of three focus areas, and an elective.

Please review the tuition and fees (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/) page as credit costs differ depending on the college that offers the course.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose cumulative GPA falls below 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A cumulative 3.000 grade-point average is required for the core requirements.

Code	Title	Hours
Quantitative Techniques		
INSH 6500	Statistical Analysis	4
Analysis		
PPUA 6506	Techniques of Policy Analysis	4
PPUA 6502	Economic Analysis for Policy and Planning	4
Administration and Management		
PPUA 6500	Principles of Public Administration	4
PPUA 6505	Public Budgeting and Financial Management	4
PPUA 6507	Institutional Leadership and the Public Manager	4
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4

Internship Requirement

Code	Title	Hours
PPUA 6861	Internship	0

Concentration or Electives Option

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration.

- Healthcare Management and Policy Concentration (p. 1101)
- Electives Option (p. 1101)

Optional Co-op Experience

Code	Title	Hours
Both of the following courses must be taken during each co-op semester:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

40 total semester hours required (42 with optional co-op)
Minimum 3.000 GPA

HEALTHCARE MANAGEMENT AND POLICY CONCENTRATION

Code	Title	Hours
Health Management		
Complete one of the following:		3-4
HRMG 6220	Health Organization Management	
PPUA 6220	How Healthcare Works: Business and Policy Innovations	
STRT 6220	Strategic Management for Healthcare Organizations	
Health Policy		
Complete one of the following:		3-4
PHTH 5212	Public Health Administration and Policy	
PHTH 5234	Economic Perspectives on Health Policy	
PPUA 5240	Health Policy and Politics	
Electives		
Health Elective		
Complete one of the following:		3
PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
General Elective		
Complete an additional course from the health elective list above or one of the following:		2-3
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	

ELECTIVES OPTION

Code	Title	Hours
Complete 12 semester hours from the following:		12
LPSC 5000 to LPSC 7999		
PPUA 5000 to PPUA 7999		
CRIM 5000 to CRIM 7999 (by advisement only)		
ECON 5000 to ECON 7999 (by advisement only)		
ENGL 5000 to ENGL 7999 (by advisement only)		
HIST 5000 to HIST 7999 (by advisement only)		

POLS 5000 to POLS 7999 (by advisement only)

SOCL 5000 to SOCL 7999 (by advisement only)

Public Policy, MPP

School of Public Policy and Urban Affairs (https://cssh.northeastern.edu/policyschool/)

CSSH Graduate Programs General Regulations (p. 1041)

The Master of Public Policy is the recognized industry standard for those seeking careers in public policy analysis and design. The MPP degree emphasizes the analysis of data and other relevant information to enable graduates to assess public problems, develop appropriate policy responses, and evaluate program effectiveness. MPP graduates enter careers as policy analysts, researchers, consultants, program evaluators, and policymakers in a broad range of public and nonprofit settings, ranging from the local to the international, and in the private sector. At Northeastern, the MPP joins the nationally accredited Master of Public Administration as well as our Master of Science in Urban Planning and Policy, Master of Science in Urban Informatics, Master of Science in Environmental Science and Policy, and Master of Arts in International Affairs. As such, MPP students are part of a larger School of Public Policy and Urban Affairs community of great intellectual and policy area diversity.

The MPP programs require all students to engage in an internship experience and offer an optional cooperative education experience to eligible students. Cooperative education is central to both the Northeastern experience and to the experiential liberal arts framework of the College of Social Sciences and Humanities. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States.

Healthcare Management and Policy Concentration

This graduate concentration is available to students in the MPP program in the School of Public Policy and Urban Affairs. It is designed to enable students in the MPP program to develop a deeper understanding of the contemporary healthcare sector, including the intricacies of U.S. health policy, and competencies in healthcare management. The concentration is comprised of three courses, one from each of three focus areas, and an elective.

Sustainability and Climate Change Policy Concentration

This graduate concentration is available to students in the MPP program in the College of Social Sciences and Humanities. It is designed to enable MPP students to develop deeper insights into the policy dimensions of these intertwined but conceptually distinct realms of inquiry and action, in both domestic and international domains. The concentration is comprised of three courses.

Please review the tuition and fees (p. 40) page as credit costs differ depending on the college the course is located in.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Methods, Statistics, and Applications Core		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4
PPUA 6509	Techniques of Program Evaluation	4
or PPUA 6506	Techniques of Policy Analysis	
Policy Frameworks and Practice Core		
LPSC 7311	Strategizing Public Policy	4
PPUA 6502	Economic Analysis for Policy and Planning	4
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Methods and Statistics Elective		
Complete 4 semester hours from the following:		4
INSH 7400	Quantitative Analysis	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	

Internship Requirement

Code	Title	Hours
PPUA 6861	Internship	0

Concentration or Electives Options

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration.

- Healthcare Management and Policy Concentration (p. 1104)
- Sustainability and Climate Change Policy Concentration (p. 1104)
- Electives Option (p. 1105)

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

40 total semester hours required (42 with optional co-op)
Minimum 3.000 GPA required

HEALTHCARE MANAGEMENT AND POLICY CONCENTRATION

Code	Title	Hours
Health Management		
Complete one of the following:		3-4
HRMG 6220	Health Organization Management	
PPUA 6220	How Healthcare Works: Business and Policy Innovations	
STRT 6220	Strategic Management for Healthcare Organizations	
Health Policy		
Complete one of the following:		3-4
PHTH 5212	Public Health Administration and Policy	
PHTH 5234	Economic Perspectives on Health Policy	
PPUA 5240	Health Policy and Politics	
Electives		
Health Elective		
Complete one of the following:		3
PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
General Elective		
Complete an additional course from the health elective list above or one of the following:		2-3
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	

SUSTAINABILITY AND CLIMATE CHANGE POLICY CONCENTRATION

Code	Title	Hours
Complete 12 semester hours from the following:		12
ENVR 6150	Food Security and Sustainability	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5100	Climate and Development	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	

PPUA 5270	Food Systems and Public Policy
PPUA 6101	Environmental Science and Policy Seminar 1

ELECTIVES OPTION

Code	Title	Hours
Complete 12 semester hours from the following:		12
LPSC 5000 to LPSC 7999		
PPUA 5000 to PPUA 7999		
CRIM 5000 to CRIM 7999 (by advisement only)		
ECON 5000 to ECON 7999 (by advisement only)		
ENGL 5000 to ENGL 7999 (by advisement only)		
HIST 5000 to HIST 7999 (by advisement only)		
POLS 5000 to POLS 7999 (by advisement only)		
SOCL 5000 to SOCL 7999 (by advisement only)		

Engineering and Public Policy, MS

For program contact information, please visit the College of Engineering website (https://cee.northeastern.edu/academics/graduate-studies/ms-cepp/).

The purpose of this degree is to provide students with a background in engineering with the tools necessary to conduct robust policy analysis. It includes required core courses from the Department of Civil and Environmental Engineering and the School of Public Policy and Urban Affairs, complemented by electives in engineering and public policy, which can be met by two courses and a master's report (recommended), or by one course and a thesis, or by three courses. A minimum of 16 semester hours must be taken in the College of Engineering.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Engineering and Public Policy with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Engineering and Public Policy in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16 semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Sustainable Engineering and Systems Modeling Requirements

Code	Title	Hours
Complete 12 semester hours from the following:		12
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
or PPUA 5261	Dynamic Modeling for Environmental Decision Making	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 6777	Climate Hazards and Resilient Cities Abroad	
CIVE 6778	Climate Adaptation and Policy Abroad	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7155	Dynamics and Control of Infrastructure Systems	
CIVE 7272	Air Quality Management	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
ME 5645	Environmental Issues in Manufacturing and Product Use	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Public Policy and Analysis Requirements

Code	Title	Hours
Complete 8 semester hours from the following:		8
ECON 7266	Economics of Government	
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5260	Ecological Economics	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Elective Course List below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the Elective Course List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 4 semester hours from the Elective Course List below.		4

Elective Course List

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5670	Global Biogeochemistry	
CIVE 7230	Legal Aspects of Civil Engineering	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EMGT 6225	Economic Decision Making	
ENVR 5210	Environmental Planning	
ENVR 5260	Geographical Information Systems	
ENVR 6102	Environmental Science and Policy Seminar 2	
INSH 7400	Quantitative Analysis	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	

LPSC 7312	Cities, Sustainability, and Climate Change
PHTH 5214	Environmental Health
PHTH 5230	Global Health
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5268	International Environmental Policy
PPUA 5270	Food Systems and Public Policy
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 7346	Resilient Cities

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Environmental Science and Policy, MS

The Master of Science in Environmental Science and Policy program emphasizes a broadly interdisciplinary and synthetic approach that integrates knowledge in the environmental sciences (conservation biology, climate change, fisheries science, ecosystem function, biodiversity, restoration ecology) with the social sciences (policy, economics, sociology, political science, and development) and humanities (environmental history, philosophy, and ethics). The goal of the program is to equip professionals with substantive breadth in knowledge and skills at the intersection of environmental science and policy. The program focuses on training students to think critically about the underlying causes of environmental problems and understanding the reciprocal relationships between coupled human-natural ecosystems and the interconnections between social and technological innovations. The program explores practical approaches and potential solutions that decision makers need to evaluate in policy debates related to promoting environmental sustainability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminars		
PPUA 6101	Environmental Science and Policy Seminar 1	4
ENVR 6102	Environmental Science and Policy Seminar 2	4
Skills Courses		
Complete 2 courses from the following. At least one course needs to be taken from the College of Science Skills Course List and one course from the College of Social Sciences and Humanities Skills Course List.		8
College of Science Skills Course List		
EEMB 5130	Population Dynamics	
EEMB 5522	Experimental Design Marine Ecology	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5210	Environmental Planning	
ENVR 5240	Sedimentary Basin Analysis	
ENVR 5260	Geographical Information Systems	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 6500	Biostatistics	
College of Social Sciences and Humanities Skills Course List		
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Electives

Complete five courses from the following list. At least one course must be taken from the College of Science Elective Course List and one course from the College of Social Sciences and Humanities Elective Course List. Any skills course not taken to fulfill the skills courses requirement can be taken as an elective. Students may petition to enroll in other relevant graduate courses offered by other schools at Northeastern University.

COLLEGE OF SCIENCE ELECTIVE LIST

Code	Title	Hours
EEMB 5130 - EEMB 8984		
ENVR 5115 - ENVR 6900		

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES ELECTIVE LIST

Code	Title	Hours
INSH 5302	Information Design and Visual Analytics	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PHTH 5214	Environmental Health	
PHTH 5230	Global Health	
PPUA 5100 - PPUA 7346		
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Urban Informatics, MS

The Master of Science in Urban Informatics (MSUI) degree couples comprehensive data analytics skills with an understanding of the big questions faced by cities in the 21st-century city. This cutting-edge program is built upon a unique cross-college initiative, which offers comprehensive state-of-the-art training in the core skills of data analytics—including quantitative analysis, data mining, machine learning, and data visualization. Urban informatics students supplement training in these foundational skills with a specialized sequence of courses that address how data and technology are being used to tackle key social, infrastructural, and environmental challenges.

By combining a theoretically informed perspective of cities with advanced skills in accessing, managing, analyzing, and communicating insights from large complex, datasets, graduates are a part of the next wave of urban professionals ready to lead in the public, private, and nonprofit sectors. Given the continuous growth in urban data and technology, these professionals are essential to shaping the future of urban areas around the globe.

This program provides a uniquely integrated urban and informatics degree with a substantial experiential education component. The focus throughout is on practical application, and students have multiple opportunities to apply what they are learning.

The master's program offers an optional cooperative education experience (co-op) to eligible students. Co-op education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Please review the tuition and fee (p. 31) page as credit costs differ depending on the college in which the course resides.

Climate and Resilience Concentration

This graduate concentration is available to students in the MSUI who want to specialize in the policy challenges that arise from climate change and the methodological tools designed to respond to them, especially those that help us understand and instill resilience in communities that are vulnerable to disruption. The concentration is comprised of three courses: a methods and applications course specific to the concentration; an analysis course specific to the concentration; and the requirement to complete a capstone or practicum relevant to climate and resilience.

Communities and Economic Development Concentration

This graduate concentration is available to students in the MSUI who want to specialize in the policy challenges associated with neighborhoods and communities and the methodological tools for addressing them. This includes examining more closely how communities work and the types of interventions that can help them to thrive and prosper. The concentration is comprised of three courses: a methods and applications course specific to the concentration; an analysis course specific to the concentration; and the requirement to complete a capstone or practicum relevant to communities and economic development.

Transportation and Infrastructure Concentration

This graduate concentration is available to students in the MSUI who want to specialize in the policy challenges and methods associated with transportation and related infrastructure. This includes questions of policy and operations pertaining to traffic management and public transit and the skills for analyzing mobility decisions. The concentration is comprised of three courses: a methods and applications course specific to the concentration; an analysis course specific to the concentration; and the requirement to complete a capstone or practicum relevant to transportation or infrastructure.

CSSH Graduate Programs General Regulations (p. 1041)

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Data Science Courses		
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
or PPUA 7237	Advanced Spatial Analysis of Urban Systems	
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
Methods and Applications		
PPUA 5262	Big Data for Cities	4

Concentrations

- No concentration (p. 1112)
- Climate and Resilience (p. 1112)
- Communities and Economic Development (p. 1113)
- Transportation and Infrastructure (p. 1113)

NO CONCENTRATION

Code	Title	Hours
Methods and Applications		
PPUA 5266	Urban Theory and Science	4
Analysis		
Complete 4 semester hours from the following:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
INSH 6406	Analyzing Complex Digitized Data	
POLS 7334	Social Networks	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management (2 semester hours)	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing (2 semester hours)	
Practicum or Capstone		
PPUA 6966	Practicum	4
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

CLIMATE AND RESILIENCE CONCENTRATION

Code	Title	Hours
Methods and Applications		
Complete 4 semester hours from the following:		4
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5260	Ecological Economics	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
PPUA 6101	Environmental Science and Policy Seminar 1	
PPUA 7346	Resilient Cities	
Analysis		
Complete 4 semester hours from the following:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
INSH 6302	Qualitative Methods	
POLS 7334	Social Networks	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
CIVE 7000-level Special Topics in Engineering—approved by program director		
Practicum or Capstone		
Complete topic-focused capstone or practicum approved by program director:		4
PPUA 6966	Practicum	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

COMMUNITIES AND ECONOMIC DEVELOPMENT CONCENTRATION

Code	Title	Hours
Methods and Applications		
Complete 4 semester hours from the following:		4
CRIM 6270	Crime and Community Context	
IE 7374	Special Topics in Industrial Engineering (Sharing Economy Systems)	
PPUA 5230	Housing Policy	
PPUA 5235	Participatory Community Planning Methods	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5265	Global Urbanization and Planning	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	
Analysis		
Complete 4 semester hours from the following:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
INSH 6302	Qualitative Methods	
INSH 6406	Analyzing Complex Digitized Data	
POLS 7334	Social Networks	
PPUA 6509	Techniques of Program Evaluation	
Practicum or Capstone		
Complete topic-focused capstone or practicum approved by program director:		4
PPUA 6966	Practicum	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

TRANSPORTATION AND INFRASTRUCTURE CONCENTRATION

Code	Title	Hours
Methods and Applications		
Complete one of the following:		4
IE 7374	Special Topics in Industrial Engineering (Sharing Economy Systems)	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 7346	Resilient Cities	
Analysis		
Complete 4 semester hours from the following:		4
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7380	Performance Models and Simulation of Transportation Networks	
CIVE 7381	Transportation Demand Forecasting and Model Estimation	
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
NETS 7350	Bayesian and Network Statistics	
CIVE 7000-level Special Topics in Engineering—approved by program director		
Practicum or Capstone		
Complete topic-focused capstone or practicum approved by program director:		4
PPUA 6966	Practicum	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

OPTIONAL CO-OP EXPERIENCE

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

33 total semester hours required (35 with optional co-op)

1114 Urban Informatics, MS

Minimum 3.000 GPA required

Urban Planning and Policy, MS

The Master of Science in Urban Planning and Policy program trains leaders interested in building just and sustainable solutions to today's critical urban problems. Students in the program develop the theoretical and analytical tools to understand contemporary challenges of social, racial, and environmental injustice in cities and urban regions. They develop professional tools to work effectively in the realms of planning, policy, politics, and advocacy to impact urban challenges, including affordable housing provision, equitable and sustainable economic growth, sustainable transportation, and climate change adaptation and mitigation. This innovative program combines the expertise in urban planning and policy analysis data analytics of the School of Public Policy and Urban Affairs with expertise in physical planning, design, and data visualization at the School of Architecture. The core curriculum of the program provides students with a solid foundation in essential skills and concepts, including techniques of effective community engagement, research design and statistics, economic analysis, legal foundations of urban planning and policy, and the history of urban development and urban planning. Students also have the opportunity to develop substantial expertise in a specialization area, including urban analytics, urban sustainability and resilience, urban design and physical planning, and urban development policy and planning.

The optional cooperative education experience (co-op) is available to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

In addition to the co-op option, students in the program have opportunities to gain experience in the application of their knowledge and skills via internships, class projects, and a capstone research report. They graduate prepared for careers working for state and local government, federal agencies, community development corporations and other nonprofit organizations, research institutes, and as private-sector planning consultants.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Planning and Policy		
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	4
PPUA 6502	Economic Analysis for Policy and Planning	4
SUEN 6340	Topics in Urban Environmental Design	4
Research Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
Students in the urban analytics focus area are encouraged to take INSH 5301.		
Choose one from the following:		4
INSH 5301	Introduction to Computational Statistics	
INSH 6500	Statistical Analysis	
Planning Law		
Choose one from the following:		2-4
LPSC 5201	Law and the City	
PPUA 5201	Urban Planning and the Law	
Planning and Social Justice		
Choose one from the following:		2-4
PPUA 5233	Contemporary Community Development	
PPUA 5235	Participatory Community Planning Methods	
PPUA 6219	Race, Justice, and Belonging in Planning Practice	

Focus Areas

Complete one of the following focus areas:

- Urban Design and Physical Planning (p. 164)
- Urban Analytics (p. 164)
- Sustainability and Resilience (p. 164)
- Urban Development Policy and Planning (p. 165)

URBAN DESIGN AND PHYSICAL PLANNING

Code	Title	Hours
Gateway Course		
ARCH 6340	Graduate Topics in Architecture	4
Tracks		
Complete one of the following tracks:		8
Urban Design and Real Estate		
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
Physical Planning and Design for Sustainable Urbanism		
SUEN 7230	Urban Ecologies and Technologies 1	
SUEN 7240	Urban Ecologies and Technologies 2	
Urban Experience Track		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 6310	Design for Behavior and Experience	
Capstone		
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	6

URBAN ANALYTICS

Code	Title	Hours
Gateway Course		
PPUA 5262	Big Data for Cities	4
Required Courses		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4

SUSTAINABILITY AND RESILIENCE

Code	Title	Hours
Gateway Course		
LPSC 7312	Cities, Sustainability, and Climate Change	4
or SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	
Methods		
Complete one of the following:		4
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
SUEN 7230	Urban Ecologies and Technologies 1	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5231	Transportation Policy	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5249	Sustainable Urban Coastal Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6220	Implementation and Visualization for Urban Environments 2	
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	

SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

URBAN DEVELOPMENT POLICY AND PLANNING

Code	Title	Hours
Gateway Course		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5233	Contemporary Community Development	
PPUA 5265	Global Urbanization and Planning	
Methods		
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
or PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
PPUA 5265	Global Urbanization and Planning	
PPUA 5270	Food Systems and Public Policy	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6551	Nonprofit Organizations and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6340	Topics in Urban Environmental Design	

Electives

Code	Title	Hours
Complete 4-8 semester hours of the following:		4-8
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
ARCH 6100	Graduate Skills Studio	
ARCH 6330	Seminar in Modern Architecture	
ARCH 6340	Graduate Topics in Architecture	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 6330	Information Design Mapping Strategies	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5302	Information Design and Visual Analytics	
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	

PPUA 5234	Land Use and Urban Growth Policy
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers
PPUA 5238	Climate Change and Global Urbanization
PPUA 5239	Problems in Metropolitan Policymaking
PPUA 5244	Comparative Public Policy and Administration
PPUA 5245	Education Policy in the United States
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5260	Ecological Economics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5265	Global Urbanization and Planning
PPUA 5270	Food Systems and Public Policy
PPUA 6202	Research Toolkit for Python for Policy
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing
PPUA 6506	Techniques of Policy Analysis
PPUA 6551	Nonprofit Organizations and Social Change
PPUA 7237	Advanced Spatial Analysis of Urban Systems
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems
SUEN 6210	Implementation and Visualization for Urban Environments 1
SUEN 6220	Implementation and Visualization for Urban Environments 2
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory
SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

48 total semester hours required (50 with optional co-op)
Minimum 3.000 GPA required

Law, JD / Public Policy, MPP

The JD/Master of Public Policy (MPP) is designed to equip graduates with a unique blend of skills for navigating a complex and rapidly changing policy landscape. The program builds on students' legal training with a compelling blend of skills in applied public policy analysis, policy design, and strategic policy formation. Students also gain career-relevant experience through internships, small group capstone projects, and other interactions with professionals in the field. All are part of a learning process designed to enable the Northeastern law and public policy graduates to navigate, and to redefine, diverse policy areas.

Ideally, students would apply to Northeastern's JD and MPP programs simultaneously. Those who apply and are admitted to both programs take MPP classes after completing their first year in the School of Law. Applicants may also be considered after they have enrolled in the JD program; interested JD students should consult the School of Law's Office of Academic and Student Affairs and the School of Public Policy and Urban Affairs graduate program director for more information.

Students enrolled in this dual-degree program will be able to count 8 JD credit hours toward their MPP degree and 12 MPP credit hours toward their JD degree. Students should consult advisors in each program if they have questions about which courses may be shared between degrees.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate

School of Public Policy and Urban Affairs

CSSH Graduate Programs General Regulations (p. 1041)

The Graduate Certificate in Nonprofit Sector, Philanthropy, and Social Change is a response to recent developments in social change theory, practice, and funding that are placing new demands and expectations on social change actors in the nonprofit, public, and private sectors, including nonprofit leaders, philanthropists, policymakers, and corporate social responsibility managers. These developments include the emergence of hybrid, cross-sector business models and new intermediary mechanisms for channeling the flow of capital into social change; new expectations and standards for performance measurement, transparency, and accountability; more sophisticated use of data and technology to support decision making, evaluation, and continual improvement; decreased public funding for traditional nonprofit activities; and the emergence of social media as a vehicle for mobilizing people and resources. The certificate enables social change professionals in all sectors to respond to these changes more effectively and will distinguish itself from other nonprofit certificate programs by focusing on the relationship between social program implementation and funding.

The certificate is a professionally oriented, application-based program for students seeking leadership positions in nonprofit organizations or in a public agency that deals extensively with nonprofits. The curriculum is designed to address the distinctive features and practices of the nonprofit sector and emphasizes management techniques helpful to nonprofit leaders.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose GPA falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
PPUA 6551	Nonprofit Organizations and Social Change	4
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following. Courses outside this list may be taken as electives with approval of the graduate program director.		4
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6503	Managing People in Public and Nonprofit Sectors	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6522	Administrative Ethics and Public Management	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Public Policy Analysis, Graduate Certificate

CSSH Graduate General Regulations (p. 1041)

The Graduate Certificate in Public Policy Analysis seeks to provide students with the tools to analyze and shape public policy at the local, state, and national levels. Students have an opportunity to gain an understanding of the political and legal processes of policymaking, develop skills central to conducting research on policy questions, and learn techniques for evaluating the effectiveness of competing policies.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Core Requirements

Students may not reuse required degree courses for the certificate.

Code	Title	Hours
Analysis Methods and Skills		
Complete 8 semester hours from the following:		8
INSH 5302	Information Design and Visual Analytics	
INSH 6300	Research Methods in the Social Sciences	
LPSC 7311	Strategizing Public Policy	
or PPUA 6506	Techniques of Policy Analysis	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6509	Techniques of Program Evaluation	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
Policy		
Complete 4 semester hours from the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5240	Health Policy and Politics	
PPUA 5245	Education Policy in the United States	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5270	Food Systems and Public Policy	
PPUA 6525	Institutions and Public Policy	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sustainability and Climate Change Policy, Graduate Certificate

This graduate certificate, a collaboration between the School of Public Policy (SPPUA) and the School of Law (NUSL), is designed to prepare students for the dynamic, evolving landscape of climate and sustainability policy. Interest in the area of climate and sustainability policy is expanding rapidly among graduate students in multiple programs throughout Northeastern and among professionals who may be considering graduate coursework at Northeastern. This certificate provides students from multiple backgrounds an option for gaining interdisciplinary skills and perspectives in climate and sustainability policy. Given the growing need in every organization, including private sector, public sector, and nonprofits, for professionals with knowledge and training in how to respond to the rapidly changing policy and regulatory frameworks in climate and sustainability, this certificate is open to JD, master's and PhD students throughout the university. This certificate is also available to professionals who have not yet been admitted to one of Northeastern's graduate programs.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Policy		
Complete 8 semester hours from the following:		8
ENVR 5350	Sustainable Energy and Climate Solutions	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5100	Climate and Development	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	
PPUA 6101	Environmental Science and Policy Seminar 1	
Law		
Complete 3 semester hours from the following: [1]		3
LAW 7329	Environmental Law	
or LW 7329	Environmental Law	
LAW 7634	Energy Law and Policy	
or LW 7634	Energy Law and Policy	
LAW 7666	Human Rights, the Environment, Development and Community Resilience	
or LW 7666	Human Rights, the Environment, Development and Community Resilience	
Practicum		
PPUA 6966	Practicum	1

[1] Students enrolled in NU colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Urban Analytics, Graduate Certificate

CSSH Graduate General Regulations (p. 1041)

With 75 percent of the world's population projected to be living in cities by 2050, the need for professionals in urban planning and related careers will only increase. The Graduate Certificate in Urban Analytics seeks to prepare students outside of the Master of Science in Urban Informatics program to manage the progressively complex issues involved with rapidly expanding data and technological resources in cities. As Claire Lane of the City of Boston recently noted, "The blueprints for great cities are increasingly anchored in big data, expressed in GIS [Geographic Information Systems] and codified in coherent policy." Successful graduates with an urban analytics certificate have skills in each of these areas, which prepares them to be professionals ready to shape the future of cities across the globe.

Students are trained with the practical and theoretical knowledge necessary to understand the intricacies of interconnected urban systems and to analyze how these systems work together to create sustainable, resilient, and just cities. The curriculum emphasizes the expertise needed to bridge emerging technological capacities and traditional policymaking processes. Students cultivate applied skills in visual presentation, analysis, and modeling of new data sets—all of which helps to inform investment and policymaking. Inspired by Northeastern's leadership in experiential education, students use Boston and cities around the world as learning labs.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
PPUA 5262	Big Data for Cities	4
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following or another elective in consultation with your faculty advisor:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5266	Urban Theory and Science	
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Urban Studies, Graduate Certificate

CSSH Graduate Programs General Regulations (p. 1041)

The Graduate Certificate in Urban Studies provides a foundation in the fundamentals of urban planning and policy theory for students outside the Master of Science in Urban Planning and Policy degree. It also allows students to pursue course work in a range of areas of concentration, including housing and community development, urban environmental sustainability, economic development, international comparative urban policy, and transportation.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
Complete 4 semester hour course:		
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	4

Focus Area Selective

Code	Title	Hours
Complete 4 semester hours from the following:		4
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5233	Contemporary Community Development	
PPUA 5235	Participatory Community Planning Methods	
PPUA 5262	Big Data for Cities	
PPUA 5265	Global Urbanization and Planning	
SUEN 6340	Topics in Urban Environmental Design	

Elective

Code	Title	Hours
Complete 4 semester hours in the following range (selected by advisement):		4
PPUA 5000 to PPUA 7999		

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sociology

Website (http://www.northeastern.edu/cssh/socant/)

Liza Weinstein, PhD
Associate Professor of Sociology and Chair
l.weinstein@northeastern.edu

Tiffany Joseph, PhD
Associate Professor of Sociology and International Affairs; Graduate Program Director, Sociology
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CSSH Graduate Programs General Regulations (p. 1041)

The Department of Sociology and Anthropology at Northeastern University is home to a distinguished graduate program offering a Doctor of Philosophy in Sociology. The primary objectives of our graduate program are to offer a strong curricular foundation in sociology and the social sciences; to inculcate in students a depth of knowledge in the basic tools of the discipline; to train our students to be outstanding teachers and researchers; and to provide professional socialization that adequately prepares students for a career in the discipline.

The PhD program boasts a wide array of curricular strengths and diverse methodological offerings, all of which draw upon the department's emphasis on the study of social inequalities along lines of race, class, and gender. Faculty expertise ranges widely from domestic U.S. concerns to issues that affect groups, regions, and societies on a global scale. We boast strengths in 11 different research foci (https://cssh.northeastern.edu/socant/research-foci/):

- Gender, sexuality, and intersectionality
- Political change and social movements
- Work, labor, and economic insecurity
- Global economy and culture
- Violence, conflict, and security
- Cities and urbanization
- Health and health equity
- Environment and environmental justice
- Racial identity, racism, and anti-racism
- Migration and immigrant communities
- Science and technology studies

The PhD program is designed to admit relatively small numbers of graduate students each year, which affords students the opportunity to forge close working relationships with the faculty. Our faculty and graduate students work together in a number of interdisciplinary research projects, programs, and centers, including the Social Science Environmental Health Research Institute (http://www.northeastern.edu/environmentalhealth/); the Brudnick Center on Violence and Conflict (http://www.northeastern.edu/brudnickcenter/); the Dukakis Center for Urban and Regional Policy (http://www.northeastern.edu/dukakiscenter/); and the Institute for Health Equity and Social Justice Research (http://www.northeastern.edu/iuhrp/). Many of the faculty in the Department of Sociology and Anthropology have additional interests and are affiliated with other departments on campus, including environmental studies; law and public policy; Latino, Latin American, and Caribbean studies; African American studies; international affairs; Jewish studies; and criminal justice. Students who wish to work with faculty in other disciplines are encouraged to enlist the aid of the sociology graduate director or their advisors in contacting individual faculty members.

Programs

Doctor of Philosophy

- Sociology (p. 1126)

Sociology, PhD

The Department of Sociology and Anthropology at Northeastern University is home to a distinguished graduate program offering a PhD in Sociology. The primary objectives of our graduate program are to offer a strong curricular foundation in sociology and the social sciences; to inculcate in students a depth of knowledge in the basic tools of the discipline; to train our students to be outstanding teachers and researchers; and to provide professional socialization that adequately prepares students for a career in the discipline.

The PhD program is designed to attract students who wish to develop a broad base of sociological knowledge, such as would equip students to embark on academic careers in leading institutions of higher education. The PhD program boasts a wide array of curricular strengths and diverse methodological offerings, all of which draw upon the department's emphasis on the study of social inequalities along lines of race, class, and gender. Faculty expertise ranges widely from domestic U.S. concerns to issues that affect groups, regions, and societies on a global scale.

The PhD program is designed to admit relatively small numbers of graduate students each year, which affords students the opportunity to forge close working relationships with the faculty. Our faculty and graduate students work together in a number of interdisciplinary research projects, programs, and centers, including the Social Science Environmental Health Research Institute (http://www.northeastern.edu/environmentalhealth/); the Brudnick Center on Violence and Conflict (http://www.northeastern.edu/brudnickcenter/); the Dukakis Center for Urban and Regional Policy (http://www.northeastern.edu/dukakiscenter/); and the Institute for Health Equity and Social Justice Research (http://www.northeastern.edu/iuhrp/). Many of the faculty in the Department of Sociology and Anthropology have additional interests and are affiliated with other departments on campus, including environmental studies; law and public policy; Latino, Latin American, and Caribbean studies; African American studies; international affairs; Jewish studies; and criminal justice. Students who wish to work with faculty in other disciplines are encouraged to enlist the aid of the sociology graduate director or their advisors in contacting individual faculty members.

Admissions

Students interested in the PhD apply directly to that program. Students admitted without a master's degree earn the Master of Arts in Sociology en route once PhD coursework is completed. Please note that all applicants for the doctoral program are required to submit a writing sample that should consist of written materials that demonstrate their capacity for scholarship at the doctoral level. (Copies of several course or term papers or a copy of a master's thesis or paper are appropriate.)

Coursework

Doctoral students are required to complete 60 standard credit hours (SH) with grades of B or higher if coming in with a bachelor's degree and 40 credit hours if coming in with a master's degree in sociology. Students admitted without a master's degree earn the MA in sociology en route to completing their PhD requirements (30 credits).

Required courses cover the core areas of sociological theory, research methods, and statistical analysis. All students must take courses in these areas regardless of their areas of specialization. Students must fulfill these requirements during their first year in the program. Students entering our program may be able to substitute courses taken at the prior institution for some or all of these requirements by submitting a course waiver form (a course waiver does not waive the associated semester hour requirement) or transfer of credit (courses submitted with a transfer of credit cannot have counted toward another degree).

FOUR PROSEMINARS

Proseminars provide students structure for their first two years in the PhD program to help ensure their professionalization into the discipline and to help them move more smoothly through program requirements.

Each course meets weekly for 60-minute sessions throughout each fall and spring semester for the student's first two years. Each 1-credit course will be taken on a pass/fail basis. In order to receive a passing grade, students must attend most proseminar class meetings, complete the requirements for the proseminar course in a satisfactory manner, and attend most intellectual and professional development events organized by the department. Proseminar 1 and 2 are completed in the first year; Proseminar 3 and 4 are completed in the second year.

POST COURSEWORK BUT PRIOR TO PROPOSAL DEFENSE

Students must complete two field statements prior to their proposal defense and will register for Exam Preparation—Doctoral (SOCL 8960) (with the field statement chair listed as instructor of record).

Once field statements are complete and students are working on their dissertation proposal, students should register for a Research course (with their committee chair listed as instructor of record) until the proposal is successfully defended.

DEGREE CANDIDACY

To enter into degree candidacy, the student must have earned a Master of Arts degree or its departmental semester-hour equivalent, completed the four proseminars, successfully defended two field statements, and defended their dissertation proposal.

Students who have completed required coursework with a cumulative GPA of 3.000 or better may be eligible to receive an MA in Sociology *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/*) degree. In addition, students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal* MA in Sociology *(*https://

catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/*) degree. Note that no students will be admitted directly into the* MA in Sociology *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/*) to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Two field statements
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Foundations		
SOCL 7200	Foundations of Social Theory 1	4
SOCL 7201	Foundations of Social Theory 2	4
Proseminars		
SOCL 7001	Proseminar 1: Acclimating to Graduate School	1
SOCL 7002	Proseminar 2: Academic Planning	1
SOCL 7003	Proseminar 3: Committee, Topics, and Reading Lists	1
SOCL 7004	Proseminar 4: Field Statement Writing	1
Research Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4
or INSH 5301	Introduction to Computational Statistics	
Advanced Methods		
Complete 8 semester hours from the following (courses taken after this requirement is fulfilled will be counted as electives):		8
INSH 5302	Information Design and Visual Analytics	
INSH 6302	Qualitative Methods	
INSH 6406	Analyzing Complex Digitized Data	
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	
INSH 7400	Quantitative Analysis	
INSH 7500	Advanced Quantitative Analysis	
INSH 7600	Multilevel Theorizing and Analysis	
PHTH 6320	Qualitative Methods in Health and Illness	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6509	Techniques of Program Evaluation	

Electives

Code	Title	Hours
Complete 32 semester hours from the following:		32
SOCL		
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	
CRIM 6270	Crime and Community Context	
CRIM 7264	Immigration and Crime	
ENGL 7370	Introduction to Digital Humanities	
HIST 7228	Atlantic Connections	
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	

POLS 7341	Security and Resilience Policy
POLS 7343	Counterterrorism
POLS 7346	Resilient Cities
POLS 7366	Genocide in a Comparative Perspective
POLS 7369	International Security
POLS 7387	Global Governance
PPUA 5100	Climate and Development
PPUA 5240	Health Policy and Politics
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 6220	How Healthcare Works: Business and Policy Innovations
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs
PPUA 7346	Resilient Cities
PPUA 7521	Seminar in Urban Theory
SOCL 5240	Feminist Resistance
SOCL 7100	Queer Theory: Sexualities, Genders, Politics
or WMNS 7100	Queer Theory: Sexualities, Genders, Politics
SOCL 7221	Globalization, Development, and Social Justice
SOCL 7227	Race and Ethnic Relations
SOCL 7256	Contemporary Issues in Sociology
SOCL 7263	Social Psychology of Stratification
SOCL 7267	Environment, Health, and Society
SOCL 7270	Sociology of Work and Employment
SOCL 7273	Gender and Social Policy
SOCL 7287	Social Movements in Health
SOCL 7976	Directed Study
WMNS 6100	Theorizing Gender and Sexuality
WMNS 7100	Queer Theory: Sexualities, Genders, Politics
WMNS 7900	Special Topics in Women's, Gender, and Sexuality Studies

Dissertation

Code	Title	Hours
Exam Preparation		
Required for students who must maintain full-time status while completing comprehensive exam. Must take twice.		
SOCL 8960	Exam Preparation—Doctoral	
Research		
SOCL 8986	Research	
Dissertation		
SOCL 9990	Dissertation Term 1	
SOCL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of dissertation, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
SOCL 9996	Dissertation Continuation	

Progression Requirements

Students who receive two grades below B may be placed on academic probation and risk being separated from the program.

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review

Two field statements
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Foundations		
SOCL 7200	Foundations of Social Theory 1	4
SOCL 7201	Foundations of Social Theory 2	4
Proseminars		
SOCL 7001	Proseminar 1: Acclimating to Graduate School	1
SOCL 7002	Proseminar 2: Academic Planning	1
SOCL 7003	Proseminar 3: Committee, Topics, and Reading Lists	1
SOCL 7004	Proseminar 4: Field Statement Writing	1
Research Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4
or INSH 5301	Introduction to Computational Statistics	
Advanced Methods		
Complete 8 semester hours from the following (courses taken after this requirement is fulfilled will be counted as electives):		8
INSH 5302	Information Design and Visual Analytics	
INSH 6302	Qualitative Methods	
INSH 6406	Analyzing Complex Digitized Data	
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	
INSH 7400	Quantitative Analysis	
INSH 7500	Advanced Quantitative Analysis	
INSH 7600	Multilevel Theorizing and Analysis	
PHTH 6320	Qualitative Methods in Health and Illness please note this course is only 3 credits	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6509	Techniques of Program Evaluation	

Electives

Code	Title	Hours
Complete 12 semester hours from the following:		12
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	
CRIM 6270	Crime and Community Context	
CRIM 7264	Immigration and Crime	
ENGL 7370	Introduction to Digital Humanities	
HIST 7228	Atlantic Connections	
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	
POLS 7341	Security and Resilience Policy	
POLS 7343	Counterterrorism	
POLS 7346	Resilient Cities	
POLS 7366	Genocide in a Comparative Perspective	
POLS 7369	International Security	
POLS 7387	Global Governance	
POLS 7441	Cyberconflict	
PPUA 5100	Climate and Development	
PPUA 5240	Health Policy and Politics	

PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 6220	How Healthcare Works: Business and Policy Innovations
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs
PPUA 7346	Resilient Cities
PPUA 7521	Seminar in Urban Theory
SOCL 5240	Feminist Resistance
SOCL 7100	Queer Theory: Sexualities, Genders, Politics
or WMNS 7100	Queer Theory: Sexualities, Genders, Politics
SOCL 7221	Globalization, Development, and Social Justice
SOCL 7227	Race and Ethnic Relations
SOCL 7256	Contemporary Issues in Sociology
SOCL 7263	Social Psychology of Stratification
SOCL 7267	Environment, Health, and Society
SOCL 7270	Sociology of Work and Employment
SOCL 7273	Gender and Social Policy
SOCL 7287	Social Movements in Health
SOCL 7976	Directed Study
WMNS 6100	Theorizing Gender and Sexuality
WMNS 7615	Feminist Inquiry
WMNS 7100	Queer Theory: Sexualities, Genders, Politics
WMNS 7900	Special Topics in Women's, Gender, and Sexuality Studies

Dissertation

Code	Title	Hours
Exam Preparation		
Students register for this course while writing each of their two field statements. Must take twice.		
SOCL 8960	Exam Preparation—Doctoral	
Research		
SOCL 8986	Research	
Dissertation		
SOCL 9990	Dissertation Term 1	
SOCL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of dissertation, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
SOCL 9996	Dissertation Continuation	

Progression Requirements

Students who receive two grades below B may be placed on academic probation and risk being separated from the program.

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.500 GPA required

Interdisciplinary Programs

Doctor of Philosophy (PhD)

- Network Science (p. 273)

Master of Science (MS)

- Applied Quantitative Methods and Social Analysis

Graduate Certificate

- Computational Social Science (p. 1139)
- Data Analytics (p. 299)
- Information Ethics (p. 1141)
- Women's, Gender, and Sexuality Studies (p. 1142)

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Applied Quantitative Methods and Social Analysis, MS

The Master of Science in Applied Quantitative Methods and Social Analysis is an interdisciplinary, flexible, and innovative degree that focuses on quantitative research methods for social analysis strategies and techniques. The program integrates the interdisciplinary perspectives and methodological and analytical tools across the College of Social Sciences and Humanities. The program seeks to educate ambitious social scientists and analysts primed to deploy computational tools for social analysis and tackle social science questions of equity, hierarchy, social organization, and social systems. The 21st-century economy will increasingly demand a workforce capable of collecting, processing, analyzing, and interpreting large-scale data on human attributes, personal preferences, social attributes, and political behavior. In response, this program provides students with rigorous training in quantitative research and social science methods to address important questions of social inquiry. Emphasizing public dissemination of findings, the program prepares students to inform policymakers, decision makers in the private and public sectors, and the broader community. These skills prepare graduates to pursue analytical or research careers in corporations, nonprofits, and public services or to continue their education.

Students in this degree program will have the opportunity to gain advanced training in statistical analysis and research methodology aligned to key areas of strength in CSSH, including data analytics in the social sciences, computational social science, network analysis in the social sciences, statistical methods in the social sciences, information ethics for social analysis, geospatial analysis, and the digital humanities. Students will also have the opportunity to stack a range of graduate certificate programs into the master's degree.

The program will take advantage of various co-op opportunities—positions such as policy analysts, network scientists, econometricians, and crime analysts—that provide students a professional environment to integrate quantitative skills and social analysis. The learning opportunities in professional settings (private sector, government, or nonprofit sector) reinforce the development of advanced quantitative skills and their applied nature to contemporary social issues. Ultimately, the Master of Science in Applied Quantitative Methods and Social Analysis will position students to enter the labor force with the competitive advantage of these experiences and skills.

CSSH Graduate Programs General Regulations (p. 1041)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Core Requirements		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4

Required Concentration

Complete one of the following concentrations:

- Computational Social Science (p. 1137)
- Data Analytics in the Social Sciences (p. 1137)
- Information Ethics for Social Analysis (p. 1137)
- Network Analysis in the Social Sciences (p. 1138)
- Statistical Methods in the Social Sciences (p. 1138)

ELECTIVES

Electives are selected in consultation with the program director. Concentration courses may not be double counted as elective courses.

Code	Title	Hours
Complete 12 semester hours from the following:		12
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
ECON 5140	Applied Econometrics	
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
INSH 5303	Machine Learning in the Social Sciences	
INSH 5304	Social Network Analysis	
or POLS 7334	Social Networks	
INSH 6302	Qualitative Methods	

INSH 6406	Analyzing Complex Digitized Data
INSH 7400	Quantitative Analysis
INSH 7500	Advanced Quantitative Analysis
NETS 7350	Bayesian and Network Statistics
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHYS 5116	Network Science 1
PPUA 5260	Ecological Economics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 6506	Techniques of Policy Analysis
PPUA 6509	Techniques of Program Evaluation
PPUA 7237	Advanced Spatial Analysis of Urban Systems

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms.		1-2
INSH 6864	Experiential Integration	
INSH 6964	Co-op Work Experience	

Program Credit/GPA Requirements

32 total semester hours required (33-34 with optional co-op)
Minimum 3.000 GPA required

COMPUTATIONAL SOCIAL SCIENCE

Code	Title	Hours
Concentration Requirements		
INSH 5302	Information Design and Visual Analytics	4
or INSH 5304	Social Network Analysis	
or POLS 7334	Social Networks	
or PPUA 5262	Big Data for Cities	
or PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
INSH 5303	Machine Learning in the Social Sciences	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 6406	Analyzing Complex Digitized Data	4
or INSH 5301	Introduction to Computational Statistics	

DATA ANALYTICS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

INFORMATION ETHICS FOR SOCIAL ANALYSIS

Code	Title	Hours
Concentration Requirements		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	

or PHIL 5010	AI Ethics	
PHIL 5005	Information Ethics	4

NETWORK ANALYSIS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4
INSH 5304	Social Network Analysis	4
or POLS 7334	Social Networks	

STATISTICAL METHODS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
INSH 5301	Introduction to Computational Statistics	4
INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4

Computational Social Science, Graduate Certificate

The certificate highlights how big data, computational analysis, and related techniques can be used to shed light on theoretical and policy questions in the fields of public policy, public health, sociology, criminal justice, political science, economics, computer science, and network science. The certificate will contribute to students' understanding of:

- How to collect, analyze, and interpret insights culled from applying computational analyses to big data in social science domains
- The ways in which computational analysis can be used to develop policy and evaluate policy outcomes and results

The field is new and developing rapidly, and employers are eager to hire students trained in this area—both because computational social science is at the cutting edge of interdisciplinary work and because it offers new opportunities for research and analysis. This certificate leverages the real-world relevance of big data, source data, machine learning, and predictive analytics, which are dominant aspects of the contemporary workplace landscape. The certificate is available on the Boston campus and online modalities.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INSH 5301	Introduction to Computational Statistics	4
or INSH 6406	Analyzing Complex Digitized Data	
INSH 5303	Machine Learning in the Social Sciences	4
or DA 5030	Introduction to Data Mining/Machine Learning	

Elective

Code	Title	Hours
Complete 4 SH from the following:		4
INSH 5302	Information Design and Visual Analytics	
POLS 7334	Social Networks	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 5262	Big Data for Cities	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Data Analytics, Graduate Certificate

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

For more information on the certificate, refer to the program's website (https://www.northeastern.edu/graduate/program/graduate-certificate-in-data-analytics-boston-14423/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning	4
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Information Ethics, Graduate Certificate

The Graduate Certificate in Information Ethics is intended to help students build a working knowledge of the primary theories, frameworks, concepts, and issues in information ethics, as well as to help students develop robust skills in ethical analysis and evaluation.

Students who complete the certificate will be able to conduct comprehensive ethics and value analysis and assessment of emerging issues and problems related to such things as data collection, management, and use; design and implementation of artificial intelligence and machine learning; development and deployment of autonomous systems; and online, networked, and digital experiences and systems.

The certificate is open to students in any graduate program at Northeastern.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicted.

Note: At least two of the three courses taken to fulfill the certificate requirements must be PHIL courses.

Core Requirements

Code	Title	Hours
Complete two of the following:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

Elective

Code	Title	Hours
Complete one of the following. The elective course must be different than the core courses:		4
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Women's, Gender, and Sexuality Studies, Graduate Certificate

Website (https://www.northeastern.edu/cssh/wgss/graduate/certificate/)

The Graduate Certificate in Women's, Gender, and Sexuality Studies (WGSS) is designed for students currently enrolled in a Northeastern University master's or doctoral program. The certificate aims to provide enhanced competency by:

- Analyzing contemporary feminist theoretical frameworks, methodologies, issues, and topics and their relation to established disciplines
- Focusing on the intersection of gender with sexuality, race, class, and other vectors of power and identity
- Broadening and enriching analytical skills in one or more disciplines while drawing on the interdisciplinary perspectives of WGSS
- Challenging the traditional separation of academic theory from political and professional practice

Prospective certificate students are advised initially to consult with the WGSS program director and the advisor in their home department to develop a plan for completing the certificate.

In addition to the College of Social Sciences and Humanities certificate, there is a specialized pathway for students enrolled in the Master of Public Health program (p. 650). These students are able to apply theories, concepts, and methods gained from the WGSS certificate to urban health issues. Students work closely with advisors in their home school and in WGSS to select a course of study to complete the certificate, including incorporating gender and sexuality studies into their MPH coursework as final projects/papers and naming a WGSS faculty member to their capstone committee, if using the capstone as an elective for the certificate. Students using the capstone toward their certificate must also enroll in a 1-credit directed study with the WGSS faculty who will sit on their committee. *Note:* Students pursuing the BS/MPH accelerated program and WGSS certificate should wait until they have *matriculated* into the MPH program to declare the certificate and to begin coursework toward the WGSS certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Requirement

Code	Title	Hours
All students, regardless of disciplinary background, must complete one of the following:		4
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7100	Queer Theory: Sexualities, Genders, Politics	
or SOCL 7100	Queer Theory: Sexualities, Genders, Politics	

General Option

Code	Title	Hours
Electives		
Complete two courses according to the instructions from the electives list (below the MPH option). At least one should come from outside the student's home department.		8

MPH Option

Code	Title	Hours
MPH students should plan to take one foundational required course from the list above and to focus final projects in core MPH courses on gender/sexuality in public health.		
Electives		
Complete 8 semester hours according to the instructions from the electives list. One course may be the capstone, if the topic selected focuses on gender and/or sexuality in connection to the selected urban health issue and the student enrolls in a 1-semester-hour directed study with the WGSS faculty member who will sit on the capstone committee.		8

Electives List

Code	Title	Hours
At least one course must come from outside the student's home discipline. Any foundational course not taken to complete the required foundational coursework may be taken as an elective but may not count as both the foundational requirement and an elective. Electives outside this list, particularly special topics courses not listed here, may be chosen in consultation with program director. Students may also consider courses at the Graduate Consortium for Studies of Gender, Culture, Women, and Sexuality (located at MIT). MPH students, in conversation with their advisors, may substitute PHTH 6910 for one elective.		
ECON 5292	Gender and Development Economics	
HIST 5240	Feminist Resistance	
PHTH 6910	Public Health Capstone (with 1-SH directed study)	
SOCL 5240	Feminist Resistance	
SOCL 7273	Gender and Social Policy	

SOCL 7287	Social Movements in Health
SOCL 7100	Queer Theory: Sexualities, Genders, Politics
WMNS 5240	Feminist Resistance
WMNS 6100	Theorizing Gender and Sexuality (if not taken as core course)
WMNS 7100	Queer Theory: Sexualities, Genders, Politics (if not taken as core course)
WMNS 7615	Feminist Inquiry (if not taken as core course)
WMNS 7900	Special Topics in Women's, Gender, and Sexuality Studies
WMNS 7976	Directed Study

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Mills College at Northeastern

Website (https://mills.northeastern.edu/)

Beth D. Kochly, PhD, Interim Dean of Mills College at Northeastern
Christie Chung, PhD, Associate Dean for Research, Scholarship, and Partnerships

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Mills College at Northeastern is a community of teachers, scholars, researchers, leaders, and changemakers rooted in the diverse Bay Area. Through our teaching and scholarship, we promote social and community accountability, diversity, equity and inclusion, and environmental sustainability. We prepare students to make an impact in the world by building on Oakland's roots in activism and leveraging our strengths in social justice, equity, meaningful partnerships, and academic excellence. We are committed to furthering the university's mission of diverse and inclusive experiential learning and research on our beautiful campus, the surrounding community, and beyond. The historic architecture and intimate facilities of our Oakland campus serve as incubators for scholars in a wide variety of disciplines. We strive to foster learning and well-being by building a curriculum, praxis, and research focus that are thoughtful, intentional, and of the highest quality. Our graduate and undergraduate programs will engage students in transformative, important conversations and provide a range of opportunities for personal and professional growth. This foundation prepares students to lead meaningful change in their chosen fields.

Gordon Institute of Engineering Leadership

Website (http://www.northeastern.edu/gordonleadership/)

Simon Pitts
Director and Head—Gordon Institute of Engineering Leadership

415 Stearns Center
617.373.4800
617.373.7680 (fax)

The Gordon Institute of Engineering Leadership offers a graduate certificate that pairs with over 20 master's programs in the College of Engineering, College of Science, and Khoury College of Computer Sciences. The Gordon program is a transformational graduate program designed to build a future corps of engineering leadership professionals. GIEL seeks to accelerate leadership development capability in an engineering context through a concentrated curriculum that inculcates both the psychological skills and capabilities needed to lead engineers in parallel with technical skills to successfully engineer products to customers and markets. The program teaches relevant leadership theory followed by practice in leadership laboratories. Technical product development and scientific principles courses are followed by the completion of a market-worthy challenge project. This learning framework is supplemented with three-way mentoring from industry, faculty, and program mentors. Graduates of the program, known as Gordon Fellows, have an opportunity to gain the knowledge, skills, and attitudes required to successfully lead engineering teams. They stand out from their peers in their ability to invent, innovate, and implement engineering projects from concept to market success. Participation in GIEL accelerates Gordon Fellows' careers, making them more valuable to their company.

The Challenge

When relatively unseasoned engineers run teams or projects, most fail to satisfy all of the project's critical requirements—missing the mark in functionality, performance, quality, time-to-market, cost, or other key objectives.

This shortfall exists because engineers enter the workforce without critical skills related to:

- Competitiveness
- Taking responsibility to prevent failure
- Market and customer focus
- Influencing and motivating skills
- Interdisciplinary decision making and teamwork capability
- Simultaneous optimization of all elements of performance, quality, cost, and timing
- Front-loading the engineering process
- Financial acumen
- Big-picture engineering
- Leadership abilities and organizational social awareness
- Enterprise understanding
- Program management tools and processes
- Designing to avoid failure modes
- Designing for lean manufacture

The Mission

GIEL's mission is to create an elite cadre of engineering leaders who stand out from their peers in their ability to invent, innovate, and implement engineering projects from concept to market success.

These leaders will demonstrate an exceptional ability to lead engineering teams by providing purpose, direction, and motivation to influence others to achieve their collective goals.

The Method

To close the gaps and realize its mission, GIEL concentrates on the knowledge, skills, and abilities that reside at the intersection of engineering and leadership.

At the end of the program, Gordon Fellows emerge with the awareness, confidence, vision, and technical dexterity to drive positive change within their organizations and society.

Admissions

GIEL candidates must apply for and be admitted to both the Northeastern University Graduate School of Engineering and the Gordon Institute of Engineering Leadership.

Students pursue GIEL as part of a Master of Science degree in the engineering discipline of their choice or as a stand-alone graduate certificate. Upon completion of a Master of Science degree, students earn both the Master of Science degree in the discipline of choice and a Graduate Certificate in Engineering Leadership. Students who already hold a graduate degree in engineering or have greater than three years of engineering work experience can complete the program to earn a Graduate Certificate in Engineering Leadership. The core GIEL curriculum takes place during one calendar year (September–July), and additional coursework required for the Master of Science degree can be pursued before, after, or in parallel with GIEL.

Programs

MS Degrees with Combined Gordon Leadership Certificate

- Engineering Leadership (p. 551)
- Technology Leadership (p. 1149)

Engineering Leadership, Graduate Certificate

The Gordon Engineering Leadership Program is a transformational, technical, and challenging graduate-level learning experience targeted for engineering professionals.

The Gordon Engineering Leadership Program directed by the Gordon Institute of Engineering Leadership offers a graduate certificate that pairs with over 20 master's degrees in the College of Engineering, College of Science, and Khoury College of Computer Sciences. The Gordon Program is a transformational graduate program designed to build a future corps of engineering leadership professionals.

Pursuing the graduate certificate allows participants to:

- Take part in a hands-on curriculum taught by industry-experienced professors
- Work with peers from across engineering fields on leadership skills development
- Receive one-on-one mentoring from industry experts and faculty

The Gordon Engineering Leadership Program anchors around an intense, market-worthy challenge project based on your organization's strategic needs. This is a unique opportunity to apply your classroom experience in a professional setting, potentially further accelerating your career.

How to Earn a Graduate Certificate in Engineering Leadership

If you already have a Master of Science, then you can complete the one-year program to earn a Graduate Certificate in Engineering Leadership.

If you do not have a Master of Science, then you can still be considered for the Graduate Certificate in Engineering Leadership if you have at least three years of engineering work experience.

Additional information can be found on the Gordon Engineering Leadership Program website. (http://www.northeastern.edu/gordonleadership/)

Beyond a Graduate Certificate

Most candidates pursue the Gordon Engineering Leadership Program as part of a Master of Science degree in the engineering discipline of their choice. Upon completion, they earn both a Master of Science degree and a Graduate Certificate in Engineering Leadership.

Students can enroll in the Engineering Leadership Graduate Certificate while pursuing the following degrees:

- MS Advanced and Intelligent Manufacturing (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/advanced-and-intelligent-manufacturing/)
- MS Biotechnology (http://www.northeastern.edu/gordonleadership/degree/ms-in-biotechnology/)
- MS Computer Science (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/computer-science/)
- MS Cybersecurity (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/ms-in-information-assurance-and-cyber-security/)
- MS Data Analytics Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-data-analytics-engineering/)
- MS Engineering and Public Policy (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-and-public-policy/)
- MS Human Factors (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/human-factors/)
- MS Robotics (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/robotics/)
- MS Telecommunication Networks (http://www.northeastern.edu/gordonleadership/degree/ms-in-telecommunication-networks/)
- MSBioE Bioengineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-bioengineering/)
- MSChE Chemical Engineering (http://www.northeastern.edu/gordonleadership/degree/chemical-engineering/)
- MSCivE Civil Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-civil-engineering/)
- MSCSE Software Engineering Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-computer-systems-engineering/)
- MSECE Electrical and Computer Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering/)
- MSECEL Electrical and Computer Engineering Leadership (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering-leadership/)
- MSEM Engineering Management (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-management/)
- MSENE Energy Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-energy-systems/)
- MSEnvE Environmental Engineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-environmental-engineering/)

- MSIE Industrial Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-industrial-engineering/)
- MSIS Information Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-information-systems/)
- MSME Mechanical Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-mechanical-engineering/)
- MSOR Operations Research (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-operations-research/)
- MSSBS Sustainable Building Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-sustainable-building-systems/)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENLR 5121	Engineering Leadership 1	2
ENLR 5122	Engineering Leadership 2	2
ENLR 5131	Scientific Foundations of Engineering 1	2
ENLR 5132	Scientific Foundations of Engineering 2	2
Complete the following two courses based on the discipline of your master's program:		
ENLR 7440	Engineering Leadership Challenge Project 1	4
or EECE 7440	Electrical and Computer Engineering Leadership Challenge Project 1	
or ENSY 7440	Energy Systems Engineering Leadership Challenge Project 1	
or IE 7440	Industrial Engineering Leadership Challenge Project 1	
or ME 7440	Mechanical Engineering Leadership Challenge Project 1	
or TELR 7440	Technology Leadership Challenge Project 1	
ENLR 7442	Engineering Leadership Challenge Project 2	4
or EECE 7442	Electrical and Computer Engineering Leadership Challenge Project 2	
or ENSY 7442	Energy Systems Engineering Leadership Challenge Project 2	
or IE 7442	Industrial Engineering Leadership Challenge Project 2	
or ME 7442	Mechanical Engineering Leadership Challenge Project 2	
or TELR 7442	Technology Leadership Challenge Project 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Technology Leadership, Graduate Certificate

The Graduate Certificate in Technology Leadership offered by the Gordon Institute of Engineering Leadership (GIEL) is a transformational graduate program designed to build a future corps of technology leadership professionals. GIEL seeks to accelerate leadership development capability in a technical context through a concentrated curriculum that inculcates both the psychological skills and capabilities needed to lead in parallel with technical skills to successfully release products to customers and markets. The program teaches relevant leadership theory followed by practice in leadership laboratories. Technical product development and scientific principles courses are followed by the completion of a market-worthy challenge project. This learning framework is supplemented with three-way mentoring from industry, faculty, and program mentors. Graduates of the program, known as Gordon Fellows, have an opportunity to gain the knowledge, skills, and attitudes required to successfully lead technical teams. They stand out from their peers in their ability to invent, innovate, and implement technology projects from concept to market success. Participation in GIEL accelerates Gordon Fellows' careers, making them more valuable to their company.

The Challenge

When relatively unseasoned professionals run teams or projects, most fail to satisfy all of the project's critical requirements—missing the mark in functionality, performance, quality, time-to-market, cost, or other key objectives.

This shortfall exists because professionals enter the workforce without critical skills related to:

- Competitiveness
- Taking responsibility to prevent failure
- Market and customer focus
- Influencing and motivating skills
- Interdisciplinary decision making and teamwork capability
- Simultaneous optimization of all elements of performance, quality, cost, and timing
- Front-loading the technology delivery process
- Financial acumen
- Big-picture engineering
- Leadership abilities and organizational social awareness
- Enterprise understanding
- Program management tools and processes
- Designing to avoid failure modes
- Designing for lean manufacture

The Mission

GIEL's mission is to create an elite cadre of technology leaders who stand out from their peers in their ability to invent, innovate, and implement technical projects from concept to market success.

These leaders will demonstrate an exceptional ability to lead teams by providing purpose, direction, and motivation to influence others to achieve their collective goals.

The Method

To close the gaps and realize its mission, GIEL concentrates on the knowledge, skills, and abilities that reside at the intersection of technology and leadership.

At the end of the program, Gordon Fellows emerge with the awareness, confidence, vision, and technical dexterity to drive positive change within their organizations and society.

Admissions

Candidates must apply for and be admitted to both a master's degree program at Northeastern and the Graduate Certificate in Technology Leadership.

Students pursue the Graduate Certificate in Technology Leadership as part of a master's degree or as a stand-alone graduate certificate. Upon completion of a Master of Science degree, students earn both the Master of Science degree in the discipline of choice and a Graduate Certificate in Technology Leadership. Students who already hold a graduate degree or have greater than three years' industry work experience can complete

the program to earn a stand-alone Graduate Certificate in Technology Leadership. The core GIEL curriculum takes place during one calendar year (September–July), and additional coursework required for the Master of Science degree can be pursued before, after, or in parallel with GIEL.

For more information contact Amy Manley, Director of Admissions and Marketing, (617) 373-4800 or a.manley@northeastern.edu.

Program Requirements

Code	Title	Hours
TELR 5121	Technology Leadership 1	2
TELR 5122	Technology Leadership 2	2
TELR 5131	Scientific Foundations of Technology 1	2
TELR 5132	Scientific Foundations of Technology 2	2
TELR 7440	Technology Leadership Challenge Project 1	4
TELR 7442	Technology Leadership Challenge Project 2	4

[1] The Scientific Foundations of Technology 1 (TELR 5131) and Scientific Foundations of Technology 2 (TELR 5132) requirements may be met by completion of Special Problems in Technology Leadership (TELR 7400) upon approval of program director.

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Additional Programs

- Postsecondary Teaching, Graduate Certificate (p. 1152)

Postsecondary Teaching, Graduate Certificate

The Certificate in Postsecondary Teaching prepares graduate students to be effective teachers and educators both inside and outside the classroom. It focuses on both didactic training in best practices and pedagogy around traditional teaching as well as online teaching. Finally, it is anchored by a teaching practicum where students put into practice what they have learned.

Program Requirements

Requirements

Code	Title	Hours
Required Courses		
INPR 5100	Foundations of Evidence-based Postsecondary Teaching	4
INPR 5110	Integrating Teaching Across Contexts	4
INPR 5120	Postsecondary Teaching Practicum	4

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.000 GPA required

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General Information

- Notifications and Disclosures (p. 1238)
- Governing Boards and Officers of Northeastern (p. 1240)
- University Leadership (p. 1242)
- Accreditation (p. 1243)
- Authorizations (p. 1247)
- Major CIP Codes (p. 1251)
- Resources (p. 1271)

Notifications and Disclosures

The *Northeastern University Catalog* contains the university's primary statements about approved academic programs and degree requirements, as authorized by the president or the Board of Trustees.

The *Northeastern University Catalog* contains current information about the university calendar, admissions, degree requirements, fees, and certain procedures and regulations; however, such information is not intended and should not be regarded to be contractual. Course information was current as of July 31, 2023. For updated course information, students and advisors should consult the Banner course catalog (https://nubanner.neu.edu/StudentRegistrationSsb/ssb/term/termSelection/?mode=courseSearch).

Accreditation

Please visit the Accreditation (https://catalog.northeastern.edu/archive/2023-2024/graduate/appendix/statements-accreditation/) page of this catalog for details of Northeastern University's accreditation status.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

In accordance with the Family Educational Rights and Privacy Act of 1974, Northeastern University permits its students to inspect their records wherever appropriate and to challenge specific parts of them when they feel it is necessary to do so. Specific details of the law as it applies to Northeastern are discussed in this section of the catalog (https://catalog.northeastern.edu/archive/2023-2024/graduate/academic-policies-procedures/ferpa/).

PERSISTENCE RATES UNDER THE STUDENT RIGHT-TO-KNOW ACT

In the fall of 2022, the persistence rate for undergraduate students who entered in the fall 2021 cohort was 97.2%.

TUITION DEFAULT POLICY

In cases where the student defaults on their tuition, the student shall be liable for the outstanding tuition and all reasonable associated collection costs incurred by the university, including attorneys' fees.

NONDISCRIMINATION POLICIES

Northeastern University is committed to providing a living, learning, and working environment free from discrimination and harassment and does not discriminate on the basis of race, color, religion, genetic information, sex, gender, gender identity, sexual orientation, age, national origin, ancestry, disability, or veteran status in admission to, access to, treatment in, or employment in its programs and activities. The university will not tolerate any conduct that violates rights guaranteed by law, or any of the university policies that prohibit discrimination, including the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), Policy on Sexual and Gender-Based Harassment and Title IX (https://policies.northeastern.edu/policy104/#_ga=2139912052678023693168597240 6-9222403871666097079), and the Policy on Non-Fraternization (https://www.northeastern.edu/policies/pdfs/Policy_on_Non-Fraternization.pdf). Furthermore, university policy also includes prohibitions of retaliation for filing complaints of discrimination with the Office for University Equity and Compliance. Links to the university's nondiscrimination policies and its grievance procedures are available at the OUEC (https://www.northeastern.edu/ouec/). Inquiries regarding the university's nondiscrimination policies may be directed to:

Office for University Equity and Compliance (https://www.northeastern.edu/ouec/)
125 Richards Hall
Northeastern University
Boston, Massachusetts 02115
617.373.4644
ouec@northeastern.edu

The university strongly encourages any person to report information relating to alleged discrimination or harassment to the OUEC (https://www.northeastern.edu/ouec/) by completing the form available here (https://cm.maxient.com/reportingform.php?NortheasternUniv&layout_id=7) or through any of the contact options listed above. OUEC's policies, as well as other helpful information, can be found at the OUEC website (https://www.northeastern.edu/ouec/).

DISABILITY RESOURCE CENTER

The Disability Resource Center provides a variety of disability-related services and accommodations to Northeastern University's students with disabilities.

Northeastern University's compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 are coordinated by the senior director of the Disability Resource Center. Persons requiring information regarding the Disability Resource Center should contact the center at 617.373.2675 or drc@northeastern.edu.

CLERY ACT

Northeastern University is committed to assisting all members of the university community in providing for their own safety and security. Information regarding campus security and personal safety, including topics such as crime prevention, university police law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures, is available in the Annual Security & Fire Safety Reports, located on the NUPD website (https://nupd.northeastern.edu/annual-reports/).

EMERGENCY INFORMATION

The university is prepared to respond to emergencies and urgent situations that require immediate action with a trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals from a coordinated group that is able to manage a wide range of potential situations.

In case of emergency or crisis situations that require immediate notification, university officials will deploy the NU Alert system, which sends email, voice mail, and text messages to students, faculty, and staff. NU Alert is intended to communicate pertinent information and, when appropriate, provide directions to those in the affected area(s).

A record of past Timely Warning and NU Alert Emergency Notifications for our campus community can be found on the NUPD website (https://nupd.northeastern.edu/safety-notifications/).

Examples of crisis situations range from snowstorms to national emergencies that have a local impact.

Additional information on the university's emergency information systems can be found on the university's Emergency Information (https://www.northeastern.edu/emergency-information/) website.

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To educate students for a life of fulfillment and accomplishment.
To create and translate knowledge to meet global and societal needs.

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Accreditation

Northeastern University has maintained its status as a member in good standing of the New England Commission of Higher Education, Inc. (NECHE), previously New England Association of Schools and Colleges (NEASC), since it was awarded its initial accreditation in 1940. The university was last reviewed by NECHE in 2018 and will be reviewed again in fall 2028.

Northeastern University possesses degree-granting authority in Massachusetts, under the auspices of the Massachusetts Board of Higher Education.

BOUVÉ COLLEGE OF HEALTH SCIENCES

Program	Accrediting Agency
BA Public Health (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/public-health-ba/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BS Health Science (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/health-science-bs/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
MPH Public Health (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/public-health-mph/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[3]	North Carolina Board of Nursing (https://www.ncbon.com/)[3]
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Physician Assistant Studies (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/physician-assistant-studies-ms/)	Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) (http://www.arc-pa.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA) (https://caa.asha.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
CAGS Nursing (multiple concentrations) (https://nextcatalog.northeastern.edu/graduate/health-sciences/nursing/#programstext)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)[1]	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Council on Accreditation of Nurse Anesthesia Educational Programs (COA) (https://www.coacrna.org/)
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DNP Nursing Practice—Post-Master's (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-practice-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DPT Physical Therapy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/dpt-post-baccalaureate-entry/)	Commission on Accreditation in Physical Therapy Education (CAPTE) (https://www.capteonline.org/)
PharmD Pharmacy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/pharmacy/pharmd-direct-entry/)	Accreditation Council for Pharmacy Education (ACPE) (https://www.acpe-accredit.org/)
PhD Counseling Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/counseling-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

1 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.
2 The Massachusetts Board of Registration in Nursing approves (not accredits) programs.
3 The North Carolina Board of Nursing approves (not accredits) programs.

COLLEGE OF ARTS, MEDIA AND DESIGN

Program	Accrediting Agency
Master of Architecture (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/architecture/#text)	National Architectural Accreditation Board (NAAB) (https://www.naab.org/)

COLLEGE OF ENGINEERING

Program	Accrediting Agency
BSBioE Bioengineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/bioengineering/bioengineering-bsbioe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSChE Chemical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/chemical/chemical-engineering-bsche/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCE Civil Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/civil-engineering-bsce/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCmpE Computer Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/computer-engineering-bscompe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEE Electrical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/electrical-engineering-bsee/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEnvE Environmental Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/environmental-engineering-bsenve/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSIE Industrial Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsie/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

BSME Mechanical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsme/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

COLLEGE OF PROFESSIONAL STUDIES

Program	Accrediting Agency
BS Finance and Accounting Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/finance-accounting-management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BS Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BSET Computer Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Electrical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Mechanical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
MS Organizational Leadership (with concentration in Project Management) (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/organizational-leadership-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MS Project Management (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MSLD Sports Leadership (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/master-of-sports-leadership/)	Commission on Sport Management Accreditation (https://www.cosmaweb.org/)
Master of Arts in Teaching programs in: (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/teaching-secondary-licensure-mat/#text)	
Elementary Education, 1–6	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Sheltered English Immersion Administrator—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)
Sheltered English Immersion Teacher—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Biology, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Chemistry, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Earth and Space Science, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English as a Second Language (ESL), PreK–6, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of History, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Mathematics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Physics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Political Science/Political Philosophy, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

Teacher of Social Science, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Students with Moderate Disabilities, PreK–8, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

1 Accredited under the aegis of the "sponsoring" full-time college.
2 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.

COLLEGE OF SCIENCE

Program	Accrediting Agency
BS Biochemistry (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/science/biochemistry/biochemistry-bs/)	American Society for Biochemistry and Molecular Biology (ASBMB) (https://www.asbmb.org/)

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

Program	Accrediting Agency
BS American Sign Language—English Interpreting (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/social-sciences-humanities/cultures-societies-global-studies/american-sign-language-english-interpreting-bs/)	Commission on Collegiate Interpreter Education (http://www.ccie-accreditation.org/)
MPA Public Administration (https://catalog.northeastern.edu/archive/2023-2024/graduate/social-sciences-humanities/public-policy-urban-affairs/public-administration-mpa/)	Network of Schools of Public Policy, Affairs, and Administration (https://www.naspaa.org/)

D'AMORE-MCKIM SCHOOL OF BUSINESS

Program	Accrediting Agency
All programs offered in 2023–24	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)

SCHOOL OF LAW

Program	Accrediting Agency
JD Law (https://catalog.northeastern.edu/archive/2023-2024/graduate/law/law-jd/)	American Bar Association; Association of American Law Schools[1]

1 The Association of American Law Schools is an elected membership organization, not an accrediting body.

Authorizations

Campus Locations and Regulatory Agencies

In addition to accreditation by the New England Commission of Higher Education, Northeastern University is regulated by local authorities for its global campus network locations. These agencies are as follows:

- Arlington, Virginia
  - State Council of Higher Education for Virginia
- Charlotte, North Carolina
  - Board of Governors of the University of North Carolina
- Miami, Florida
  - Florida Commission for Independent Education
- Portland, Maine
  - Maine State Board of Education
- Oakland, California
  - Bureau for Private Postsecondary Education
- San Francisco, California
  - Bureau for Private Postsecondary Education
- San Jose, California
  - Bureau for Private Postsecondary Education
- Seattle, Washington
  - Washington Student Achievement Council
- Toronto, Ontario, Canada
  - Ministry of Colleges and Universities
- Vancouver, British Columbia, Canada
  - Ministry of Post-Secondary Education and Future Skills

Required Disclosures

VIRGINIA

Northeastern has processes in place to ensure that student grievances are treated with respect and addressed in a fair and professional manner. Students can report concerns to the Office of Student Conduct and Conflict Resolution (https://www.northeastern.edu/osccr/) or the University Ombuds (https://provost.northeastern.edu/ombuds/). At the Arlington campus, students can contact the on-site student support specialist or the campus principal.

If a student's problem has not been resolved in pursuance of the Northeastern grievance policy, they may contact the State Council of Higher Education for Virginia. SCHEV representatives can be reached via telephone at (804) 225-2600; via fax at (804) 225-2604; at this website (https://www.schev.edu/students/resources/student-complaints/); or by mail at 101 N. 14th Street, 10th Floor, James Monroe Building, Richmond, VA 23219.

The Virginia State Approving Agency (SAA) is the approving authority of education and training programs for Virginia. Our office investigates complaints of GI Bill® beneficiaries. While most complaints should initially follow the school grievance policy, if the situation cannot be resolved at the school, the beneficiary should contact our office via email saa@dvs.virginia.gov. *GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at* http://www.benefits.va.gov/gibill *(*http://www.benefits.va.gov/gibill/*).*

NORTH CAROLINA

Northeastern has been evaluated by the University of North Carolina and is licensed to conduct higher education degree activity in the state. The university's guaranty bond for unearned prepaid tuition is on file with the Board of Governors of the University of North Carolina and the Office of the General Counsel at Northeastern. North Carolina students may view a copy of the Tuition Guaranty Bond by contacting Northeastern's Risk Services at 716 Columbus Avenue (Columbus Place), Suite 301 CP, Boston, MA 02120.

If students are unable to resolve a complaint offered by the Northeastern grievance procedures, they can submit a complaint through the online student complaint form at https://studentcomplaints.northcarolina.edu/form (https://studentcomplaints.northcarolina.edu/form/), or by mail to North Carolina Post-Secondary Education Complaints, 140 Friday Center Drive, Chapel Hill, NC 27517. https://www.northcarolina.edu/post-secondary-education-complaints/.

FLORIDA

Northeastern University—Miami is accredited by the New England Commission of Higher Education (NECHE) and is provisionally licensed in the state of Florida by the Commission on Independent Education (CIE). Additional information regarding the institution may be obtained by contacting the Commission for Independent Education, Department of Education, 325 West Gaines Street, Suite 1414, Tallahassee, Florida 32399-0400, toll-free telephone number (888) 224-6684.

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

CALIFORNIA

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education (http://www.bppe.ca.gov), 1747 N. Market Blvd., Ste. 225, Sacramento, CA 95834; P.O. Box 980818, West Sacramento, CA 95798-0818, (888) 370-7589, or by fax (916) 263-1897.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

The Office of Student Assistance and Relief is available to support prospective students, current students, or past students of private postsecondary educational institutions in making informed decisions, understanding their rights, and navigating available services and relief options. The office may be reached by calling (888) 370-7589 or by visiting https://osar.bppe.ca.gov/.

WASHINGTON

Northeastern is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Northeastern to offer specific degree programs. The council may be contacted for a list of currently authorized programs. Authorization by the council does not carry with it an endorsement by the council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the council at P.O. Box 43430, Olympia, WA 98504-3430 or by email at degreeauthorization@wsac.wa.gov.

The transferability of credits earned at Northeastern is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Northeastern will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Northeastern to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Northeastern will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned. The Washington Student Achievement Council has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit http://www.wsac.wa.gov/student-complaints (http://www.wsac.wa.gov/student-complaints/) for information regarding the WSAC complaint process.

ONTARIO

Master of Science in Project Management *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Regulatory Affairs *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/regulatory-affairs-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting June 25, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Informatics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/informatics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Biotechnology (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/chemistry-chemical-biology/biotechnology-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting September 14, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Cyber-Physical Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/cyber-physical-systems-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Bioinformatics (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/biology/bioinformatics-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

BRITISH COLUMBIA

Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Align—Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/#alignprogramrequirementstext)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Data Analytics Engineering (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/mechanical-industrial/data-analytics-engineering-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective November 29, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Design and Data Visualization (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/art-design/information-design-data-visualization-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF SCIENCE IN INFORMATION SYSTEMS (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective March 3, 2023, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF professional studies in digital media *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps/*) (including* connect *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps-connect/*))*

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective June 6, 2023 having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (for example, acceptable to potential employers, professional licensing bodies, or other educational institutions).

Distance Education/State Authorization Reciprocity Agreement Student Complaint Procedures (https://www.northeastern.edu/graduate/wp-content/uploads/2020/07/25.-Student-Complaint-Procedure-with-links.pdf)

Major CIP Codes

The following is a list of Northeastern University majors for programs accepting new students during the 2023-2024 catalog year, along with each major's corresponding CIP code. "CIP" refers to the Classification of Instructional Programs published by the U.S. Department of Education's National Center for Education Statistics (https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=56).

Academic Program	Major Transcript Title	Major Cip Code
P-CERTG-3DAN: 3D Animation, Graduate Certificate	3-D Animation	100304
CERTG-ACFD: Accounting and Financial Decision Making, Graduate Certificate	Accntng Fin Decision Making	520899
MSA-ACCT: Accounting, MSA	Accounting	520301
P-CERTU-ACCT: Accounting, Undergraduate Certificate	Accounting	520301
P-CERTU-AACT: Advanced Accounting, Undergraduate Certificate	Advanced Accounting	520301
MS-AIMF: Advanced and Intelligent Manufacturing, MS	Advanced and Intelligent Mfg	143601
P-BS-AVMS: Advanced Manufacturing Systems, BS	Advanced Manufacturing Systems	150613
BA-AFMS: Africana Studies and Media and Screen Studies, BA	Africana St/Media Screen St	050201
BA-AFHS: Africana Studies and Human Services, BA	Africana Stud/Human Services	050201
BA-AFCS: Africana Studies, BA	Africana Studies	050201
BS-AFCS: Africana Studies, BS	Africana Studies	050201
BA-AFEN: Africana Studies and English, BA	Africana Studies/English	050201
BA-AFPS: Africana Studies and Political Science, BA	Africana Studies/Political Sci	050201
P-CERTG-AGPM: Agile Project Management, Graduate Certificate	Agile Project Management	520211
P-BS-ANLY: Analytics, BS	Analytics	110802
P-CERTU-ANLY: Analytics, Undergraduate Certificate	Analytics	110802
P-MPS-ANLY: Analytics, MPS	Analytics	110802
MS-AQMS: Applied Quantitative Methods and Social Analysis, MS	Appl Quant Methods Soc Anlys	450102
P-CERTG-APAN: Applied Analytics, Graduate Certificate	Applied Analytics	307101
MS-ABA: Applied Behavior Analysis, MS	Applied Behavior Analysis	422814
MS-AEPP: Applied Educational Psychology, MS	Applied Educational Psychology	422805
P-MPS-APLG: Applied Logistics, MPS	Applied Logistics	520203
P-MPS-APMI: Applied Machine Intelligence, MPS	Applied Machine Intelligence	521301
CERTG-AMTH: Applied Mathematics, Graduate Certificate	Applied Mathematics	270301
MS-AMTH: Applied Mathematics, MS	Applied Mathematics	270301
MS-APNR: Applied Nursing Research, MS	Applied Nursing Research	513808
P-MS-APNU: Applied Nutrition, MS	Applied Nutrition	301901
BS-APHY: Applied Physics, BS	Applied Physics	400801
MS-APEN: Applied Physics and Engineering, MS	Applied Physics/Engineering	400801
MS-APPS: Applied Psychology, MS	Applied Psychology	422813
BS-ARCS: Architectural Studies, BS	Architectural Studies	040801
BS-ARSD: Architectural Studies and Design, BS	Architectural Studies/Design	040803
BS-ARCH: Architecture, BS	Architecture	040902

MARCH-ARCH1: Master of Architecture—One-Year Program	Architecture	040902
MARCH-ARCH2: Master of Architecture—Two-Year Program	Architecture	040902
MARCH-ARCH3: Master of Architecture—Three-Year Program	Architecture	040902
MARCH-ARCH3A: Master of Architecture—Three-Year Program—Advanced Degree Entrance	Architecture	040902
BS-AENG: Architecture and English, BS	Architecture/ English	040201
BA-ARTS: Art, BA	Art	500702
MS-ARIN: Artificial Intelligence	Artificial Intelligence	110102
MS-AMCE: Arts Administration and Cultural Entrepreneurship, MS	Arts Adm Cultural Entrepren	501099
CERTG-ARAD: Arts Administration, Graduate Certificate	Arts Administration	501099
BS-ASLI: American Sign Language—English Interpreting, BS	ASL - English Interpreting	161601
BS-ASHU: American Sign Language and Human Services, BS	ASL / Human Services	161601
BS-ASLN: American Sign Language and Linguistics, BS	ASL / Linguistics	161601
BS-ASPS: American Sign Language and Psychology, BS	ASL / Psychology	161601
BS-ASTH: American Sign Language and Theatre, BS	ASL / Theatre	161601
BS-BNPH: Behavioral Neuroscience and Philosophy, BS	Behav Neuroscience/Philosophy	261501
BS-BENS: Behavioral Neuroscience, BS	Behavioral Neuroscience	261501
BS-BNDS: Behavioral Neuroscience and Design, BS	Behavioral Neuroscience/Design	261501
BS-BIOC: Biochemistry, BS	Biochemistry	260202
CERTG-BDBS: Biodefense and Biosecurity, Graduate Certificate	Biodefense and Biosecurity	261201
BSBIOE-BION: Bioengineering, BSBioE	Bioengineering	149999
MSBIOE-BION: Bioengineering, MSBioE	Bioengineering	149999
PHD-BION: Bioengineering, PhD	Bioengineering	149999
PHD-BION-A: Bioengineering, PhD—Advanced Entry	Bioengineering	149999
BSBIOE-BEBC: Bioengineering and Biochemistry, BSBioE	Bioengineering/Biochemistry	149999
CERTG-BINF: Bioinformatics, Graduate Certificate	Bioinformatics	261103
MS-BINF: Bioinformatics, MS	Bioinformatics	261103
P-BS-BIOS: Biological Science, BS	Biological Science	260101
BS-BIOL: Biology, BS	Biology	260101
MS-BIOL: Biology, MS	Biology	260101
PHD-BIOL: Biology, PhD	Biology	260101
PHD-BIOL-A: Biology, PhD-Advanced Entry	Biology	260101
BS-BENG: Biology and English, BS	Biology/English	269999
BS-BIMA: Biology and Mathematics, BS	Biology/Mathematics	260101
BS-BIPO: Biology and Political Science, BS	Biology/Political Science	269999
BS-BIMP: Biomedical Physics, BS	Biomedical Physics	260203
MS-BIOM: Biomedical Science, MS	Biomedical Science	260102
PHD-BIOM: Biomedical Science, PhD	Biomedical Science	260102
PHD-BIOM-A: Biomedical Science, PhD—Advanced Entry	Biomedical Science	260102

P-CERTG-BPRA: Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biophamaceutical Reg Affairs	512099
CERTG-BIAS: Biopharmaceutical Analytical Sciences, Graduate Certificate	Biopharm Analytical Sci	400599
P-CERTG-BPQI: International Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biopharmacy Quality Intl	512099
CERTG-BIOT: Biotechnology, Graduate Certificate	Biotechnology	261201
MS-BIOT-SC: Biotechnology, MS	Biotechnology	261201
P-BS-BIOT: Biotechnology, BS	Biotechnology	261201
CERTG-BITE: Biotechnology Enterprise, Graduate Certificate	Biotechnology Enterprise	261201
CERTG-RESC: Biotechnology Regulatory Science, Graduate Certificate	Biotechnology Regulatory Sci	512004
CERTG-BLCE: Blockchain and Smart Contract Engineering, Graduate Certificate	Blockchain Smart Contr. Engr	140903
CERTG-BMGT: Brand Management, Graduate Certificate	Brand Management	521401
CERTG-TBWS: Broadband Wireless Systems, Graduate Certificate	Broadband Wireless Systems	110901
BS-BALW: Business Administration and Law, BS	Business Admin and Law	520101
BS-BACS: Business Administration and Communication Studies, BS	Business Admin/Comm Studies	520101
BS-BAPS: Business Administration and Psychology, BS	Business Admin/Psychology	520101
BS-BAPH: Business Administration and Public Health, BS	Business Admin/Public Health	520101
BSBA-BSAD: Bachelor of Science in Business Administration, BSBA	Business Administration	520101
CERTG-BSAD: Business Administration, Graduate Certificate	Business Administration	520101
CERTG-BSAD-O: Business Administration—Online Program, Graduate Certificate	Business Administration	520101
MBA-BSAD-E: Business Administration, MBA—Part-Time	Business Administration	520101
MBA-BSAD-F: Business Administration, MBA—Full-Time	Business Administration	520101
MBA-BSAD2-O: Business Administration, MBA—Online	Business Administration	520101
BS-BUDE: Business Administration and Design, BS	Business Administration/Design	520101
CERTG-BUSA: Business Analytics, Graduate Certificate	Business Analytics	521302
MS-BUSA: Business Analytics, MS	Business Analytics	521302
MS-BUSA-O: Business Analytics, MS—Online	Business Analytics	521302
CERTG-BLAW: Business Law, Graduate Certificate	Business Law	220205
CERTG-HECA: Business Management for Healthcare, Graduate Certificate	Business Mgmt for Healthcare	521099
MS-CGTH: Cell and Gene Therapies, MS	Cell and Gene Therapies	260806
BS-CMBI: Cell and Molecular Biology, BS	Cell and Molecular Biology	260406
BSCHE-CEBE: Chemical Engineering and Bioengineering, BSChE	Chem Engineer/Bioengineering	140701
BSCHE-CHOC: Chemical Engineering and Biochemistry, BSChE	Chem Engineering/ Biochemistry	140701
BSCHE-CHME: Chemical Engineering, BSChE	Chemical Engineering	140701
MSCHE-CHME: Chemical Engineering, MSChE	Chemical Engineering	140701
PHD-CHME: Chemical Engineering, PhD	Chemical Engineering	140701

PHD-CHME-A: Chemical Engineering, PhD—Advanced Entry	Chemical Engineering	140701
BSCHE-CHCS: Chemical Engineering and Computer Science, BSChE	Chemical Engineering/Comp Sci	140701
BSCHE-CEDS: Chemical Engineering and Data Science, BSChE	Chemical Engineering/Data Sci	140701
BSCHE-CEPH: Chemical Engineering and Physics, BSChE	Chemical Engineering/Physics	140701
BSCHE-CEEE: Chemical Engineering and Environmental Engineering, BSChE	Chemical Engr/Environ Engr	140701
BS-CHEM: Chemistry, BS	Chemistry	400501
MS-CHEM: Chemistry, MS	Chemistry	400501
PHD-CHEM: Chemistry, PhD	Chemistry	400501
PHD-CHEM-A: Chemistry, PhD-Advanced Entry	Chemistry	400501
PHD-CEEN: Civil and Environmental Engineering, PhD	Civil Environmental Engineer	140801
PHD-CEEN-A: Civil and Environmental Engineering, PhD—Advanced Entry	Civil Environmental Engineer	140801
BSCE-CEAS: Civil Engineering and Architectural Studies, BSCE	Civil Eng/Arch Studies	140801
BSCE-CIVE: Civil Engineering, BSCE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Construction Management, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Structures, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Transportation, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Data and Systems, MSCivE	Civil Engineering	140801
BSCE-CVCS: Civil Engineering and Computer Science, BSCE	Civil Engineering/Computer Sci	140801
CERTG-CLEN: Climate and Engineering, Graduate Certificate	Climate and Engineering	141401
MS-CLSE: Climate Science and Engineering, MS	Climate Sci and Engineering	141401
P-CERTG-CCAM: Cloud Computing Application and Management, Graduate Certificate	Cloud Computing App and Mgmt	110104
CERTG-CLSD: Cloud Software Development, Graduate Certificate	Cloud Software Development	110902
P-CERTG-CATH: Collegiate Athletics Administration, Graduate Certificate	Collegiate Athletics Admin	310504
BA-CMGR: Communication Studies and Graphic and Information Design, BA	Comm Stud/Graph Info Design	090101
BS-CMSL: Communication Studies and Speech-Language Pathology and Audiology	Comm Stud/Speech-Lang Path Aud	090101
BA-CMTH: Communication Studies and Theatre, BA	Comm Studies/Theatre	090199
P-MS-COED: Commerce and Economic Development, MS	Commerce Economic Developmnt	450603
BA-CMME: Communication and Media Studies, BA	Communication Media Studies	090199

BA-CMSO: Communication Studies and Sociology, BA	Communication Stud./Sociology	090199
BA-CMST: Communication Studies, BA	Communication Studies	090101
BS-CSBA: Computer Science and Business Administration, BS	Comp Sci/Business Admin	110101
BS-CSCP: Computer Science and Cognitive Psychology, BS	Comp Sci/Cognitive Psyc	110101
BS-CSES: Computer Science and Environmental and Sustainability Sciences, BS	Comp Sci/Environ and Sust Sci	110101
BS-CSMA: Computer Science and Mathematics, BS	Comp Sci/Mathematics	110101
BS-CSPP: Computer Science and Politics, Philosophy, and Economics, BS	Comp Sci/Politics, Phil Econ	110101
CERTG-COSS: Computational Social Science, Graduate Certificate	Computational Social Science	305202
BSCMPE-CMPE: Computer Engineering, BSCmpE	Computer Engineering	140901
PHD-CMPE: Computer Engineering, PhD	Computer Engineering	140901
PHD-CMPE-A: Computer Engineering, PhD-Advanced Entry	Computer Engineering	140901
BSCMPE-CMPH: Computer Engineering and Physics, BSCmpE	Computer Engineering/Physics	140901
BSCMPE-CECS: Computer Engineering and Computer Science, BSCmpE	Computer Engr/Computer Science	140901
BS-CSPO: Computer Science and Political Science, BS	Computer Sci./ Political Sci.	110101
BS-CSBN: Computer Science and Behavioral Neuroscience, BS	Computer Sci/Behavior Neurosci	110101
BS-CSCS: Computer Science and Communication Studies, BS	Computer Sci/Communication Stu	110101
BS-CSCJ: Computer Science and Criminal Justice, BS	Computer Sci/Criminal Justice	110101
BS-CGDV: Computer Science and Game Development, BS	Computer Sci/Game Development	110101
BS-CSMU-MUTE: Computer Science and Music with Concentration in Music Technology, BS	Computer Sci/Music	110101
BS-CSPL: Computer Science and Philosophy, BS	Computer Sci/Philosophy	110101
BS-CSPY: Computer Science and Physics, BS	Computer Sci/Physics	110101
BS-CSSO: Computer Science and Sociology, BS	Computer Sci/Sociology	110101
BACS-CSCI: Computer Science, BACS	Computer Science	110101
BSCS-CSCI: Computer Science, BSCS	Computer Science	110101
CERTG-CSCI: Computer Science, Graduate Certificate	Computer Science	110101
MSCS-CSCI: Computer Science, MSCS	Computer Science	110101
MSCS-CSCI-AL: Computer Science, MSCS—Align	Computer Science	110101
PHD-CSCI: Computer Science, PhD	Computer Science	110101
PHD-CSCI-A: Computer Science, PhD—Advanced Entry	Computer Science	110101
BS-CSBI: Computer Science and Biology, BS	Computer Science/Biology	110101
BS-CSDE: Computer Science and Design, BS	Computer Science/Design	110101
BS-CSEC: Computer Science and Economics, BS	Computer Science/Economics	110101
BS-CSEG: Computer Science and English, BS	Computer Science/English	110101
BS-CSHI: Computer Science and History, BS	Computer Science/History	110101
BS-CSJO: Computer Science and Journalism, BS	Computer Science/Journalism	110101
BS-CSLI: Computer Science and Linguistics, BS	Computer Science/Linguistics	110101
BS-CSME: Computer Science and Media Arts, BS	Computer Science/Media Arts	110101
BS-CSTH: Computer Science and Theatre, BS	Computer Science/Theatre	110101

BS-CPLW: Computing and Law, BS	Computing and Law	110101
P-CERTG-CONM: Construction Management, Graduate Certificate	Construction Management	460412
P-MS-CORC: Corporate and Organizational Communication, MS	Corporate Org Communication	090101
CERTG-COFN: Corporate Finance, Graduate Certificate	Corporate Finance	520801
CERTG-COIN: Corporate Innovation, Graduate Certificate	Corporate Innovation	520210
CERTG-CPRN: Corporate Renewal, Graduate Certificate	Corporate Renewal	520799
MSCP-COPS: Counseling Psychology, MSCP	Counseling Psychology	422803
PHD-COPS-MSE: Counseling Psychology, PhD	Counseling Psychology	422803
MS-CCMD: Creative Collaboration and Multidisciplinary Design, MS	Creatv Collab Multidisc Dsgn	501099
BS-CRJO: Criminal Justice and Journalism, BS	Criminal Justice/Journalism	430104
BS-CJPH: Criminal Justice and Philosophy, BS	Criminal Justice/Philosophy	430104
BS-CRPO: Criminal Justice and Political Science, BS	Criminal Justice/Political Sci	430104
BS-CJPS: Criminal Justice and Psychology, BS	Criminal Justice/Psychology	430199
BS-CRSO: Criminal Justice and Sociology, BS	Criminal Justice/Sociology	430104
BS-CRCJ: Criminology and Criminal Justice, BS	Criminology Criminal Justice	430104
MS-CRCJ: Criminology and Criminal Justice, MS	Criminology Criminal Justice	430104
PHD-CRJP: Criminology and Justice Policy, PhD	Criminology and Justice Policy	430104
PHD-CRJP-A: Criminology and Justice Policy, PhD—Advanced Entry	Criminology and Justice Policy	430104
P-CERTG-CCCM: Cross-Cultural Communication, Graduate Certificate	Cross-Cultural Communication	090100
BA-CAPH: Cultural Anthropology and Philosophy, BA	Cultural Anthro/Philosophy	450204
BA-CARS: Cultural Anthropology and Religious Studies, BA	Cultural Anthro/Religious Stud	450204
BA-CUAN: Cultural Anthropology, BA	Cultural Anthropology	451101
BS-CUAN: Cultural Anthropology, BS	Cultural Anthropology	451101
BA-CUTH: Cultural Anthropology and Theatre, BA	Cultural Anthropology/Theatre	451101
CERTG-CUEN: Cultural Entrepreneurship, Graduate Certificate	Cultural Entrepreneurship	501099
MS-CYPS: Cyber-Physical Systems, MS	Cyber-Physical Systems	140903
BS-CYBS: Cybersecurity, BS	Cybersecurity	111003
CERTG-CYBS: Cybersecurity, Graduate Certificate	Cybersecurity	111003
MS-CYBS: Cybersecurity, MS	Cybersecurity	111003
MS-CYBS-AL: Cybersecurity, MS—Align Program	Cybersecurity	111003
PHD-CYBS: Cybersecurity, PhD	Cybersecurity	111003
PHD-CYBS-A: Cybersecurity, PhD—Advanced Entry	Cybersecurity	111003
BS-CYBB: Cybersecurity and Business Administration, BS	Cybersecurity/Business Admin	111003
BS-CYCJ: Cybersecurity and Criminal Justice, BS	Cybersecurity/Criminal Justice	111003
BS-CYEC: Cybersecurity and Economics, BS	Cybersecurity/Economics	111003
CERTG-DAAN: Data Analytics, Graduate Certificate	Data Analytics	110802
CERTG-DAAE: Data Analytics Engineering, Graduate Certificate	Data Analytics Engineering	149999
MS-DAAE: Data Analytics Engineering, MS	Data Analytics Engineering	149999
MS-DAMG: Data Architecture and Management, MS	Data Architecture Management	110802

BS-DSBA: Data Science and Business Administration, BS	Data Sci/Business Admin	110802
BS-DSEE: Data Science and Ecology and Evolutionary Biology, BS	Data Sci/Ecology Evol Bio	110802
BS-DSES: Data Science and Environmental and Sustainability Sciences, BS	Data Sci/Environ and Sust Sci	110802
BS-DASC: Data Science, BS	Data Science	110802
MS-DASC: Data Science, MS	Data Science	110802
MS-DASC-AL: Data Science, MS—Align Program	Data Science	110802
BS-DSBN: Data Science and Behavioral Neuroscience, BS	Data Science/Behavioral Neuro	110802
BS-DSBC: Data Science and Biochemistry, BS	Data Science/Biochemistry	110802
BS-DSBL: Data Science and Biology, BS	Data Science/Biology	110802
BS-DSCH: Data Science and Chemistry, BS	Data Science/Chemistry	110802
BS-DSCJ: Data Science and Criminal Justice, BS	Data Science/Criminal Justice	110802
BS-DSEC: Data Science and Economics, BS	Data Science/Economics	110802
BS-DSHS: Data Science and Health Science, BS	Data Science/Health Science	110802
BS-DSIA: Data Science and International Affairs, BS	Data Science/Intl Affairs	110802
BS-DSJO: Data Science and Journalism, BS	Data Science/Journalism	110802
BS-DSLI: Data Science and Linguistics, BS	Data Science/Linguistics	110802
BS-DSMA: Data Science and Mathematics, BS	Data Science/Mathematics	110802
BS-DSPL: Data Science and Philosophy, BS	Data Science/Philosophy	110802
BS-DSPH: Data Science and Physics, BS	Data Science/Physics	110802
BS-DSPS: Data Science and Psychology, BS	Data Science/Psychology	110802
BFA-DESN: Design, BFA	Design	500409
P-BS-DIME: Digital Communication and Media, BS	Digital Communication Media	090702
CERTG-DHUM: Digital Humanities, Graduate Certificate	Digital Humanities	240103
P-MPS-DGM-AL: Digital Media, MPS—Connect	Digital Media	090702
P-MPS-DGME: Digital Media, MPS	Digital Media	090702
P-CERTG-DGMM: Digital Media Management, Graduate Certificate	Digital Media Management	100105
P-CERTG-DGVD: Digital Video, Graduate Certificate	Digital Video	500602
CERTG-EINT: Early Intervention, Graduate Certificate	Early Intervention	131099
BS-EEBI: Ecology and Evolutionary Biology, BS	Ecology Evolutionary Biology	261310
BA-ECON: Economics, BA	Economics	450603
BS-ECON: Economics, BS	Economics	450603
MS-ECON: Economics, MS	Economics	450603
PHD-ECON: Economics, PhD	Economics	450603
PHD-ECON-A: Economics, PhD—Advanced Entry	Economics	450603
BS-ECBA: Economics and Business Administration, BS	Economics/Business Admin	450603
BS-ECHS: Economics and Human Services, BS	Economics/Human Services	450603
BS-ECIB: Economics and International Business, BS	Economics/Intl Business	450603
BS-ECJO: Economics and Journalism, BS	Economics/Journalism	450603
BS-ECMA: Economics and Mathematics, BS	Economics/Mathematics	450603
BS-ECPH: Economics and Philosophy, BS	Economics/Philosophy	450603
BS-ECPS: Economics and Psychology, BS	Economics/Psychology	450603
P-EDD-EDUC: Education, EdD	Education	130101
P-MED-EDUC: Education, MEd	Education	130101

P-CAGS-EDLM: Education Leadership Management, CAGS	Education Leadership Mgmt	130401
MSECEL-ECEL: Electrical and Computer Engineering Leadership, MSECEL	Elec and Comp Engr Leadership	141001
BSEE-ELCE: Electrical and Computer Engineering, BSEE or BSCmpE	Electrical and Computer Engr	141001
BSEE-ELEE: Electrical Engineering, BSEE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Power Systems, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE	Electrical Engineering	141001
PHD-ELEE: Electrical Engineering, PhD	Electrical Engineering	141001
PHD-ELEE-A: Electrical Engineering, PhD—Advanced Entry	Electrical Engineering	141001
BSEE-EEMU: Electrical Engineering and Music with Concentration in Music Technology, BSEE	Electrical Engineering/Music	141001
BSEE-EEPH: Electrical Engineering and Physics, BSEE	Electrical Engineering/Physics	141001
P-MAT-ELED: Elementary Education, MAT	Elementary Education	131202
CERTG-ENES: Energy Systems, Graduate Certificate	Energy Systems	142701
MSENES-AL: Energy Systems, MSEneS—Academic Link Program	Energy Systems	142701
MSENES-ENES: Energy Systems, MSEneS	Energy Systems	142701
CERTG-ENSY: Energy Systems Management, Graduate Certificate	Energy Systems Management	142701
MS-CEPP: Engineering and Public Policy, MS	Engineering and Public Policy	140899
CERTG-ENBU: Engineering Business, Graduate Certificate	Engineering Business	140101
CERTG-EEDM: Engineering Economic Decision Making, Graduate Certificate	Engineering Economic Decision	140101
CERTG-ENLR: Engineering Leadership, Graduate Certificate	Engineering Leadership	141001
CERTG-ENGM: Engineering Management, Graduate Certificate	Engineering Management	140101
MSEM-ENGM: Engineering Management, MSEM	Engineering Management	140101

CERTG-ETSM: Technology Systems Management, Graduate Certificate	Engineering Tech Systems Mgmt	140101
BA-ENGL: English, BA	English	230101
MA-ENGL: English, MA	English	230101
PHD-ENGL: English, PhD	English	230101
PHD-ENGL-A: English, PhD—Advanced Entry	English	230101
BA-ENTH: English and Theatre, BA	English/ Theatre	230101
BA-ENCO: English and Communication Studies, BA	English/Communication Studies	230101
BA-ENCJ: English and Criminal Justice, BA	English/Criminal Justice	230101
BA-ENCA: English and Cultural Anthropology, BA	English/Cultural Anthropology	230101
BA-ENGD: English and Graphic and Information Design, BA	English/Graphic Info Design	230101
BA-EPHI: English and Philosophy, BA	English/Philosophy	230101
BA-ENPS: English and Political Science, BA	English/Political Science	230101
CERTG-ENTR: Entrepreneurship, Graduate Certificate	Entrepreneurship	520701
BS-ESJO: Environmental and Sustainability Sciences and Journalism, BS	Environ Sust Sci/Journalism	030104
BS-ESCH: Environmental and Sustainability Sciences and Chemistry, BS	Environ and Sust Sci/Chemistry	030104
BS-ESEC: Environmental and Sustainability Sciences and Economics, BS	Environ and Sust Sci/Economics	030104
BS-ESLA: Environmental and Sustainability Sciences and Landscape Architecture, BS	Environ and Sust Sci/Land Arch	030104
BSENVE-ENHS: Environmental Engineering and Health Science, BSEnvE	Environmental Eng/Health Sci	140801
BSENVE-ENVI: Environmental Engineering, BSEnvE	Environmental Engineering	140801
MSENVE-ENVI: Environmental Engineering, MSEnvE	Environmental Engineering	140801
MS-ENPP. Environmental Science and Policy, MS	Environmental Science Policy	030103
BA-ENVS: Environmental Studies, BA	Environmental Studies	030103
BS-ENSS: Environmental and Sustainability Sciences, BS	Environmtl Sustain Sciences	030104
BSENVE-EELA: Environmental Engineering and Landscape Architecture, BSEnvE	Environmtl Eng/Landscape Arch	140801
BA-ENHI: Environmental Studies and History, BA	Environmtl Studies/History	030103
BA-ENIA: Environmental Studies and International Affairs, BA	Environmtl Studies/Intl Affair	030103
BA-ENPH: Environmental Studies and Philosophy, BA	Environmtl Studies/Philosophy	030103
BA-ENPO: Environmental Studies and Political Science, BA	Environmtl Studies/Politic Sci	030103
P-CERTG-ESPT: eSports, Graduate Certificate	eSports	310504
MS-EXSC-O: Exercise Science, MS—Online	Exercise Science, MS	310505
CERTG-EXPD: Experience Design, Graduate Certificate	Experience Design	500499
MFA-EXPD: Experience Design, MFA	Experience Design	500499
MS-EXPD: Experience Design, MS	Experience Design	500499
CERTG-EPHD: Experiential PhD Leadership, Graduate Certificate	Experiential PhD Leadership	520210
P-CERTG-EXTL: Experiential Teaching and Learning, Graduate Certificate	Experiential Teach and Learn	130301
CERTG-EBIO: Experimental Biotechnology, Graduate Certificate	Experimental Biotechnology	261201
MS-EXRL: Extended Realities, MS	Extended Realities	500411

CERTG-EXMD: Extreme Medicine, Graduate Certificate	Extreme Medicine	519999
MSF-FINA: Finance, MSF	Finance	520801
P-BS-FIAM: Finance and Accounting Management, BS	Finance and Accounting Mgmt	520801
MSFMBA-E: Finance and Business Administration, MSFMBA—Part-Time	Finance/Business Admin	520801
MSFMBA-FIBA: Finance and Business Administration, MSFMBA	Finance/Business Admin	520801
MSFMBA-O: Finance and Business Administration, MSFMBA—Online	Finance/Business Admin	520801
P-CERTG-FIMI: Financial Markets and Institutions, Graduate Certificate	Financial Mkts and Inst	520899
P-CERTG-FACC: Forensic Accounting, Graduate Certificate	Forensic Accounting	430406
P-CERTG-FDDV: Fundraising and Development, Graduate Certificate	Fundraising and Development	520206
BFA-GAAN: Game Art and Animation, BFA	Game Art and Animation	500605
BFA-GAME: Game Design, BFA	Game Design	100304
P-CERTG-GMDS: Game Design, Graduate Certificate	Game Design	100304
BS-GDMT: Game Design and Music with Concentration in Music Technology, BS	Game Design/Music	100304
CERTG-GMED: Game Experience Design, Graduate Certificate	Game Experience Design	100304
CERTG-GMSC: Game Science, Graduate Certificate	Game Science	100304
MS-GSAD: Game Science and Design, MS	Game Science and Design	100304
P-CERTG-GINT: Geographic Information Systems, Graduate Certificate	Geographic Information Tech	110103
P-MPS-GSPS: Geospatial Services, MPS	Geospatial Services	110103
BA-GLAS: Global Asian Studies, BA	Global Asian Studies	050103
P-CERTG-GSIR: Global Studies and International Relations, Graduate Certificate	Global Stu and Intl Relations	302001
P-MS-GSIR: Global Studies and International Relations, MS	Global Stu and Intl Relations	302001
BS-GIDM: Graphic and Information Design and Mathematics, BS	Graphic and Info. Design/Math	500499
CERTG-HIME: Health Informatics Management and Exchange, Graduate Certificate	Health Info Mgmt Exchange	512706
CERTG-HISP. Health Informatics Privacy and Security, Graduate Certificate	Health Info Privacy Secu	512706
CERTG-HISE: Health Informatics Software Engineering, Graduate Certificate	Health Info Software Eng	512706
MS-HEIN: Health Informatics, MS	Health Informatics	512706
CERTG-HLAW: Health Law, Graduate Certificate	Health Law	220208
CERTG-HLAP. Health Law and Policy, Graduate Certificate	Health Law and Policy	220208
P-CERTG-HLMG: Health Management, Graduate Certificate	Health Management	510799
BS-HLSC: Health Science, BS	Health Science	510799
P-BS-HLSC: Health Science, BS	Health Science	510799
BS-HSBA: Health Science and Business Administration, BS	Health Science/Business Admin	510799
BS-HLCM: Health Science and Communication Studies, BS	Health Science/Comm Studies	510799
BS-HSPS: Health Science and Psychology, BS	Health Science/Psychology	510799

BS-HSSO: Health Science and Sociology, BS	Health Science/Sociology	510799
P-BS-HCAD: Healthcare Administration, BS	Healthcare Administration	510701
P-CERTU-HCAD: Healthcare Administration, Undergraduate Certificate	Healthcare Administration	510701
CERTG-CLAW: Healthcare Compliance, Graduate Certificate	Healthcare Compliance	220208
DMSC-HCLD: Healthcare Leadership, DMSc	Healthcare Leadership, DMSc	510701
P-CERTG-HEDA: Higher Education Administration, Graduate Certificate	Higher Education Admin	130406
P-MED-HEDA: Higher Education Administration, MEd	Higher Education Admin	130406
BA-HIST: History, BA	History	540101
BS-HIST: History, BS	History	540101
MA-HIST: History, MA	History	540101
PHD-HIST: History, PhD	History	540101
PHD-HIST-A: History, PhD—Advanced Entry	History	540101
BA-HICL: History, Culture, and Law, BA	History, Culture, and Law	220000
BA-HIAS: History and Asian Studies, BA	History/Asian Studies	540101
BA-HICJ: History and Criminal Justice, BA	History/Criminal Justice	540101
BA-HICA: History and Cultural Anthropology, BA	History/Cultural Anthrop	540101
BA-HIEC: History and Economics, BA	History/Economics	540101
BS-HIEC: History and Economics, BS	History/Economics	540101
BA-HIEN: History and English, BA	History/English	540101
BA-HIPH: History and Philosophy, BA	History/Philosophy	540101
BA-HIPS: History and Political Science, BA	History/Political Science	540101
BA-HIRS: History and Religious Studies, BA	History/Religious Studies	540101
BS-HHHS: Health Humanities and Health Science, BS	Hlth Humanities/Hlth Science	513204
BA-HHPH: Health Humanities and Public Health, BA	Hlth Humanities/Public Hlth	513204
PHD-HBSS: Human Behavior and Sustainability Sciences, PhD	Human Behavior and Sustain Sci	300601
P-CERTG-HUIN: Human-Centered Informatics, Graduate Certificate	Human Centered Informatics	110104
MS-HUFA: Human Factors, MS	Human Factors	142701
MS-HMRS: Human Movement and Rehabilitation Sciences, MS	Human Movement Rehab Science	512314
PHD-HMRS: Human Movement and Rehabilitation Sciences, PhD	Human Movement Rehab Science	512314
PHD-HMRS-A: Human Movement and Rehabilitation Sciences, PhD—Advanced Entry	Human Movement Rehab Science	512314
CERTG-HURL: Human Resources Law, Graduate Certificate	Human Resources Law	220299
P-CERTG-HRMG: Human Resources Management, Graduate Certificate	Human Resources Management	521001
P-MS-HRMG: Human Resources Management, MS	Human Resources Management	521001
CERTG-HMRL: Human Rights Law, Graduate Certificate	Human Rights Law	220209
BA-HSVC: Human Services, BA	Human Services	440000
BS-HSVC: Human Services, BS	Human Services	440000
BA-HUSO: Human Services and Sociology, BA	Human Services / Sociology	449999
BS-HUSO: Human Services and Sociology, BS	Human Services / Sociology	449999
BA-HSCM: Human Services and Communication Studies, BA	Human Services/Comm. Studies	440000

BS-HSCJ: Human Services and Criminal Justice, BS	Human Services/Crim Justice	430199
BA-HSIA: Human Services and International Affairs, BA	Human Services/Intl Affairs	440000
BS-HUPS: Human Services and Psychology, BS	Human Services/Psychology	440000
CERTG-ICSE: Inclusive Computer Science Education, Graduate Certificate	Inclusive Computer Sci Educ	131321
BSIE-INDE: Industrial Engineering, BSIE	Industrial Engineering	143501
MSIE-INDE: Industrial Engineering, MSIE	Industrial Engineering	143501
PHD-INDE: Industrial Engineering, PhD	Industrial Engineering	143501
PHD-INDE-A: Industrial Engineering, PhD—Advanced Entry	Industrial Engineering	143501
CERTG-IDEV: Information Design and Visualization, Graduate Certificate	Info Design and Visualization	500401
MFA-IDDV: Information Design and Data Visualization, MFA	Info Dsgn Data Visualization	303101
MS-IDDV: Information Design and Data Visualization, MS	Info Dsgn Data Visualization	303101
P-CERTG-INSM: Information Security Management, Graduate Certificate	Info Security Management	439999
P-MPS-INFM: Informatics, MPS	Informatics	110104
CERTG-INET: Information Ethics, Graduate Certificate	Information Ethics	380104
MSIS-INSY: Information Systems, MSIS	Information Systems	140903
MSIS-INSY-B: Information Systems, MSIS—Bridge	Information Systems	140903
P-BS-INFT: Information Technology, BS	Information Technology	110103
P-CERTG-IAMG: Insurance Analytics and Management, Graduate Certificate	Insurance Analytics and Mgmt	521701
P-MPS-IAMG: Insurance Analytics and Management, MPS	Insurance Analytics and Mgmt	521701
P-CERTG-INHW: Integrative Health and Wellness, Graduate Certificate	Integrative Health Wellness	510001
CERTG-PLAW: Intellectual Property Law, Graduate Certificate	Intellectual Property Law	220212
P-CERTG-INDS: Interactive Design, Graduate Certificate	Interactive Design	110801
PHD-INTY: Interdisciplinary, PhD	Interdisciplinary	300000
PHD-INTY-A: Interdisciplinary, PhD—Advanced Entry	Interdisciplinary	300000
PHD-IDSM: Interdisciplinary Design and Media, PhD	Interdisciplinary Dsgn Media	500401
PHD-IDSM-A: Interdisciplinary Design and Media, PhD—Advanced Entry	Interdisciplinary Dsgn Media	500401
PHD-INTE: Interdisciplinary Engineering, PhD	Interdisciplinary Engineering	140101
PHD-INTE-A: Interdisciplinary Engineering, PhD—Advanced Entry	Interdisciplinary Engineering	140101
P-BS-INST: Interdisciplinary Studies, BS	Interdisciplinary Studies	240101
BA-INAF: International Affairs, BA	International Affairs	450901
MA-INAF: International Affairs, MA	International Affairs	450901
BA-IAHI: International Affairs and History, BA	International Affairs/History	450901
BSIB-INBU-NX: International Business, BSIB	International Business	521101
BSIB-INBU-X: International Business, BSIB	International Business	521101
CERTG-INBU: International Business, Graduate Certificate	International Business	521101
MS-INMA: International Management, MS	International Management	520101
MS-INOT: Internet of Things, MS	Internet of Things	140999

BA-IARS: International Affairs and Religious Studies, BA	Interntl Affairs/Religious Stu	450901
BA-IACJ: International Affairs and Criminal Justice, BA	Intl Affairs/Criminal Justice	450901
BA-IACA: International Affairs and Cultural Anthropology, BA	Intl Affairs/Cultural Anthro	450901
BA-IAEC: International Affairs and Economics, BA	Intl Affairs/Economics	450604
BS-IAIB: International Affairs and International Business, BS	Intl Affairs/Intl Business	450901
CERTG-INVS: Investments, Graduate Certificate	Investments	520807
CERTG-TIPS: IP Telephony Systems, Graduate Certificate	IP/Telephony Systems	110901
BA-JESR: Jewish Studies and Religion, BA	Jewish Studies/Religion	380206
BA-JOUR: Journalism, BA	Journalism	090401
MA-JOUR: Journalism, MA	Journalism	090401
BA-JOEN: Journalism and English, BA	Journalism/ English	090401
BA-JOCM: Journalism and Communication Studies, BA	Journalism/Comm Studies	090401
BS-JLID: Journalism and Interaction Design, BS	Journalism/Interaction Design	090401
BA-JOIA: Journalism and International Affairs, BA	Journalism/Intl Affairs	090401
BA-JOPO: Journalism and Political Science, BA	Journalism/Political Science	090401
BLA-LARC: Landscape Architecture, BLA	Landscape Architecture	040601
JD-LAW: Law, JD	Law	220101
JD-LAW-P: Law, JD—Part-Time Program	Law	220101
LLM-LAW: Law, LLM—Experiential	Law	220101
LLM-LAW-O: Law, LLM—Online	Law	220101
LLM-LAW-T: Law, LLM	Law	220101
P-DLP-LAPO: Law And Policy, DLP	Law and Policy	229999
P-CERTG-LEAD: Leadership, Graduate Certificate	Leadership	520213
CERTG-LEPO: Leading People and Organizations, Graduate Certificate	Leading People Organizations	521099
P-CERTG-PMTE: Leading and Managing Technical Projects, Graduate Certificate	Leadng Managng Tech Projects	520211
CERTG-LEAN: Lean Six Sigma, Graduate Certificate	Lean Six Sigma	140101
P-CERTG-LXDT: Learning Experience Design and Technology, Graduate Certificate	Learning Exp Design Tech	130501
P-MPS-LXDT: Learning Experience Design and Technology, MPS	Learning Exp Design Tech	130501
CERTG-LEDS: Legal Design, Graduate Certificate	Legal Design	220299
MLS-LEGS: Legal Studies, MLS—Online	Legal Studies	229999
BS-LING: Linguistics, BS	Linguistics	160102
BS-LICA: Linguistics and Cultural Anthropology, BS	Linguistics / Cultural Anthro	450204
BA-LIEN: Linguistics and English, BA	Linguistics / English	160102
BS-LIPS: Linguistics and Psychology, BS	Linguistics / Psychology	160102
BA-LICS: Linguistics and Communication Studies, BA	Linguistics/Comm Studies	160102
BS-LISL: Linguistics and Speech-Language Pathology and Audiology, BS	Linguistics/Speech-Lng Pth Aud	160102
MS-MGMT: Management, MS	Management	520201
P-BS-MGMT: Management, BS	Management	520201
CERTG-MQOB: Manufacturing and Quality Operations in Biotechnology, Graduate Certificate	Manuf Qual Oper in Biotech	512010
MS-MRES: Marine and Environmental Sciences, MS	Marine Environment Sciences	030104

PHD-MRES: Marine and Environmental Sciences, PhD	Marine Environment Sciences	030104
PHD-MRES-A: Marine and Environmental Sciences, PhD—Advanced Entry	Marine Environment Sciences	030104
BS-MARB: Marine Biology, BS	Marine Biology	261302
MS-MARB: Marine Biology, MS	Marine Biology	261302
CERTG-MKTG: Marketing, Graduate Certificate	Marketing	521401
CERTG-MKAN: Marketing Analytics, Graduate Certificate	Marketing Analytics	521402
BA-MATH: Mathematics, BA	Mathematics	270101
BS-MATH: Mathematics, BS	Mathematics	270101
MS-MATH: Mathematics, MS	Mathematics	270101
PHD-MATH: Mathematics, PhD	Mathematics	270101
PHD-MATH-A: Mathematics, PhD—Advanced Entry	Mathematics	270101
BS-MABA: Mathematics and Business Administration, BS	Mathematics/Business Admin	270101
BS-MAPL: Mathematics and Philosophy, BS	Mathematics/Philosophy	270101
BS-MAPH: Mathematics and Physics, BS	Mathematics/Physics	270101
BS-MAPO: Mathematics and Political Science, BS	Mathematics/Political Science	270101
BS-MAPY: Mathematics and Psychology, BS	Mathematics/Psychology	270101
BS-MASO: Mathematics and Sociology, BS	Mathematics/Sociology	270101
BSME-MECE: Mechanical Engineering, BSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in General Mechanical Engineering, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Materials Science, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechanics and Design, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechatronics, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Thermofluids, MSME	Mechanical Engineering	141901
PHD-MECE: Mechanical Engineering, PhD	Mechanical Engineering	141901
PHD-MECE-A: Mechanical Engineering, PhD—Advanced Entry	Mechanical Engineering	141901
BSME-MEDS: Mechanical Engineering and Design, BSME	Mechanical Engineering/Design	141901
BSME-MEHI: Mechanical Engineering and History, BSME	Mechanical Engineering/History	141901
BSME-MEPH: Mechanical Engineering and Physics, BSME	Mechanical Engineering/Physics	141901
BSME-MEBE: Mechanical Engineering and Bioengineering, BSME	Mechanical Engr/Bioengineering	141901
P-BS-MTRO: Mechatronics, BS	Mechatronics	144201
BA-MSPH: Media and Screen Studies and Philosophy, BA	Media Screen Stud/Philosophy	090199
BA-MSHI: Media and Screen Studies and History, BA	Media Screen Studies/History	090199
MS-MEDA: Media Advocacy, MS	Media Advocacy	099999
BA-MSST: Media and Screen Studies, BA	Media and Screen Studies	090199
BFA-MART: Media Arts, BFA	Media Arts	500102
BA-MACM: Media Arts and Communication Studies, BA	Media Arts/Communication Stud.	500102
MS-MIDC: Media Innovation and Data Communication, MS	Media Innovation and Data Comm	090702

BA-MSJO: Media and Screen Studies and Journalism, BA	Media Screen Stu/Journalism	090199
BA-MSPO: Media and Screen Studies and Political Science, BA	Media Screen Stu/Political Sci	090199
BA-MSSO: Media and Screen Studies and Sociology, BA	Media Screen Stu/Sociology	090199
BA-MSTH: Media and Screen Studies and Theatre, BA	Media Screen Stu/Theatre	090199
BS-MSTH: Media and Screen Studies and Theatre, BS	Media Screen Stu/Theatre	090199
BA-MSMA: Media and Screen Studies and Media Arts, BA	Media Screen Stud./Media Arts	090199
BA-MSEN: Media and Screen Studies and English, BA	Media Screen Studies/English	090199
P-CERTG-MDRA: Medical Device Regulatory Affairs, Graduate Certificate	Medical Device Regulatory Aff.	512799
MS-MCDD: Medicinal Chemistry Drug Discovery, MS	Medicinal Chem Drug Discov	512004
PHD-MCDD: Medicinal Chemistry and Drug Discovery, PhD	Medicinal Chem Drug Discov	512004
PHD-MCDD-A: Medicinal Chemistry and Drug Discovery, PhD—Advanced Entry	Medicinal Chem Drug Discov	512004
CERTG-MOBI: Molecular Biotechnology, Graduate Certificate	Molecular Biotechnology	261201
BA-MUSI: Music, BA	Music	500901
BS-MUSI-MUID: Music with Concentration in Music Industry, BS	Music	500901
BS-MUSI-MUTE: Music with Concentration in Music Technology, BS	Music	500901
BS-MUCM: Music and Communication Studies with Concentration in Music Industry, BS	Music/Communication Studies	500901
CERTG-MFMG: Mutual Fund Management, Graduate Certificate	Mutual Fund Management	520807
CERTG-NNMD: Nanomedicine, Graduate Certificate	Nanomedicine	300101
MS-NNMD: Nanomedicine, MS	Nanomedicine	300101
MS-NETS: Network Science, MS	Network Science	300601
PHD-NETS: Network Science, PhD (BV, CS, SC, SH)	Network Science	300601
P-CERTG-NCBR: Nonclinical Biomedical Product Regulation, Graduate Certificate	Nonclinical Biomed Product Reg	512002
CERTG-NPSC: Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate	Nonprof-Philanth-Social Change	520206
P-CERTG-NPMG: Nonprofit Management, Graduate Certificate	Nonprofit Management	520206
P-MS-NPMG: Nonprofit Management, MS	Nonprofit Management	520206
DNP-NUAN: Nurse Anesthesia, DNP	Nurse Anesthesia	513804
BSN-NURS: Nursing, BSN	Nursing	513801
BSN-NURS-2: Nursing, BSN—Accelerated Program for Second-Degree Students	Nursing	513801
BSN-NURS-T: Nursing, BSN—Transfer Track	Nursing	513801
CAGS-CCAC: Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-CCNN: Nursing—Neonatal Nurse Practitioner, CAGS	Nursing	513801
CAGS-PCAN: Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS	Nursing	513801

CAGS-PEAC: Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-PEPA: Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS	Nursing	513801
CAGS-PEPC: Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS	Nursing	513801
CAGS-PSMH: Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS	Nursing	513801
DNP-NURS: Nursing, DNP (Post-Master's)	Nursing	513801
MS-NURS: Nursing, MS	Nursing	513801
MS-NURS-DE: Nursing, MS—Direct Entry	Nursing	513801
PHD-NURS: Nursing, PhD	Nursing	513801
PHD-NURS-MSE: Nursing, PhD—Advanced Entry (Post-MSN)	Nursing	513801
CERTG-OMIC: Omics, Graduate Certificate	Omics	261103
MSOR-OPRE: Operations Research, MSOR	Operations Research	143701
MSOR-OPRE-AS: Operations Research, MSOR	Operations Research	143701
P-CERTG-ORGC: Organizational Communication, Graduate Certificate	Organizational Communication	090101
P-MS-ORLD: Organizational Leadership, MS	Organizational Leadership	520213
CERTG-PTSF: Patient Safety, Graduate Certificate	Patient Safety	512213
CERTG-PEAC: Pediatric Nurse Practitioner, Acute Care, Graduate Certificate	Pediatric Acute Care PNP	513814
PHD-PHEI: Personal Health Informatics, PhD	Personal Health Informatics	512706
MS-PHEN: Pharmaceutical Engineering, MS	Pharmaceutical Engineering	140702
BS-PHSC: Pharmaceutical Sciences, BS	Pharmaceutical Sciences	512010
CERTG-PHTE: Pharmaceutical Technologies, Graduate Certificate	Pharmaceutical Technologies	261201
MS-PHDD: Pharmaceutics and Drug Delivery, MS	Pharmaceutics Drug Delivery	512010
PHD-PHDD: Pharmaceutics and Drug Delivery, PhD	Pharmaceutics Drug Delivery	512010
PHD-PHDD-A: Pharmaceutics and Drug Delivery, PhD—Advanced Entry	Pharmaceutics Drug Delivery	512010
MS-PHAC: Pharmacology, MS	Pharmacology	261001
PHD-PHAC: Pharmacology, PhD	Pharmacology	261001
PHD-PHAC-A: Pharmacology, PhD—Advanced Entry	Pharmacology	261001
PHARMD-G: Pharmacy, PharmD	Pharmacy	512001
PHARMD-G-DE: Pharmacy, PharmD—Direct Entry	Pharmacy	512001
PHARMD-U: Pharmacy, PharmD	Pharmacy	512001
BS-PHST: Pharmacy Studies, BS	Pharmacy Studies	512001
BA-PHIL: Philosophy, BA	Philosophy	380101
BS-PHIL: Philosophy, BS	Philosophy	380101
DPT-PHTH-DE: Physical Therapy, DPT—Postbaccalaureate Entry	Physical Therapy	512308
DPT-PHTH-G: Physical Therapy, DPT—Graduate	Physical Therapy	512308
MS-PHAS: Physician Assistant, MS	Physician Assistant	510912
BS-PHYS: Physics, BS	Physics	400801
MS-PHYS: Physics, MS	Physics	400801
PHD-PHYS: Physics, PhD	Physics	400801
PHD-PHYS-A: Physics, PhD—Advanced Entry	Physics	400801
BS-PHMU: Physics and Music with Concentration in Music Technology, BS	Physics/Music	400801
BS-PHPH: Physics and Philosophy, BS	Physics/Philosophy	400801
BA-POLI: Political Science, BA	Political Science	451001
BS-POLI: Political Science, BS	Political Science	451001

MA-POLI: Political Science, MA	Political Science	451001
PHD-POLI: Political Science, PhD	Political Science	451001
PHD-POLI-A: Political Science, PhD—Advanced Entry	Political Science	451001
BS-POBA: Political Science and Business Administration, BS	Political Science/Business Adm	451001
BA-POCM: Political Science and Communication Studies, BA	Political Science/Comm Studies	451001
BS-POCM: Political Science and Communication Studies, BS	Political Science/Comm Studies	451001
BA-POEC: Political Science and Economics, BA	Political Science/Economics	451001
BS-POEC: Political Science and Economics, BS	Political Science/Economics	450603
BA-POHS: Political Science and Human Services, BA	Political Science/HumanService	451001
BS-POHS: Political Science and Human Services, BS	Political Science/HumanService	451001
BA-POIA: Political Science and International Affairs, BA	Political Science/Intl Affairs	451001
BA-POPL: Political Science and Philosophy, BA	Political Science/Philosophy	451001
BS-POPL: Political Science and Philosophy, BS	Political Science/Philosophy	451001
BS-PPBA: Politics, Philosophy, and Economics and Business Administration, BS	Politics, Phil Econ/Bus Adm	451099
BS-PSPE: Politics, Philosophy, and Economics, BS	Politics, Philosophy, and Econ	451099
MS-POHE: Population Health, MS	Population Health	512299
PHD-POHE: Population Health, PhD	Population Health	512299
PHD-POHE-A: Population Health, PhD—Advanced Entry	Population Health	512299
CERTG-PSTE: Postsecondary Teaching, Graduate Certificate	Postsecondary Teaching	131214
CERTG-PLEJ: Poverty Law and Economic Justice, Graduate Certificate	Poverty Law Economic Justice	220299
P-CERTU-PMED: Premedical Studies, Postbaccalaureate Undergraduate Certificate	Pre-Medical Studies	511102
P-CERTU-PRMA: Principles of Manufacturing, Undergraduate Certificate	Principles of Manufacturing	150613
CERTG-PRVL: Privacy Law, Graduate Certificate	Privacy Law	220299
CERTG-PSEN: Process Safety Engineering, Graduate Certificate	Process Safety Engineering	140799
CERTG-PRSC: Process Science, Graduate Certificate	Process Science	261201
MS-PRDV: Product Development, MS	Product Development	142701
MSAMBA-PRAC: Accounting and Business Administration, MSAMBA	Professional Accounting	520301
P-CERTG-PSAD: Professional Sports Administration, Graduate Certificate	Professional Sports Administra	310504
P-CERTG-PBUA: Project Business Analysis, Graduate Certificate	Project Business Analysis	521302
P-BS-PMGT: Project Management, BS	Project Management	521301
P-CERTG-PMGT: Project Management, Graduate Certificate	Project Management	521301
P-CERTU-PMGT: Project Management, Undergraduate Certificate	Project Management	521301
P-MS-PMGT: Project Management, MS	Project Management	521301
BS-PSYC: Psychology, BS	Psychology	422799
MS-PSYC: Psychology, MS	Psychology	422799
P-BS-PSYC: Psychology, BS	Psychology	422799

PHD-PSYC: Psychology, PhD	Psychology	422799
PHD-PSYC-A: Psychology, PhD—Advanced Entry	Psychology	422799
BS-PSMU: Psychology and Music, BS	Psychology/Music	422799
BS-PSTH: Psychology and Theatre, BS	Psychology/Theatre	422799
MPA-PUAD: Public Administration, MPA	Public Administration	440401
P-CERTG-PUMR: Public and Media Relations, Graduate Certificate	Public and Media Relations	090102
BA-PUHE: Public Health, BA	Public Health	512201
MPH-PUHE: Public Health, MPH	Public Health	512201
MPH-PUHE-EX: Public Health, MPH—Accelerated	Public Health	512201
BA-PHCM: Public Health and Communication Studies, BA	Public Health/Comm Studies	512201
BA-PHCA: Public Health and Cultural Anthropology, BA	Public Health/Cultural Anthro	512201
BA-PHJO: Public Health and Journalism, BA	Public Health/Journalism	512201
BA-PHSO: Public Health and Sociology, BA	Public Health/Sociology	512201
CERTG-PUHI: Public History, Graduate Certificate	Public History	540105
MPP-PUPL: Public Policy, MPP	Public Policy	440401
PHD-PUPL: Public Policy, PhD	Public Policy	440401
PHD-PUPL-A: Public Policy, PhD—Advanced Entry	Public Policy	440401
CERTG-PUPA: Public Policy Analysis, Graduate Certificate	Public Policy Analysis	440501
BA-PUBR: Public Relations, BA	Public Relations	090902
P-CERTG-QASC: Quality Assurance Compliance, Graduate Certificate	Quality Assurance Compliance	510720
MSFMBA-QFBA: Quantitative Finance and Business Administration, MSFMBA	Quant Finance/Business Admin	270305
MSF-QFIN: Quantitative Finance, MSF	Quantitative Finance	270305
P-MS-REAF: Regulatory Affairs, MS	Regulatory Affairs	512009
BA-REST: Religious Studies, BA	Religious Studies	380201
BA-RSAS: Religious Studies and Africana Studies, BA	Religious Studies/Africana St.	380201
P-CERTG-RESE: Remote Sensing, Graduate Certificate	Remote Sensing	450799
CERTG-ERES: Renewable Energy, Graduate Certificate	Renewable Energy Systems	142701
MS-ROBO: Robotics, MS	Robotics	144201
MS-RWEH: Real-World Evidence in Healthcare and Life Sciences, MS	RWE in Healthcare and Life Sci	300601
P-CERTG-SMGT: Sales Management, Graduate Certificate	Sales Management	521804
CAGS-SCPS: School Psychology, CAGS	School Psychology	422805
PHD-SCPS-BSE: School Psychology, PhD	School Psychology	422805
PHD-SCPS-MSE: School Psychology, PhD—Advanced Entry	School Psychology	422805
P-MAT-SCED: Secondary Education, MAT	Secondary Education	131205
CERTG-SERE: Security and Resilience Studies, Graduate Certificate	Security Resilience Studies	450999
MS-SERE: Security and Resilience Studies, MS	Security Resilience Studies	450999
P-MA-SCIS: Security and Intelligence Studies, MA	Security and Intelligence Stud	430399
P-CERTG-SMOP. Social Media for Organizational Performance, Graduate Certificate	Social Media for Org Perform	090101
BA-SOCI: Sociology, BA	Sociology	451101
BS-SOCI: Sociology, BS	Sociology	451101
MA-SOCI: Sociology, MA	Sociology	451101
PHD-SOCI: Sociology, PhD	Sociology	451101

PHD-SOCI-A: Sociology, PhD—Advanced Entry	Sociology	451101
BA-SOCA: Sociology and Cultural Anthropology, BA	Sociology/Cultural Anthrop	451101
BS-SOCA: Sociology and Cultural Anthropology, BS	Sociology/Cultural Anthrop	451101
BA-SOES: Sociology and Environmental Studies, BA	Sociology/Envr. Studies	451101
BA-SOIA: Sociology and International Affairs, BA	Sociology/Int'l Affairs	451101
BA-SOPH: Sociology and Philosophy, BA	Sociology/Philosophy	451101
BA-SOPO: Sociology and Political Science, BA	Sociology/Political Science	459999
BA-SORL: Sociology and Religious Studies, BA	Sociology/Religious Studies	451101
CERTG-SWES: Software Engineering Systems, Graduate Certificate	Software Engineering Systems	140903
MS-SWES: Software Engineering Systems, MS	Software Engineering Systems	140903
BA-SPAN: Spanish, BA	Spanish	160905
BA-SPIA: Spanish and International Affairs, BA	Spanish/ Interntional Affairs	160905
BA-SPLI: Spanish and Linguistics, BA	Spanish/Linguistics	160905
BS-SLPA: Speech-Language Pathology and Audiology, BS	Speech-Lang Pathol/Audiology	510204
MS-SLPT: Speech-Language Pathology, MS	Speech-Language Pathology	510204
P-MSLD-SPLE: Sports Leadership, MSLD	Sports Leadership	310504
BFA-STAR: Studio Art, BFA	Studio Art	500702
CERTG-SCEM: Supply Chain Engineering Management, Graduate Certificate	Supply Chain Engineering Mgmt	140101
CERTG-SUPC: Supply Chain Management, Graduate Certificate	Supply Chain Management	520203
CERTG-SUCP. Sustainability and Climate Change Policy, Graduate Certificate	Sustain Climate Chnge Policy	440501
CERTG-SUBE: Sustainability and Business, Graduate Certificate	Sustainability and Business	520704
CERTG-STEN: Sustainability Engineering, Graduate Certificate	Sustainability Engineering	144801
CERTG-SUSC: Sustainability Sciences, Graduate Certificate	Sustainability Sciences	030104
MSSBS-SUBS: Sustainable Building Systems, MSSBS	Sustainable Building Systems	149999
CERTG-SESY: Sustainable Energy Systems, Graduate Certificate	Sustainable Energy Systems	142701
MDES-SUEN: Sustainable Urban Environments, MDes—Two-Year Program	Sustainable Urban Environments	040401
MDES-SUEN1: Sustainable Urban Environments, MDes—One-Year Program	Sustainable Urban Environments	040401
CERTG-TELD: Technology Leadership, Graduate Certificate	Technology Leadership	520216
MS-TNET: Telecommunication Networks, MS	Telecommunication Networks	110901
BA-THEA: Theatre, BA	Theatre	500501
BS-THEA: Theatre, BS	Theatre	500501
BA-THID: Theatre and Interaction Design, BA	Theatre/Interaction Design	500501
BS-THID: Theatre and Interaction Design, BS	Theatre/Interaction Design	500501
BA-THJO: Theatre and Journalism, BA	Theatre/Journalism	500501
CERTG-USLW: United States Law, Graduate Certificate	United States Law	220203
CERTG-URBA: Urban Analytics, Graduate Certificate	Urban Analytics	451201
MS-URBI: Urban Informatics, MS	Urban Informatics	111099
MS-URPP. Urban Planning and Policy, MS	Urban Planning and Policy	451201

CERTG-URBN: Urban Studies, Graduate Certificate	Urban Studies	451201
P-CERTG-USAB: Usability, Graduate Certificate	Usability	111004
CERTG-VCDV: Vaccine Development, Graduate Certificate	Vaccine Development	512006
MS-WNEN: Wireless and Network Engineering, MS	Wireless Network Engineering	141004
CERTG-WOST: Women's, Gender, and Sexuality Studies, Graduate Certificate	Women's Gender Sexuality Stu	050207
CERTG-WGSL: Women, Gender, Sexuality, and the Law, Graduate Certificate	Women, Gender, Sexuality Law	220299

Resources

Online Resources

The following online resources supplement this catalog:

- Academic Calendars (http://www.northeastern.edu/registrar/calendars.html)
- Campus Maps (http://www.northeastern.edu/campusmap/)
- Class Schedules (https://registrar.northeastern.edu/article/schedule-of-classes/)
- University Events (http://calendar.northeastern.edu/)

Index

3D Animation, Graduate Certificate 880

Absenteeism 258
Academic Affairs Appeals Process 579
Academic Appeals Policies 924
Academic Appeals Policies and Procedures 70
Academic Appeals Procedures 1043
Academic Calendars 73
Academic Dismissal 581
Academic Dismissal Policy 336
Academic Integrity 259
Academic Integrity Policy 74
Academic Integrity Policy 337
Academic Policies 335
Academic Policies and Procedures 44
Academic Policies and Procedures 110
Academic Policies and Procedures 257
Academic Policies and Procedures 569
Academic Policies and Procedures 744
Academic Policies and Procedures 784
Academic Policies and Procedures 923
Academic Probation and Dismissal 260
Academic Probation Policy 582
Academic Progression 583
Academic Progression Standards 785
Academic Resources 18
Academic Resources 786
Academic Standing 584
Academic Standing Policy 338
Accelerated Degrees 774
Accommodations for Students with Disabilities 45
Accounting and Business Administration, MSAMBA 209
Accounting and Financial Decision Making, Graduate Certificate 236
Accounting, MSA 185
Accreditation 1243
Active-Duty Military Personnel 787
Additional Programs 1151
Advanced and Intelligent Manufacturing, MS 481
Advising 576
Agile Project Management, Graduate Certificate 881

Analytics, MPS 827
Appeals Policy 339
Applied Analytics, Graduate Certificate 882
Applied Behavior Analysis, MS 639
Applied Educational Psychology, MS 641
Applied Logistics, MPS 829
Applied Machine Intelligence, MPS 831
Applied Mathematics, Graduate Certificate 1003
Applied Mathematics, MS 998
Applied Nutrition, MS 848
Applied Physics and Engineering, MS 421
Applied Physics and Engineering, MS 421
Applied Psychology, MS 642
Applied Quantitative Methods and Social Analysis, MS 1136
Art + Design 125
Artificial Intelligence, MS 277
Arts Administration and Cultural Entrepreneurship, MS 152
Arts Administration, Graduate Certificate 167
Attendance Policy 340
Attendance Requirements 46
Attendance Verification 788
Audit Policy 75
Authorizations 1247
Awards 927

Background Checks 570
Bill Payment 32
Biodefense and Biosecurity, Graduate Certificate 963
Bioengineering 348
Bioengineering, MSBioE 360
Bioengineering, PhD 349
Bioinformatics, Graduate Certificate 948
Bioinformatics, MS 942
Biology 939
Biology, PhD 940
Biomedical Science, MS 726
Biomedical Science, PhD 694
Biopharmaceutical Analytical Sciences, Graduate Certificate 964
Biopharmaceutical Regulatory Affairs, Graduate Certificate 883
Biotechnology Enterprise, Graduate Certificate 966
Biotechnology, Graduate Certificate 965
Biotechnology, MS 955
Biotechnology, MS—Experiential 961

Biotechnology Regulatory Science, Graduate Certificate 967
Blockchain and Smart Contract Engineering, Graduate Certificate 549
Bouvé College of Health Sciences 568
Brand Management, Graduate Certificate 237
Broadband Wireless Systems, Graduate Certificate 550
Business Administration, Graduate Certificate 238
Business Administration, Graduate Certificate—Online 240
Business Administration, MBA—Full-Time 191
Business Administration, MBA—Online 200
Business Administration, MBA—Part-Time 202
Business Analytics, Graduate Certificate 242
Business Analytics, MS 171
Business Analytics, MS—Online 172
Business Law, Graduate Certificate 759
Business Management for Healthcare, Graduate Certificate 243

Campus Resources 21
Campus Transfer and Campus Location Change 47
Cell and Gene Therapies, MS 946
Center for Advancing Teaching and Learning Through Research 22
Certificates 261
Changes in Requirements 928
Chemical Engineering 364
Chemical Engineering, MSChE 376
Chemical Engineering, PhD 366
Chemistry and Chemical Biology 951
Chemistry, MS 962
Chemistry, PhD 953
Civil and Environmental Engineering 380
Civil and Environmental Engineering, PhD 382
Civil Engineering with Concentration in Construction Management, MSCivE 393
Civil Engineering with Concentration in Data and Systems, MSCivE 390
Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE 395
Civil Engineering with Concentration in Structures, MSCivE 397
Civil Engineering with Concentration in Transportation, MSCivE 399
Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE 401
Clearing an Academic Deficiency 48
Climate and Engineering, Graduate Certificate 407
Climate Science and Engineering, MS 385
Climate Science and Engineering, MS 385
Climate Science and Engineering, MS 385
Cloud Computing Application and Management, Graduate Certificate 884
Cloud Software Development, Graduate Certificate 297

Code of Student Conduct 49
College of Arts, Media and Design 109
College of Engineering 334
College of Professional Studies 783
College of Science 922
College of Social Sciences and Humanities 1040
Collegiate Athletics Administration, Graduate Certificate 885
Combined Degrees 208
Commerce and Economic Development, MS 851
Completing Degree Requirements 789
Computational Social Science, Graduate Certificate 1139
Computer Engineering, PhD 411
Computer Science 264
Computer Science, Graduate Certificate 298
Computer Science, MSCS 293
Computer Science, MSCS—Align 295
Computer Science, PhD 267
Construction Management, Graduate Certificate 886
Cooperative Education 76
Cooperative Education Policies 929
Corporate and Organizational Communication, MS 853
Corporate Finance, Graduate Certificate 244
Corporate Innovation, Graduate Certificate 245
Corporate Renewal, Graduate Certificate 246
Counseling Psychology, MSCP 643
Counseling Psychology, PhD 634
Course Credit Guidelines 50
Course Numbering System 51
Course Registration 341
Course Registration 931
Course Selection 342
Course Substitution 577
Creative Collaboration and Multidisciplinary Design, MS 154
Creative Practice Leadership, MS 156
Criminology and Criminal Justice, MS 1055
Criminology and Justice Policy, PhD 1052
Cross-Cultural Communication, Graduate Certificate 887
Cultural Entrepreneurship, Graduate Certificate 168
Cyber-Physical Systems, MS 542
Cybersecurity 301
Cybersecurity, Graduate Certificate 313
Cybersecurity, MS 308
Cybersecurity, MS—Align 310

Cybersecurity, PhD ... 302
Cybersecurity, PhD ... 302
Cybersecurity, PhD ... 302

D'Amore-McKim School of Business ... 169
Data Analytics Engineering, Graduate Certificate ... 526
Data Analytics Engineering, MS ... 485
Data Analytics, Graduate Certificate ... 299
Data Analytics, Graduate Certificate ... 299
Data Analytics, Graduate Certificate ... 299
Data Architecture and Management, MS ... 544
Data Science, MS ... 279
Data Science, MS ... 279
Data Science, MS ... 279
Data Science, MS—Align ... 281
Definitions ... 102
Degrees, Majors, and Concentrations ... 790
Delivery of Services ... 35
Departmental Jurisdiction ... 78
Digital Humanities, Graduate Certificate ... 1072
Digital Media Management, Graduate Certificate ... 888
Digital Media, MPS ... 833
Digital Media, MPS—Connect ... 836
Digital Video, Graduate Certificate ... 889
Disability Resource Center ... 23
Dismissal from Class ... 79
Dissertation Committee ... 343
Doctor of Philosophy ... 1048
Doctoral Degree Programs ... 808
Dropping a Class ... 80
Dual Degrees ... 231
Dual Degrees ... 775

Early Intervention, Graduate Certificate ... 606
Early Intervention, Graduate Certificate ... 606
Economics ... 1059
Economics, MS ... 1064
Economics, PhD ... 1060
Education, EdD ... 809
Education, MEd ... 824
Electrical and Computer Engineering ... 409
Electrical and Computer Engineering Leadership, MSECEL ... 472
Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE ... 434
Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE ... 444

Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE 439
Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE 448
Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE 453
Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE 458
Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE 463
Electrical and Computer Engineering with Concentration in Power Systems, MSECE 467
Electrical Engineering, PhD 419
Elementary Education, MAT 819
Employer Engagement and Career Design 24
Energy Systems, Graduate Certificate 527
Energy Systems Management, Graduate Certificate 528
Energy Systems, MSEneS 504
Energy Systems, MSEneS—Academic Link Program 507
Engineering and Public Policy, MS 387
Engineering and Public Policy, MS 387
Engineering Business, Graduate Certificate 529
Engineering Economic Decision Making, Graduate Certificate 531
Engineering Leadership, Graduate Certificate 551
Engineering Leadership, Graduate Certificate 551
Engineering Management, Graduate Certificate 532
Engineering Management, MSEM 497
English 1066
English, MA 1070
English, PhD 1067
Entrepreneurship, Graduate Certificate 247
Environmental Engineering, MSEnvE 403
Environmental Science and Policy, MS 985
Environmental Science and Policy, MS 985
Environmental Science and Policy, MS 985
eSports, Graduate Certificate 889
Exercise Science, MS—Online 654
Experience Design, Graduate Certificate 137
Experience Design, MFA 126
Experience Design, MS 131
Experiential PhD 107
Experiential Teaching and Learning, Graduate Certificate 890
Experimental Biotechnology, Graduate Certificate 968
Extended Realities, MS 158
Extreme Medicine, Graduate Certificate 631

Family Educational Rights and Privacy Act (FERPA) 52
Final Examinations and Related Policies on Other Exams 81
Finance and Business Administration, MSFMBA 211

Finance and Business Administration, MSFMBA—Online ... 220
Finance and Business Administration, MSFMBA—Part-Time ... 221
Finance, MSF ... 187
Financial Aid Assistance ... 36
Financial Awards ... 575
Financial Information ... 31
Financial Markets and Institutions, Graduate Certificate ... 891
Forensic Accounting, Graduate Certificate ... 892
Full-Time Status ... 82
Full-Time Status ... 791
Fundraising and Development, Graduate Certificate ... 893

Game Design, Graduate Certificate ... 894
Game Experience Design, Graduate Certificate ... 138
Game Science and Design, MS ... 133
Game Science and Design, MS ... 133
Game Science and Design, MS ... 133
Game Science, Graduate Certificate ... 139
General Information ... 111
General Information ... 1042
General Information ... 1237
General Regulations ... 83
General Regulations ... 1041
Geographic Information Systems, Graduate Certificate ... 895
Geospatial Services, MPS ... 839
Global Partnership Programs ... 793
Global Studies and International Relations, Graduate Certificate ... 896
Global Studies and International Relations, MS ... 861
Gordon Institute of Engineering Leadership ... 1145
Governing Boards and Officers of Northeastern ... 1240
Grade Change Policy ... 54
Grade Table and GPA ... 55
Grades ... 745
Grading Policies ... 934
Graduate Campus ... 794
Graduate Catalog ... 16
Graduate Certificate Programs ... 567
Graduate Certificate Programs ... 879
Graduate Certificate Programs ... 1039
Graduate Certificates ... 235
Graduate Certificates ... 758
Graduate Student Classification ... 113
Graduate Student Grievance Policy ... 344

Graduation Policies ... 585
Graduation Requirements ... 87
Graduation Requirements ... 795

Health and Counseling ... 26
Health Informatics ... 314
Health Informatics Management and Exchange, Graduate Certificate ... 607
Health Informatics Management and Exchange, Graduate Certificate ... 665
Health Informatics, MS ... 314
Health Informatics, MS ... 314
Health Informatics, MS ... 314
Health Informatics, MS / Physician Assistant, MS ... 601
Health Informatics, MS / Physician Assistant, MS ... 601
Health Informatics Privacy and Security, Graduate Certificate ... 607
Health Informatics Privacy and Security, Graduate Certificate ... 666
Health Informatics Software Engineering, Graduate Certificate ... 607
Health Informatics Software Engineering, Graduate Certificate ... 667
Health Law and Policy, Graduate Certificate ... 762
Health Law, Graduate Certificate ... 761
Health Management, Graduate Certificate ... 897
Health Requirements ... 571
Healthcare Compliance, Graduate Certificate ... 760
Healthcare Leadership, DMSc ... 587
Healthcare Leadership, DMSc ... 587
Higher Education Administration, Graduate Certificate ... 898
Higher Education Administration, MEd ... 826
History ... 1074
History, MA ... 1078
History, PhD ... 1075
Human Behavior and Sustainability Sciences, PhD ... 980
Human Behavior and Sustainability Sciences, PhD ... 980
Human Factors, MS ... 490
Human Movement and Rehabilitation Sciences, MS ... 629
Human Movement and Rehabilitation Sciences, PhD ... 620
Human Resources Law, Graduate Certificate ... 764
Human Resources Management, Graduate Certificate ... 900
Human Resources Management, MS ... 857
Human Rights Law, Graduate Certificate ... 765
Human-Centered Informatics, Graduate Certificate ... 899

Inclusive Computer Science Education, Graduate Certificate ... 300
Industrial Engineering, MSIE ... 493
Industrial Engineering, PhD ... 475
Informatics, MPS ... 841

Information Design and Data Visualization, MFA ... 128
Information Design and Data Visualization, MS ... 135
Information Design and Visualization, Graduate Certificate ... 140
Information Ethics, Graduate Certificate ... 1141
Information for Entering Students ... 17
Information for International Students ... 28
Information Security Management, Graduate Certificate ... 901
Information Systems, MSIS ... 539
Information Systems, MSIS—Bridge ... 541
Information Technology Services ... 29
Insurance Analytics and Management, Graduate Certificate ... 902
Insurance Analytics and Management, MPS ... 844
Integrative Health and Wellness, Graduate Certificate ... 903
Intellectual Property Law, Graduate Certificate ... 766
Interactive Design, Graduate Certificate ... 904
Interdisciplinary Design and Media, PhD ... 147
Interdisciplinary Engineering, PhD ... 357
Interdisciplinary Engineering, PhD ... 357
Interdisciplinary Engineering, PhD ... 357
Interdisciplinary Graduate Programs ... 555
Interdisciplinary Programs ... 146
Interdisciplinary Programs ... 317
Interdisciplinary Programs ... 586
Interdisciplinary Programs ... 1028
Interdisciplinary Programs ... 1131
International Affairs, MA ... 1098
International Biopharmaceutical Regulatory Affairs, Graduate Certificate ... 905
International Business, Graduate Certificate ... 248
International Management, MS ... 173
Internet of Things, MS ... 286
Internet of Things, MS ... 286
Investments, Graduate Certificate ... 249
IP Telephony Systems, Graduate Certificate ... 553

Journalism, MA ... 142

Khoury College of Computer Sciences ... 256

Law and Policy, DLP ... 813
Law, JD ... 746
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Business Administration, MBA—Full-Time ... 233
Law, JD / Business Administration, MBA—Full-Time ... 233

Law, JD / Criminology and Criminal Justice, MS ... 779
Law, JD / Criminology and Criminal Justice, MS ... 779
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Public Health, MPH ... 602
Law, JD / Public Health, MPH ... 602
Law, JD / Public Health, MPH ... 602
Law, JD / Public Policy, MPP ... 781
Law, JD / Public Policy, MPP ... 781
Law, LLM ... 749
Law, LLM / Business Administration, MBA—Full-Time ... 234
Law, LLM / Business Administration, MBA—Full-Time ... 234
Law, LLM—Online ... 754
Leadership, Graduate Certificate ... 906
Leading and Managing Technical Projects, Graduate Certificate ... 907
Leading People and Organizations, Graduate Certificate ... 250
Lean Six Sigma, Graduate Certificate ... 533
Learning Experience Design and Technology, Graduate Certificate ... 908
Learning Experience Design and Technology, MPS ... 846
Leaves of Absence and University Withdrawal ... 57
Legal Design, Graduate Certificate ... 767
Legal Studies, MLS—Online ... 755
Liability Insurance ... 572
Libraries ... 19

Major CIP Codes ... 1251
Management, MS ... 174
Manufacturing and Quality Operations in Biotechnology, Graduate Certificate ... 969
Marine and Environmental Sciences ... 974
Marine and Environmental Sciences, PhD ... 975
Marine Biology, MS ... 987
Marketing Analytics, Graduate Certificate ... 252
Marketing, Graduate Certificate ... 251
Master of Architecture—One-Year Program ... 115
Master of Architecture—Three-Year Program ... 118
Master of Architecture—Three-Year Program—Advanced Degree Entrance ... 120
Master of Architecture—Two-Year Program ... 116
Master of Business Administration ... 190
Master of Science ... 170
Master's Degree Admission Requirements ... 796
Master's Degree Policies ... 112
Master's Degree Programs ... 816
Master's Degrees ... 1050

Mathematics ... 990
Mathematics, MS ... 1000
Mathematics, PhD ... 991
Mechanical and Industrial Engineering ... 473
Mechanical Engineering, PhD ... 478
Mechanical Engineering with Concentration in General Mechanical Engineering, MSME ... 509
Mechanical Engineering with Concentration in Materials Science, MSME ... 512
Mechanical Engineering with Concentration in Mechanics and Design, MSME ... 514
Mechanical Engineering with Concentration in Mechatronics, MSME ... 517
Mechanical Engineering with Concentration in Thermofluids, MSME ... 520
Media Advocacy, MS ... 143
Media Advocacy, MS ... 143
Media Innovation and Data Communication, MS ... 144
Medical Device Regulatory Affairs, Graduate Certificate ... 909
Medicinal Chemistry and Drug Discovery, MS ... 729
Medicinal Chemistry and Drug Discovery, PhD ... 701
Mills College at Northeastern ... 1144
Minimum Cumulative GPA ... 88
Molecular Biotechnology, Graduate Certificate ... 970
Multidisciplinary Programs ... 538
Mutual Fund Management, Graduate Certificate ... 253

Nanomedicine, Graduate Certificate ... 1019
Nanomedicine, MS ... 1012
Network Science, PhD ... 273
Network Science, PhD ... 273
Network Science, PhD ... 273
Network Science, PhD ... 273
Network Science, PhD ... 273
New Student Orientation (On-Ground and Online) ... 797
Nonclinical Biomedical Product Regulation, Graduate Certificate ... 910
Nonprofit Management, Graduate Certificate ... 911
Nonprofit Management, MS ... 864
Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate ... 1120
Notifications and Disclosures ... 1238
Nurse Anesthesia, DNP ... 672
Nursing, DNP—Post-Master's ... 674
Nursing, MS ... 682
Nursing, MS—Direct Entry ... 686
Nursing, PhD ... 669
Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS ... 675
Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS ... 676
Nursing—Neonatal Nurse Practitioner, CAGS ... 678

Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS ... 680
Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS ... 679
Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS ... 681
Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS ... 677

Off Campus Engagement and Support ... 30
Office of the University Registrar ... 20
Office of the University Registrar ... 20
Omics, Graduate Certificate ... 950
Operations Research, MSOR ... 523
Operations Research, MSOR ... 1001
Organizational Communication, Graduate Certificate ... 912
Organizational Leadership, MS ... 868
Overload Conditions for Graduate Assistants ... 89

Pass / Fail Policy ... 262
Pass/Fail (Satisfactory/Unsatisfactory) Grading ... 90
Patient Safety, Graduate Certificate ... 607
Patient Safety, Graduate Certificate ... 607
Pediatric Nurse Practitioner, Acute Care, Graduate Certificate ... 692
Personal Health Informatics, PhD ... 314
Personal Health Informatics, PhD ... 322
Personal Health Informatics, PhD ... 314
Personal Health Informatics, PhD ... 314
Personal Information ... 60
Personal Professional Enrichment (PPE) ... 798
Pharmaceutical Engineering, MS ... 374
Pharmaceutical Engineering, MS ... 374
Pharmaceutical Engineering, MS ... 374
Pharmaceutical Technologies, Graduate Certificate ... 971
Pharmaceutics and Drug Delivery, MS ... 734
Pharmaceutics and Drug Delivery, PhD ... 707
Pharmacology, MS ... 738
Pharmacology, PhD ... 713
Pharmacy, PharmD ... 719
Pharmacy, PharmD—Direct Entry ... 720
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
PhD Programs ... 103
PhD Student Progress and Review ... 345
Physical Therapy, DPT—Postbaccalaureate Entry ... 623
Physician Assistant, MS ... 616
Physician Assistant, MS / Public Health, MPH ... 604

Physician Assistant, MS / Public Health, MPH 604
Physician Assistant, MS / Public Health, MPH 604
Physics 1004
Physics, MS 1016
Physics, PhD 1005
Political Science 1081
Political Science, MA 1085
Political Science, PhD 1082
Population Health, PhD 646
Postsecondary Teaching, Graduate Certificate 1152
Poverty Law and Economic Justice, Graduate Certificate 769
Privacy Law, Graduate Certificate 771
Process Safety Engineering, Graduate Certificate 379
Process Science, Graduate Certificate 972
Product Development, MS 565
Professional Sports Administration, Graduate Certificate 913
Program Completion 346
Project Business Analysis, Graduate Certificate 914
Project Management, Graduate Certificate 915
Project Management, MS 871
Psychology 1020
Psychology, PhD 1024
Public Administration, MPA 1100
Public and Media Relations, Graduate Certificate 916
Public Health, MPH 650
Public Health, MPH / Health Informatics, MS 605
Public Health, MPH / Health Informatics, MS 605
Public Health, MPH—Accelerated 652
Public History, Graduate Certificate 1080
Public Policy Analysis, Graduate Certificate 1121
Public Policy, MPP 1103
Public Policy, PhD 1093
Public Safety 25

Quality Assurance Compliance, Graduate Certificate 917
Quantitative Finance and Business Administration, MSFMBA 227
Quantitative Finance, MSF 188

Readmission to Program 799
Real-World Evidence in Healthcare and Life Sciences, MS 599
Real-World Evidence in Healthcare and Life Sciences, MS 599
Reenrollment Policy for Full-time Students 347
Reentry to Program 800
Registration and Taking Courses 801

Regulations and Requirements for All Graduate Degree Programs ... 91
Regulations and Requirements for Doctor of Philosophy (PhD) Programs ... 99
Regulations and Requirements for Graduate Certificate Programs ... 93
Regulations and Requirements for Interdisciplinary Graduate Degrees ... 101
Regulations and Requirements for PlusOne Degree Combinations ... 95
Regulations and Requirements for Professional Doctorate Degree Programs ... 96
Regulations and Requirements for the Certificate of Advanced Graduate Study ... 98
Regulations and Requirements for the Master's Degree ... 94
Regulations for All Students ... 1046
Regulatory Affairs, MS ... 874
Reinstatement after Academic Dismissal ... 803
Remote Sensing, Graduate Certificate ... 918
Renewable Energy, Graduate Certificate ... 534
Requesting and Clearing An Incomplete Grade ... 61
Requirements for Clinical, Internships, and Practicum Courses ... 573
Resources ... 1271
Retaking Courses ... 62
Robotics, MS ... 290
Robotics, MS ... 290
Robotics, MS ... 290

Sales Management, Graduate Certificate ... 919
Satisfactory Progress ... 936
School of Architecture ... 114
School of Clinical and Rehabilitation Sciences ... 608
School of Community Health and Behavioral Sciences ... 632
School of Criminology and Criminal Justice ... 1051
School of Journalism ... 141
School of Law ... 742
School of Nursing ... 668
School of Pharmacy and Pharmaceutical Sciences ... 693
School of Public Policy and Urban Affairs ... 1092
School Psychology, CAGS ... 638
School Psychology, PhD ... 636
Secondary Education, MAT ... 821
Security and Intelligence Studies, MA ... 817
Security and Resilience Studies, Graduate Certificate ... 1091
Security and Resilience Studies, MS ... 1088
Seeking More than One Certificate or Degree ... 804
Social Media for Organizational Performance, Graduate Certificate ... 920
Sociology ... 1125
Sociology, PhD ... 1126
Software Engineering Systems, Graduate Certificate ... 554

Software Engineering Systems, MS ... 545
Special Student Status ... 805
Speech-Language Pathology, MS ... 611
Sports Leadership, MSLD ... 877
Student Bill of Academic Rights and Responsibilities ... 63
Student Evaluation of Courses ... 806
Student Refunds ... 39
Student Responsibility Statement ... 66
Student Right-to-Know Act ... 67
Substituting Courses ... 68
Supply Chain Engineering Management, Graduate Certificate ... 536
Supply Chain Management, Graduate Certificate ... 254
Sustainability and Business, Graduate Certificate ... 255
Sustainability and Climate Change Policy, Graduate Certificate ... 1122
Sustainability Engineering, Graduate Certificate ... 408
Sustainability Sciences, Graduate Certificate ... 989
Sustainable Building Systems, MSSBS ... 405
Sustainable Energy Systems, Graduate Certificate ... 535
Sustainable Urban Environments, MDes—One-Year Program ... 122
Sustainable Urban Environments, MDes—Two-Year Program ... 123

Technology Leadership, Graduate Certificate ... 1149
Technology Systems Management, Graduate Certificate ... 537
Telecommunication Networks, MS ... 547
The Doctor of Philosophy Degree (PhD) ... 932
The Master's Degree Academic Requirements ... 935
Time Limitation ... 937
Transfer Credit ... 938
Transfer Credit Policies ... 807
Transfer of Credit ... 263
Transfer of Credit ... 578
Transitional Doctor of Physical Therapy, DPT ... 814
Tuition and Fees ... 40

United States Law, Graduate Certificate ... 772
University Faculty ... 1153
University Leadership ... 1242
University-Sponsored Travel ... 69
Urban Analytics, Graduate Certificate ... 1123
Urban Informatics, MS ... 1111
Urban Planning and Policy, MS ... 163
Urban Planning and Policy, MS ... 163
Urban Studies, Graduate Certificate ... 1124
Usability, Graduate Certificate ... 921

Vaccine Development, Graduate Certificate 973

We Care 27
Wireless and Network Engineering, MS 432
Women, Gender, Sexuality, and the Law, Graduate Certificate 773
Women's, Gender, and Sexuality Studies, Graduate Certificate 1142

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Thursday, August 24, 2023	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half fall classes
Monday, August 28, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Tuesday, August 29, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Wednesday, August 30, 2023	School of Law (LW)	LW: First day of fall classes for first-year students
Thursday, August 31, 2023	Undergraduate (UG)	UG: First day of "I Am Here" for fall classes
Thursday, August 31, 2023	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half fall classes
Monday, September 4, 2023	Holidays, United States (USA)	USA: Labor Day, no classes
Monday, September 4, 2023	Holidays, Canada (CAN)	CAN: Labour Day, no classes
Tuesday, September 5, 2023	School of Law (LW)	LW: First day of full-semester and first-half fall classes
Tuesday, September 5, 2023	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: First day of fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Last day of "I Am Here" for fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Fall classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Wednesday, September 6, 2023	Graduate (GR)	GR: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half fall classes
Wednesday, September 13, 2023	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half fall classes will be dropped for students who do not complete "I Am Here"
Thursday, September 14, 2023	Undergraduate (UG)	UG: Last day of online class add for fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day of online class add for full-semester and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	Undergraduate (UG)	UG: Last day to elect pass/fail for fall classes (may be extended by instructor to October 27)
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day of online class add for full-semester and first-half fall classes
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester fall classes
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half fall class without a W grade
Wednesday, September 20, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class without a W grade (with administrative approval)
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half fall classes
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half fall classes
Monday, September 25, 2023	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half fall classes will be dropped for students who do not complete "I Am Here"
Monday, September 25, 2023	School of Law (LW)	LW: Yom Kippur observed by School of Law only, no classes
Tuesday, September 26, 2023	Undergraduate (UG)	UG: Last day to drop a fall class without a W grade
Tuesday, September 26, 2023	Graduate (GR)	GR: Last day to drop a full-semester fall class without a W grade
Tuesday, September 26, 2023	School of Law (LW)	LW: Last day to drop a full-semester fall class without a W grade
Friday, September 29, 2023	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for fall classes
Saturday, September 30, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation, no classes (Vancouver only)
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter fall classes
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half fall class without a W grade
Monday, October 2, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation observed, no classes (Vancouver only)
Monday, October 9, 2023	Holidays, United States (USA)	USA: Indigenous Peoples Day, no classes
Monday, October 9, 2023	Holidays, Canada (CAN)	CAN: Thanksgiving Day, no classes
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Friday, October 13, 2023	Graduate (GR)	GR: Optional makeup day
Sunday, October 15, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class with a W grade
Sunday, October 15, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class with a W grade
Monday, October 16, 2023	Graduate (GR)	GR: First day of final exams for first-half fall classes
Tuesday, October 17, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Tuesday, October 17, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half fall class with a W grade
Wednesday, October 18, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Wednesday, October 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half fall classes
Thursday, October 19, 2023	Graduate (GR)	GR: First day of "I Am Here" for second-half fall classes
Thursday, October 19, 2023	School of Law (LW)	LW: First day of "I Am Here" for second-half fall classes
Saturday, October 21, 2023	Graduate (GR)	GR: Last day of first-half fall classes/final exams
Saturday, October 21, 2023	School of Law (LW)	LW: Last day of first-half fall classes
Sunday, October 22, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half fall class with a W grade
Monday, October 23, 2023	Undergraduate (UG)	UG: Spring class offerings posted on web
Monday, October 23, 2023	Graduate (GR)	GR: First day of second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Last day of "I Am Here" for second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Undergraduate (UC)	UC: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half fall classes
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: Winter class offerings posted on web
Monday, October 23, 2023	School of Law (LW)	LW: First day of second-half fall classes
Monday, October 23, 2023	School of Law (LW)	LW: Last day of "I Am Here" for second-half fall classes

Date	Calendar	Event
Monday, October 23, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 24, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half fall classes/final exams
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of second-half fall classes
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half fall classes
Thursday, October 26, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Saturday, October 28, 2023	College of Professional Studies Graduate (GP)	GP: Last day of first-half fall classes/final exams
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half fall classes
Wednesday, November 1, 2023	College of Professional Studies Undergraduate (UC)	UC: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Sunday, November 5, 2023	Graduate (GR)	GR: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	Graduate (GR)	GR: Last day to drop a second-half fall class without a W grade
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half fall classes
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day to drop a second-half fall class without a W grade
Monday, November 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of registration for spring classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: First day of registration for winter classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Tuesday, November 7, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half fall class without a W grade
Friday, November 10, 2023	Graduate (GR)	GR: First day of spring class registration
Saturday, November 11, 2023	Holidays, United States (USA)	USA: Veterans Day, no classes
Saturday, November 11, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day, no classes (Vancouver only)
Sunday, November 12, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half fall class without a W grade
Monday, November 13, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day observed, no classes (Vancouver only)
Monday, November 13, 2023	Undergraduate (UG)	UG: First day of spring class registration for continuing students
Monday, November 13, 2023	School of Law (LW)	LW: First day of spring registration
Monday, November 20, 2023	College of Professional Studies Graduate (GP)	GP: First day of fall break
Wednesday, November 22, 2023	Undergraduate (UG)	UG: First day of fall break
Wednesday, November 22, 2023	Graduate (GR)	GR: First day of fall break
Wednesday, November 22, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break for first-year students
Monday, November 27, 2023	Undergraduate (UG)	UG: Classes resume
Monday, November 27, 2023	Graduate (GR)	GR: Classes resume
Monday, November 27, 2023	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, November 27, 2023	College of Professional Studies Graduate (GP)	GP: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume for first-year students
Wednesday, December 6, 2023	Undergraduate (UG)	UG: Last day of fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Reading day for fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Last day to drop a fall class with a W grade
Friday, December 8, 2023	Undergraduate (UG)	UG: First day of final exams for fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of full-semester fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of fall classes for first-year students
Sunday, December 10, 2023	Graduate (GR)	GR: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class with a W grade (with administrative approval)
Monday, December 11, 2023	Graduate (GR)	GR: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of final exams for full-semester fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of reading period/final exams for fall classes for first-year students
Friday, December 15, 2023	Undergraduate (UG)	UG: Last day of final exams for fall classes
Saturday, December 16, 2023	Undergraduate (UG)	UG: Final exam makeup day for fall classes if needed
Saturday, December 16, 2023	Undergraduate (UG)	UG: Fall degree conferral date
Saturday, December 16, 2023	Graduate (GR)	GR: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	Graduate (GR)	GR: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Fall degree conferral date
Saturday, December 16, 2023	School of Law (LW)	LW: Last day of second-half fall classes
Monday, December 18, 2023	Undergraduate (UG)	UG: First day of winter break
Monday, December 18, 2023	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for fall classes
Monday, December 18, 2023	Graduate (GR)	GR: First day of winter break

Date	Calendar	Event
Monday, December 18, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of winter break
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of winter break
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half fall classes
Monday, December 18, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for full-semester fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Fall degree conferral date
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for fall classes for first-year students
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes if needed
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes for first-year students if needed
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break for first-year students
Thursday, January 4, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for spring classes
Thursday, January 4, 2024	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half spring classes
Thursday, January 4, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	Undergraduate (UG)	UG: First day of spring classes
Monday, January 8, 2024	Graduate (GR)	GR: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half winter classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half winter classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of spring classes for first-year students
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for spring classes
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Spring classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Tuesday, January 9, 2024	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half winter classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half winter classes
Monday, January 15, 2024	Holidays, United States (USA)	USA: Martin Luther King, Jr. Day, no classes
Tuesday, January 16, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, January 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, January 17, 2024	Undergraduate (UG)	UG: Last day of online class add for spring classes
Friday, January 19, 2024	Graduate (GR)	GR: Optional makeup day
Monday, January 22, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for spring classes (may be extended by instructor to March 1)
Monday, January 22, 2024	Graduate (GR)	GR: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester spring classes
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer class offerings posted on web
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter winter classes
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half winter class without a W grade
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Spring class offerings posted on web
Monday, January 22, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester fall classes
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline for fall classes for first-year students
Monday, January 29, 2024	Undergraduate (UG)	UG: Last day to drop a spring class without a W grade
Monday, January 29, 2024	Undergraduate (UG)	UG: Summer class offerings posted on web
Monday, January 29, 2024	Graduate (GR)	GR: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	Graduate (GR)	GR: Summer class offerings posted on web
Monday, January 29, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class without a W grade (with administrative approval)
Thursday, February 1, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for spring classes
Monday, February 5, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for summer classes
Monday, February 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for spring classes
Friday, February 9, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, February 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half winter class with a W grade
Monday, February 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half winter classes
Friday, February 16, 2024	Graduate (GR)	GR: First day of summer class registration
Friday, February 16, 2024	Graduate (GR)	GR: Optional makeup day
Saturday, February 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half winter classes/final exams
Monday, February 19, 2024	Holidays, United States (USA)	USA: Presidents Day, no classes
Monday, February 19, 2024	Holidays, Canada (CAN)	CAN: Family Day, no classes
Monday, February 19, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class with a W grade
Monday, February 19, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	Undergraduate (UG)	UG: First day of summer class registration for continuing students

Date	Calendar	Event
Tuesday, February 20, 2024	Graduate (GR)	GR: First day of final exams for first-half spring classes
Tuesday, February 20, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half winter classes
Wednesday, February 21, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half spring classes
Thursday, February 22, 2024	Graduate (GR)	GR: First day of "I Am Here" for second-half spring classes
Thursday, February 22, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half spring classes
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Saturday, February 24, 2024	Graduate (GR)	GR: Last day of first-half spring classes/final exams
Saturday, February 24, 2024	School of Law (LW)	LW: Last day of first-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: First day of second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half winter classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half winter classes
Monday, February 26, 2024	School of Law (LW)	LW: First day of second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Tuesday, February 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half spring classes/final exams
Tuesday, February 27, 2024	College of Professional Studies Graduate (GP)	GP: Second-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half spring classes
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half spring classes
Thursday, February 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, March 4, 2024	Undergraduate (UG)	UG: First day of spring break
Monday, March 4, 2024	Graduate (GR)	GR: First day of spring break
Monday, March 4, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of spring break
Monday, March 4, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half winter class without a W grade
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break for first-year students
Friday, March 8, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Monday, March 11, 2024	Undergraduate (UG)	UG: Classes resume
Monday, March 11, 2024	Graduate (GR)	GR: Classes resume
Monday, March 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume for first-year students
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half spring classes
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half spring classes
Wednesday, March 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Sunday, March 17, 2024	Graduate (GR)	GR: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	Graduate (GR)	GR: Last day to drop a second-half spring class without a W grade
Sunday, March 17, 2024	School of Law (LW)	LW: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class without a W grade
Monday, March 18, 2024	Undergraduate (UG)	UG: Fall class offerings posted on web
Monday, March 18, 2024	Graduate (GR)	GR: Fall class offerings posted on web
Tuesday, March 19, 2024	Undergraduate (UG)	UG: Experiential Trek Day (Oakland only)
Tuesday, March 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half spring class without a W grade
Friday, March 22, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, March 24, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half winter class with a W grade
Monday, March 25, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half winter classes
Friday, March 29, 2024	Holidays, United States (USA)	USA: Good Friday, no classes (Charlotte only)
Friday, March 29, 2024	Holidays, Canada (CAN)	CAN: Good Friday, no classes
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half winter classes/final exams
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Winter degree conferral date
Sunday, March 31, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day observed, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of spring break
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half winter classes
Monday, April 1, 2024	School of Law (LW)	LW: First day of summer registration
Friday, April 5, 2024	Graduate (GR)	GR: First day of fall class registration for continuing students
Monday, April 8, 2024	Undergraduate (UG)	UG: First day of fall class registration for continuing students
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: Summer class offerings posted on web
Friday, April 12, 2024	School of Law (LW)	LW: Last day of full-semester spring classes
Friday, April 12, 2024	School of Law (LW)	LW: Last day of spring classes for first-year students
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half spring classes
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half spring classes
Monday, April 15, 2024	Holidays, United States (USA)	USA: Patriots Day, no classes (Boston & Portland only)

Date	Calendar	Event
Monday, April 15, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class with a W grade
Monday, April 15, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class with a W grade (with administrative approval)
Tuesday, April 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of final exams for full-semester spring classes
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of reading period/final exams for spring classes for first-year students
Wednesday, April 17, 2024	Undergraduate (UG)	UG: Last day of spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Reading day for spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Last day to drop a spring class with a W grade
Friday, April 19, 2024	Undergraduate (UG)	UG: First day of final exams for spring classes
Friday, April 19, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, April 21, 2024	Graduate (GR)	GR: Last day to drop a full-semester or second-half spring class with a W grade
Sunday, April 21, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester and second-half spring class with a W grade
Sunday, April 21, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class with a W grade
Monday, April 22, 2024	Graduate (GR)	GR: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for summer classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half spring class without a W grade
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for full-semester spring classes
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for spring classes for first-year students
Friday, April 26, 2024	Undergraduate (UG)	UG: Last day of final exams for spring classes
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes if needed
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes for first-year students if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Final exam makeup day for spring classes if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Spring degree conferral date
Saturday, April 27, 2024	Graduate (GR)	GR: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	Graduate (GR)	GR: Spring degree conferral date
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Spring degree conferral date
Saturday, April 27, 2024	School of Law (LW)	LW: Last day of second-half spring classes
Saturday, April 27, 2024	School of Law (LW)	LW: Spring degree conferral date
Monday, April 29, 2024	Undergraduate (UG)	UG: First day of summer break
Monday, April 29, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for spring classes
Monday, April 29, 2024	Graduate (GR)	GR: First day of summer break
Monday, April 29, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of summer break
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	School of Law (LW)	LW: First day of summer break
Monday, April 29, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half spring classes
Thursday, May 2, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: First day of summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Summer 1 and full summer classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, May 6, 2024	Graduate (GR)	GR: First day of summer 1 and full summer classes
Monday, May 6, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: First day of full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half summer classes
Wednesday, May 8, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 1 classes
Wednesday, May 8, 2024	Graduate (GR)	GR: First day of fall class registration for new students
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half spring class with a W grade
Monday, May 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half summer classes will be dropped for students who do not complete "I Am Here"
Monday, May 13, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half spring classes
Tuesday, May 14, 2024	Undergraduate (UG)	UG: Last day of online class add for full summer classes
Saturday, May 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half spring classes/final exams
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 1 classes (may be extended by instructor to June 7)
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for full summer classes (may be extended by instructor to June 28)
Sunday, May 19, 2024	Graduate (GR)	GR: Last day of online class add for summer 1 and full summer classes
Sunday, May 19, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester summer classes
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half summer class without a W grade
Sunday, May 19, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half summer classes
Sunday, May 19, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class without a W grade
Monday, May 20, 2024	Holidays, Canada (CAN)	CAN: Victoria Day, no classes

Date	Calendar	Event
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Thursday, May 23, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 1 classes
Sunday, May 26, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	Graduate (GR)	GR: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half spring classes
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half spring classes
Sunday, May 26, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class without a W grade
Monday, May 27, 2024	Holidays, United States (USA)	USA: Memorial Day, no classes
Tuesday, May 28, 2024	College of Professional Studies Graduate (GP)	GP: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester spring classes
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline for spring classes for first-year students
Wednesday, May 29, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for full summer classes
Friday, May 31, 2024	Graduate (GR)	GR: Optional makeup day
Monday, June 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Fall class offerings posted on web
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half spring class without a W grade
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Fall class offerings posted on web
Monday, June 17, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for fall classes
Monday, June 17, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for fall classes
Wednesday, June 19, 2024	Holidays, United States (USA)	USA: Juneteenth, no classes
Wednesday, June 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half summer class with a W grade
Thursday, June 20, 2024	Undergraduate (UG)	UG: Last day of summer 1 classes
Thursday, June 20, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half summer classes
Friday, June 21, 2024	Undergraduate (UG)	UG: Reading day for summer 1 classes
Friday, June 21, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, June 23, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half spring class with a W grade
Sunday, June 23, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class with a W grade
Monday, June 24, 2024	Undergraduate (UG)	UG: First day of final exams for summer 1 classes
Monday, June 24, 2024	Graduate (GR)	GR: First day of final exams for summer 1 classes
Monday, June 24, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half spring classes
Tuesday, June 25, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 1 classes
Tuesday, June 25, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half summer classes/final exams
Wednesday, June 26, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 1 classes if needed
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half summer classes
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half summer classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Thursday, June 27, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Thursday, June 27, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half summer classes
Saturday, June 29, 2024	Graduate (GR)	GR: Last day of summer 1 classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half spring classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Spring degree conferral date
Saturday, June 29, 2024	School of Law (LW)	LW: Last day of first-half summer classes
Monday, July 1, 2024	Holidays, Canada (CAN)	CAN: Canada Day, no classes
Monday, July 1, 2024	Undergraduate (UG)	UG: First day of summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Summer 2 classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, July 1, 2024	Graduate (GR)	GR: First day of summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of summer break
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half spring classes
Monday, July 1, 2024	School of Law (LW)	LW: First day of second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half summer classes
Wednesday, July 3, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 2 classes
Wednesday, July 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, July 4, 2024	Holidays, United States (USA)	USA: Independence Day, no classes
Friday, July 5, 2024	Graduate (GR)	GR: Optional makeup day
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter, first-half, and six-week summer classes
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter, first-half, and six-week summer classes
Tuesday, July 9, 2024	School of Law (LW)	LW: Classes will follow a Thursday schedule
Wednesday, July 10, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half summer class without a W grade
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter, first-half, and six-week summer classes

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half and six-week summer classes
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 2 classes (may be extended by instructor to August 2)
Monday, July 15, 2024	Graduate (GR)	GR: Last day of online class add for summer 2 classes
Monday, July 15, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter, first-half, and six-week summer classes will be dropped for students who do not complete "I Am Here"
Monday, July 15, 2024	School of Law (LW)	LW: Last day of online class add for second-half summer classes
Monday, July 15, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class without a W grade
Thursday, July 18, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 2 classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter summer classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter, first-half, or six-week summer class without a W grade
Sunday, July 28, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half summer class with a W grade
Monday, July 29, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half summer classes
Monday, July 29, 2024	School of Law (LW)	LW: First day of fall registration
Saturday, August 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half summer classes/final exams
Monday, August 5, 2024	Holidays, Canada (CAN)	CAN: Civic Holiday, no classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day of full-semester summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class with a W grade
Thursday, August 8, 2024	Undergraduate (UG)	UG: Last day of full summer classes
Thursday, August 8, 2024	School of Law (LW)	LW: First day of final exams for full-semester summer classes
Friday, August 9, 2024	Undergraduate (UG)	UG: Reading day for full summer classes
Sunday, August 11, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	Graduate (GR)	GR: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a six-week summer class with a W grade
Monday, August 12, 2024	Undergraduate (UG)	UG: First day of final exams for full summer classes
Monday, August 12, 2024	Graduate (GR)	GR: First day of final exams for full summer classes
Monday, August 12, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for six-week summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of final exams for full summer classes
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of summer 2 classes
Friday, August 16, 2024	Undergraduate (UG)	UG: Final exam makeup day for full summer classes if needed
Friday, August 16, 2024	Undergraduate (UG)	UG: Reading day for summer 2 classes
Saturday, August 17, 2024	Graduate (GR)	GR: Last day of full summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of six-week summer classes/final exams
Sunday, August 18, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half summer class without a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for six-week summer classes
Sunday, August 18, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class with a W grade
Monday, August 19, 2024	Undergraduate (UG)	UG: First day of final exams for summer 2 classes
Monday, August 19, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	Graduate (GR)	GR: First day of final exams for summer 2 classes
Monday, August 19, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half summer classes
Tuesday, August 20, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 2 classes
Tuesday, August 20, 2024	School of Law (LW)	LW: Last day of final exams for full-semester summer classes
Wednesday, August 21, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 2 classes if needed
Wednesday, August 21, 2024	School of Law (LW)	LW: Final exam makeup day for summer classes if needed
Thursday, August 22, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Saturday, August 24, 2024	Undergraduate (UG)	UG: Summer degree conferral date
Saturday, August 24, 2024	Graduate (GR)	GR: Last day of summer 2 classes/final exams
Saturday, August 24, 2024	Graduate (GR)	GR: Summer degree conferral date
Saturday, August 24, 2024	School of Law (LW)	LW: Last day of second-half summer classes
Saturday, August 24, 2024	School of Law (LW)	LW: Summer degree conferral date
Sunday, August 25, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half summer class with a W grade
Monday, August 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Monday, August 26, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half summer classes
Monday, August 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half summer classes
Saturday, August 31, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer degree conferral date
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half summer classes/final exams
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Summer degree conferral date
Tuesday, September 3, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half summer classes

Date	Calendar	Event
Thursday, September 19, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester summer classes

Northeastern University
College of Professional Studies

Matthew Modoono for Northeastern University

Undergraduate Catalog 2023-2024

Website (https://cps.northeastern.edu/academics/undergraduate-programs/)

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Table of Contents

College of Professional Studies Undergraduate 4
- General Admission and Transfer Credit 5
  - Admission 6
  - Admission Requirements for Undergraduate Degrees and Certificates 8
  - Seeking More Than One Certificate or Degree 9
  - Transfer Credit Policy 10
- Information for Entering Students 11
  - Academic and Student Resources 12
  - Academic Calendar 16
  - Campus Resources 17
  - Information for International Students 19
  - Information Technology Services 20
  - New Admitted Students Site 21
  - New Student Orientation (On-Ground and Online) 22
  - Office of the University Registrar 23
  - Public Safety 24
  - We Care 25
- Financial Information 26
  - Bill Payment 27
  - Delivery of Services 30
  - Financial Aid Assistance 31
  - General Financial Aid Policies and Procedures 33
  - Northeastern University Student Health Plan (NUSHP) 35
  - Tuition and Fees 36
- Academic Policies and Procedures 37
  - Accommodations for Students with Disabilities 38
  - Attendance Requirements 39
  - Campus Transfer and Campus Location Change 40
  - Clearing an Academic Deficiency 41
  - Code of Student Conduct 42
  - Course Credit Guidelines 43
  - Course Numbering System 44
  - Family Educational Rights and Privacy Act (FERPA) 45
  - Grade Change Policy 47
  - Grade Table and GPA 48
  - Leaves of Absence and University Withdrawal 50
  - Personal Information 53
  - Requesting and Clearing An Incomplete Grade 54
  - Retaking Courses 55
  - Student Bill of Academic Rights and Responsibilities 56

Student Responsibility Statement ... 59
Student Right-to-Know Act ... 60
Substituting Courses ... 61
University-Sponsored Travel ... 62
Academic and Research Integrity ... 63
Academic Appeals Policies and Procedures ... 64
Academic Honors ... 66
Academic Progression Standards ... 67
Appropriate Use of Computer and Network Resources Policy ... 68
Attendance Verification ... 69
Completing Program Requirements ... 70
Cooperative Education ... 71
Degrees, Majors, and Minors ... 73
Full-Time Status ... 74
Global Partnership Programs ... 75
Graduation Requirements ... 76
Readmission to Program ... 77
Reentry to Program ... 78
Registration and Taking Courses ... 79
Reinstatement after Academic Dismissal ... 82
Seeking More Than One Certificate or Degree ... 9
Student Evaluation of Courses ... 84
University Academics ... 85
NUpath ... 86
Requirements ... 87
Learning Goals ... 89
Writing-Intensive Courses ... 92
Global Pathways ... 93
Bachelor of Science Programs, Business and Social Sciences ... 94
Finance and Accounting Management, BS ... 95
Interdisciplinary Studies, BS ... 99
Management, BS ... 102
Bachelor's and Postbaccalaureate Programs, Lowell Institute School ... 106
Advanced Manufacturing Systems, BS ... 107
Analytics, BS ... 110
Biological Science, BS ... 114
Biotechnology, BS ... 117
Digital Communication and Media, BS ... 120
Health Science, BS ... 123
Healthcare Administration, BS ... 126
Information Technology, BS ... 129
Mechatronics, BS ... 133
Project Management, BS ... 136

Psychology, BS ... 140
Undergraduate Certificate Programs ... 144
Accounting, Undergraduate Certificate ... 145
Advanced Accounting, Undergraduate Certificate ... 146
Analytics, Undergraduate Certificate ... 147
Healthcare Administration, Undergraduate Certificate ... 148
Premedical Studies, Postbaccalaureate Undergraduate Certificate ... 149
Principles of Manufacturing, Undergraduate Certificate ... 151
Project Management, Undergraduate Certificate ... 152
Undergraduate Minors ... 153
Biology, Minor ... 154
Business, Minor ... 155
Creative Writing, Minor ... 156
Environmental Science, Minor ... 157
Healthcare Administration, Minor ... 158
Information Technology, Minor ... 159
Organizational Communication, Minor ... 160
Psychology, Minor ... 161
Sociology, Minor ... 162
Accelerated Bachelor/Graduate Degree Programs ... 163
Faculty ... 164
General Information ... 248
Notifications and Disclosures ... 249
Governing Boards and Officers of Northeastern ... 251
University Leadership ... 253
Accreditation ... 254
Authorizations ... 258
Major CIP Codes ... 262
Resources ... 282
Index ... 283

College of Professional Studies Undergraduate

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Erin Clair, PhD, Associate Dean of Undergraduate Programs

877.668.7727

617.373.2400

General Admission and Transfer Credit

- Admission (p. 6)
- Admission Requirements for Undergraduate Degrees and Certificates (p. 8)
- Seeking More Than One Certificate or Degree (p. 9)
- Transfer Credit Policy (p. 10)

Admission

The goal of the admission process at the College of Professional Studies is to provide access to a Northeastern University education worldwide and to create an environment where you will grow and create lasting opportunities for your future. To support this, we take a friendly and supportive approach to admissions and are here to guide you through the process and help you achieve your goals. There are no application fees. No GREs, GMATs, or SATs required. And there are multiple start terms per year.

When to Apply

DOMESTIC APPLICANTS

The College of Professional Studies admissions process operates on a rolling basis. However, it is recommended that all required documents are received:

- Six weeks prior to your desired start term for **transfer applicants**
- Four weeks prior to your desired start term for **applicants not transferring credits**

INTERNATIONAL APPLICANTS

As an international applicant, there are important deadlines you must meet in order to begin classes during your desired start term. International applicants who will be studying in the United States on a student visa must abide by the deadlines found on the College of Professional Studies website (http://www.cps.neu.edu/admissions/international/).

Application Information

Applicants should refer to the following information to submit application documents:

Mail supporting documents to the following address:

Northeastern University—College of Professional Studies
Graduate Application Processing Center
P.O. Box 8150
Portsmouth, NH 03802

If you are **unable** to send it to a **P.O. Box,** mail supporting documents to the following address:

Northeastern University—College of Professional Studies
Graduate Application Processing Center
360 Huntington Avenue
Boston, MA 02115-9959

It is important to include "College of Professional Studies" in the address when sending mail or requesting transcripts from previous institutions.

FAX

Fax supporting documents to the following number: 617.373.8574.

EMAIL

Supporting documents that we recommend you submit via the Applicant Inquiry Form (https://northeastern-network.force.com/GraduateAdmissionsFAQ/s/):

- Unofficial transcripts
- Copy of diploma
- Statement of purpose
- Recommendation letters

TRANSCRIPTS

Transcripts must be mailed from the originating institution in a stamped and sealed envelope or emailed through "escript."

IMPORTANT CODES

Note the following codes:

- TOEFL code: 4999
- FAFSA code: 002199

ADMISSIONS CONTACT

Questions? Please visit the Graduate Admissions Support Center (https://northeastern-network.force.com/GraduateAdmissionsFAQ/s/).

APPLICATION WITHDRAWAL DUE TO INACTIVITY

An application can be incomplete for up to one year before it is automatically withdrawn due to inactivity. An applicant who would like to reactivate their application has one year to do so from the time of their application withdrawal.

If an applicant has any questions or would like to reactivate their application, call 617.373.2400, 877.668.7727, or submit an email (cpsadmissions@northeastern.edu).

Request to Withdraw an Application

An applicant can request to withdraw their application for admission at any time. An applicant who would like to reactivate their application has one year to do so from the time of their application withdrawal.

To request to withdraw your application, call 617.373.2400, 877.668.7727, or submit an email (cpsadmissions@northeastern.edu).

Admissions Acceptance Deferral

A student who is not able to start their studies during the academic term for which they gained acceptance must contact the Office of Admissions to request a deferral of admission. A student may request a deferral for up to one year, unless otherwise noted for specific programs. Check with the Office of Admissions for more information.

If a student does not get approved for an acceptance deferral and does not begin their studies within two academic terms of acceptance into a program, they forfeit that acceptance and must reapply to the program for a future term. It is important for the student to inform the Office of Admissions about deferral requests as this may impact the student's time limit on program completion and financial aid.

Conditional Admission

Students who have not submitted required admissions documents, such as official transcripts, prior to admission must do so within 30 days of the start of the academic term. A student who has been admitted on condition to provide admissions documents will not be permitted to register for a future term.

Curricular Requirements

Admitted students are required to follow the program requirements that are in effect the term for which they have been admitted or, in the case of a formal deferral, the future term to which they have deferred. Students are encouraged to review the curricular requirements at the beginning of their start term to ensure they have the most up-to-date information.

The college reserves the right to rescind an offer of acceptance if the student is no longer considered in good academic or disciplinary standing between the time of acceptance and matriculation.

Admission Requirements for Undergraduate Degrees and Certificates

Admissions requirements include the following:

- **Online application**
- **Academic transcripts—**submit one of the following:
  - Official high school transcript
  - Official GED
  - Official associate degree transcript, stating degree conferral and date
- **Transfer credit documents—**transfer students must submit the following:
  - Academic transcripts—official U.S. transcript from each institution you previously attended and from which you are requesting transfer credit
  - Foreign transcripts—official transcripts and English translation; we recommend you submit a course-by-course evaluation of your diploma(s) and transcript(s)
  - College-level examinations—official examination
  - Military evaluation
- **Proof of English-language proficiency—**students for whom English is not their primary language must submit one of the following:
  - Official associate degree transcript from an accredited college or university in the United States, stating degree conferral and date
  - Official TOEFL or IELTS scores
  - NU Global Exam scores
  - Pearson scores

Additional information regarding English-language proficiency test score requirements may be found on the English Language Requirements webpage (http://www.cps.neu.edu/admissions/international/english-language-proficiency.php).

Seeking More Than One Certificate or Degree

An undergraduate student can be enrolled in only one undergraduate program at a time.

Undergraduate students seeking more than one certificate or degree after having completed a program should note that undergraduate credits earned toward:

1. A certificate earned at the College of Professional Studies may be used to satisfy the requirements of a bachelor's degree, if the contents are determined to be applicable per the program director.
2. A certificate earned at the College of Professional Studies may be used to satisfy the requirements of a second certificate with a cap of 6 credits, if the contents are determined to be applicable per the program director.
3. A bachelor's degree earned at the College of Professional Studies may be used to satisfy the requirements of a second bachelor's degree with a cap of 50% of the requirements for the second degree, if the contents are determined to be applicable per the program director.

Transfer Credit Policy

The College of Professional Studies awards transfer credits for eligible courses completed successfully at regionally and programmatically accredited institutions. The Council for Higher Education Accreditation provides information about the organizations responsible for these two forms of accreditation. Official transcripts from all institutions should be sent directly to the College of Professional Studies Office of Admissions at the time of application.

Credits earned at institutions outside the United States are considered for transferability on a case-by-case basis. Students should submit an official English evaluation completed by an approved credential evaluator. Course descriptions and/or syllabi also should be translated into English and submitted to the College of Professional Studies Office of Admissions.

Once a new student has been accepted into a program, a major has been declared, and all official transcripts and/or exam results have been received, the College of Professional Studies Office of Registrar Operations conducts an official transfer credit evaluation within the first academic term. Students may be required to provide additional documentation for transfer credit evaluation.

The College of Professional Studies reserves the right to revise transfer credit awards due to course duplication, a student's change in program of study, or other reasons deemed necessary by the college.

Students who wish to transfer credits earned at the College of Professional Studies to another institution need to consult with that institution to determine eligibility.

For more information about transferring credit and the transfer credit award process, visit the College of Professional Studies Admissions webpage (https://cps.northeastern.edu/admissions-aid/).

Undergraduate Transfer Credit

Undergraduate students who wish to make a request for transfer credits must provide an official academic transcript for credits earned at another institution and an official report of exam results for credits earned through college-level proficiency examinations.

Undergraduate transfer credit awards are granted on a case-by-case basis employing the following guidelines:

- The minimum course grade acceptable for transfer credit is C, or 2.000 on a 4.000 scale.
- Courses completed on a pass/fail scale are not eligible for transfer.
- Credits earned in science and technology courses are valid for a period of seven years. Science and technology courses completed more than seven years ago may be considered for transfer at the discretion of the program director. Courses successfully completed in other subject areas are not subject to timelines.
- Transfer credits also may be earned through:
  - Prior Learning Assessment
  - College-Level Examination Program
  - The Excelsior College Examination Program (formerly Regents College)
  - DANTES Examination Program of the Educational Testing Service
  - Advanced Placement Examination Program of the College Entrance Examination Board
- Credits earned from any college within Northeastern University other than the College of Professional Studies are granted under the following guidelines:
  - Minimum grade of a C–, or 1.667 on a 4.000 scale.
  - If the undergraduate transfer student is only transferring credits earned at another Northeastern college, they complete a minimum of 24 semester hours (residency) for a bachelor's degree at the College of Professional Studies.
- Students must complete at least 50% of the total credits required for a bachelor's degree at the College of Professional Studies.
- Students may transfer up to 6 semester hours toward an undergraduate certificate.
- In addition to exceptions for approved academic partnerships, an undergraduate student who is on active military duty may transfer up to 75% of the total credits required for an undergraduate certificate or degree at the College of Professional Studies.

Prior Learning Assessment

Students may be eligible for PLA credit if they have accrued a foundation of knowledge and skills equivalent to the content of courses offered by the College of Professional Studies.

Awarded credits are incorporated into a student's degree plan as transfer credits and are subject to the university's residency requirement. PLA credit is limited to a maximum of 30 semester hours for undergraduate students. Acceptable credits for PLA review are determined from approved certificates, training, and a portfolio review of prior work experience. As part of the consideration for PLA credits, faculty will evaluate and map learning outcomes and achievement in alignment with New England Commission of Higher Education accreditation requirements.

Potential PLA credits should be considered and discussed as part of a student's transfer credits at the time of enrollment. Interested students should contact their academic advisor for more information.

Information for Entering Students

- Academic and Student Resources (p. 12)
- Academic Calendar (p. 16)
- Campus Resources (p. 17)
- Information for International Students (p. 19)
- Information Technology Services (p. 20)
- New Admitted Students Site (p. 21)
- New Student Orientation (On-Ground and Online) (p. 22)
- Office of the University Registrar (p. 23)
- Public Safety (p. 24)
- We Care (p. 25)

Academic and Student Resources

Northeastern University Library

Website (https://library.northeastern.edu)
617.373.8778

The Northeastern University Library serves the entire Northeastern community—in Boston, Oakland, across the global campus network, and online. The Library provides collections and services supporting research and teaching across disciplines. Its collections are extensive, with a large proportion available digitally. The Library's collections include more than 1 million e-books; almost 500,000 print titles; more than 150,000 licensed e-journals; and more than 200,000 streaming audio and visual titles. Access to print and electronic materials is provided through Scholar OneSearch, the Library's discovery platform. The Library's Archives and Special Collections hold historical records and publications of Northeastern and unique materials preserving the history of Boston's social movements, public infrastructure, neighborhoods, and natural environments.

Services provided by the Library include both on-site and online research help, the latter including 24/7 live chat with a reference librarian; subject-specialist librarians who provide in-depth consultation and research support for each academic program at the university; and an interlibrary loan system for providing materials not readily available at Northeastern. The Library actively supports the unique needs of graduate students in research and publishing through services such as citation management workshops, research data support, and digital scholarship services.

The Snell Library building in Boston is open to all Northeastern students, faculty, and staff. Spaces in the building include areas for group work and quiet individual study, with more than 30 group study rooms with whiteboards and plug-in displays for collaborative group work. Individual study rooms are also available for graduate students. The Library supports a range of creative activities and includes studios for audio recording, video production, and 3D printing.

F. W. Olin Library in Oakland is open to all Northeastern students, faculty, and staff, as well as Mills College and Northeastern University alumni and community members. The Library offers a collection of 200,000 volumes and other media supporting the curricular needs of the programs on the Oakland campus. Spaces in the building include areas for quiet study and group work, including reservable study rooms, a seminar room, and the student lounge. F. W. Olin Library houses special collections in the Elinor Raas Heller Rare Book Room. Oakland special collections include early printed books, contemporary fine press and artists' books, and the Mills College Archive.

School of Law Library

Website (https://law.northeastern.edu/library/)
617.373.3332

The School of Law Library, located on four floors in the Knowles Law Center, includes a comprehensive collection of U.S. legal materials in print and in electronic format. Of particular note is the library's collection in the areas of public interest law; international human rights law; and public health, death penalty issues, and progressive lawyering. More information can be found at the School of Law Library webpage (https://law.northeastern.edu/library/).

Office of Academic Advising

617.373.2400
617.373.5545 (fax)
cps-adviser@northeastern.edu
Website (https://cps.northeastern.edu/academic-resources/advising/)

The mission of the Office of Academic Advising is to provide comprehensive services to enable students to take ownership of their education and to make sound decisions and judgments that further their individual academic and professional success.

Each student accepted in a degree or certificate program has a designated career and academic coach who serves as the student's primary contact and partner at the university to work together toward the student's success by:

- Navigating curriculum/program requirements
- Planning a course load
- Choosing a major
- Determining the best path for degree completion
- Petitioning for transfer credit, course substitution, and course overloads
- Researching and locating resources that are important to the student

The Office of Academic Advising offers student enrichment opportunities throughout the year to satisfy educational, social, and networking desires/needs. For more information about the Office of Academic Advising, visit the College of Professional Studies website (https://cps.northeastern.edu/about-the-college-of-professional-studies/academic-advising/#_ga=2265490127196527195416764841 90-17388489651533905991).

Students are encouraged to communicate regularly with their academic advisors.

Tutoring Services

Website (https://cps.northeastern.edu/academic-resources/tutoring-services/)

Tutoring can benefit skilled professionals and beginning students alike. Whether you're struggling with organic chemistry, working on a long paper, or putting the finishing touches on a presentation, Northeastern University offers many opportunities for you to enhance your academic work and professional skills through free one-on-one academic support on and off campus.

International Tutoring Center

617.373.2455
globalss@northeastern.edu
Website (https://cps.northeastern.edu/academic-resources/global-student-success/international-tutoring/)

Tutors provide high-quality ESL writing instruction and tutoring for international students who need assistance with papers, assignments, TOEFL writing, and research projects. Students can meet one-on-one with an ESL tutor for 50-minute appointments. This is a free service for Northeastern international students.

The Writing Center

617.373.4549
Website (http://www.northeastern.edu/writingcenter/)

The Northeastern University Writing Center is open to any member of the Northeastern community and exists to help writers of any level, from any academic discipline, become better writers. There are many ways to enjoy our services. You can book in-person or virtual sessions with a WC consultant, send us your writing through our email submissions, or browse our online content and multimedia resources on Facebook and Pinterest.

Career Services

617.373.2430
617.373.4231 (fax)
careerservices@northeastern.edu
Website (https://careers.northeastern.edu/)

Career Services provides resources, guidance, and opportunities that help students and alumni with the following:

- Choose a major and explore career options that fit their unique attributes
- Make career decisions that will engage them in productive and fulfilling work
- Prepare for and conduct successful job searches
- Create meaningful and effective engagement with employers
- Contribute to meeting global and societal needs

Northeastern University's Career Services does not guarantee employment nor does it refer students to prospective employers regarding job openings.

Disability Resource Center

617.373.2675
617.373.2730 (TTY)
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

The Disability Resource Center strives to create an environment in which all are empowered to make their unique contributions to the rich academic and social life of Northeastern University. Its staff takes a creative approach to assisting students who have disabilities or who are Deaf or hard of hearing by providing services that will enable them to succeed.

In accordance with federal laws and guidelines, services cannot be provided unless acceptable documentation is submitted to the DRC. Students must provide recent diagnostic documentation indicating that the disability substantially limits one or more major life activities. They must also register with the DRC and meet with a counselor.

Students who are disabled, Deaf, or hard of hearing are strongly encouraged to contact the DRC upon their acceptance to Northeastern. It is also most beneficial to schedule a meeting with a DRC counselor at least three months prior to arriving on campus in order to register and request services. Early contact with the center will allow enough time to assemble the required diagnostic documentation, register at the DRC, and set up services.

Services are individually tailored on a case-by-case basis to meet each student's needs. Support services are available for, but are not limited to, students with a documented diagnosis of learning disabilities, blindness or visual disabilities, mobility disabilities, deafness or hard-of-hearing disabilities, head injuries, psychiatric disorders, degenerative or chronic conditions, HIV-positive status or AIDS, and temporary disabilities.

The center's services include examination modification and accommodation; disability-related academic advising and course modification; note-taking services; readers and scribes; sign-language interpreters and transliterators; computer-aided, real-time information about classrooms' accessibility;

advising and referral services; campus orientations; acquisition of assistive listening devices, Braille materials, taped textbooks, and raised-line drawings; and assistive technology, such as the Reading Edge machine. The center also provides liaison, advocacy, and training services for faculty, staff, and administration and coordinates special-interest groups.

The DRC does not provide personal care assistance services; the center will provide referral to local PCA service agencies, such as the Boston Center for Independent Living (http://bostoncil.org/).

Northeastern does not offer transportation services; however, public transportation in greater Boston is run by the Massachusetts Bay Transportation Authority, which offers a curb-to-curb transportation service known as The RIDE for persons with disabilities. Several stops on the Orange Line branch of the MBTA subway system are very convenient to the Northeastern campus. Please visit the MBTA website (http://www.mbta.com/) for more information.

University Health and Counseling Services

617.373.2772
UHCS@northeastern.edu
Website (http://www.northeastern.edu/uhcs/)

The University Health and Counseling Services team is eager to serve you. We hope that you will use our center as a resource to help stay healthy, physically and mentally, and for care when you are ill or injured, depressed or stressed.

Find@Northeastern.edu (https://www.northeastern.edu/uhcs/find-at-northeastern/)

24/7 Mental Health Support

Support and resources that help you find yourself, your peace of mind, and your distinctive path.

617.373.7591
wecare@northeastern.edu (we_care@northeastern.edu)

Website (http://www.northeastern.edu/wecare/)

We Care assists students who are experiencing unexpected challenges to maintain their academic progress. The staff works with students to coordinate among university offices, to offer appropriate referrals, and to help develop viable options to support their continued success at the university. We Care also provides guidance to faculty and staff in identifying Northeastern resources and policies to help students succeed.

Center for Spirituality, Dialogue, and Service

617.373.2728
csds@northeastern.edu
Website (http://www.northeastern.edu/spirituallife/)

The Center for Spirituality, Dialogue, and Service (http://www.northeastern.edu/spirituallife/) serves and supports the diverse spiritual, religious, and social justice commitments of all Northeastern University community members. The center is home to the Sacred Space (http://www.northeastern.edu/spirituallife/our-spaces/sacred-space/) (200 Ell Hall), a beautiful award-winning spiritual area for worship, private contemplation and reflection, group meetings, dialogue, yoga, meditation, service projects, and special events. The center also oversees the Social Justice Resource Center (http://www.northeastern.edu/sjrc/) (106 St. Stephen Street) and supports the Hillel Center (http://www.northeasternhillel.org/), The Foundation for Jewish Life (70 St. Stephen Street), and the Catholic Center (http://www.nucatholics.neu.edu/) (68 St. Stephen Street).

CSDS sponsors over 25 student organizations representing the world's spiritual, religious, and humanist traditions. The center builds partnerships across university departments and disciplines and with religious communities and public service agencies locally, nationally, and internationally to help students become engaged citizens, peace builders, and equipped as leaders to tackle pressing global problems. The work of the center is organized into two mutually reinforcing spheres:

- Sphere of Spirituality and Interfaith Engagement

  Offers students, faculty, and staff opportunities to explore their personal spirituality, diverse religious traditions, learn ethical reflection and decision making, and develop interfaith appreciation and competence

- Sphere of Service and Social Action—coordinated by the SJRC

  Serves as an inclusive hub of innovative justice-minded thinking, collaboration, and action that empowers students, faculty, and staff to help enact a society that is equitable and peaceful

For more information, visit the website (http://www.northeastern.edu/spirituallife/), call 617.373.2728, submit an email (csds@northeastern.edu), or visit 203 Ell Hall.

Office of Student Conduct and Conflict Resolution

617.373.4390

Website (http://www.northeastern.edu/osccr/)

The Office of Student Conduct and Conflict Resolution administers the Code of Student Conduct (http://www.northeastern.edu/osccr/code-of-student-conduct/) and the student disciplinary process. The code establishes and defines university community expectations for standards of behavior and responsibility, as well as rights and remedies provided to all university community members. The office is also responsible for the design, development, and implementation of the university mediation program.

Programs and services provided by the Office of Student Conduct and Conflict Resolution are designed to support the academic mission of the university by enhancing each student's academic achievement and personal, ethical, and character development. These programs are intended to promote community standards of behavior; positive and productive conflict management and resolution; civility; respect for self; respect for others; and an appreciation for being a part of a diverse, flourishing community.

Academic Calendar

The College of Professional Studies undergraduate programs are offered on a semester calendar consisting of three 15-week terms (with the option for half-term sessions offered in an accelerated format as well as a 7-week term in the summer).

For calendar details, please visit the Office of the University Registrar (https://registrar.northeastern.edu/article/academic-calendar/).

Campus Resources

Office of the University Registrar

617.373.2300
617.373.5360 (TTY)
Website (http://www.northeastern.edu/registrar/)

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services including class scheduling, registration, record functions, verification of enrollment, reporting, transcript services, and Commencement.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu) and public campus computers to provide students convenient access to information and services, including class schedules and registration, most recent grades, and unofficial transcripts. Additional information is available on the website (http://www.northeastern.edu/registrar/).

Northeastern University Bookstore

617.373.2286
Website (https://northeastern.bncollege.com/)

The bookstore operates during the entire academic year, but days and hours may vary in accordance with the university's calendar.

Purchases can be made by cash, check, American Express, MasterCard, Visa, Discover, or Husky Card.

Campus Recreation

617.373.4433
Website (https://www.northeastern.edu/campusrec/)

Exercise your body, mind, and spirit. The campus recreation program provides many outlets to help clear your mind and recharge your spirit. Our fitness facilities, unique among Boston-area colleges and universities, are open year-round. All programs were designed with you in mind, so whether you enjoy group fitness classes, ice hockey or street hockey, basketball, weight training, or swimming, Campus Recreation has something for everyone.

Full-time Northeastern University students, in good standing, have access to the Marino Recreation Center, Cabot Center, and, the Badger and Rosen SquashBusters Center when they are enrolled in classes and co-op or scheduled for vacation and have paid the campus recreation fee. Part-time students, in good standing, will have access during any academic term in which they are enrolled and attending classes, as long as they have requested and paid the campus recreation fee. Help us maintain a safe and secure environment. Your Northeastern photo ID card must be a current, valid, and active card that needs to be swiped upon arrival in order to enter all facilities.

Russell J. Call Children's Center

617.373.3929

The Russell J. Call Children's Center is available to faculty, staff, and students; children from two years and nine months to five years of age are eligible to attend.

The center is licensed by the Massachusetts Department of Early Education and Care and staffed by professional teachers and co-op and work-study students.

For more information, contact Regina Nazzaro, Director of the Children's Center, at 617.373.3929 or via email (r.nazzaro@neu.edu).

Parking

617.373.2366
Website (http://www.northeastern.edu/parking/)

Parking spaces in the university lots and garages are filled on a first-come, first-served basis. To park in a university lot or garage, students must have a valid parking permit displayed on their vehicles. A parking permit does not guarantee a parking space.

New students may purchase a day parking permit. Only eligible students will receive a permit. To be eligible, students must be registered for a class or on co-op. The cost of the permit will be charged to the student's tuition account.

Overnight parking permits are limited, and preference is given to those students on co-op or clinical internships. Upperclass students in classes may be denied overnight parking due to limited availability.

Applications for term and overnight parking permits are available online (https://www.applyweb.com/applyweb/).

To park in a handicap space, individuals must purchase a parking decal and display a state-issued handicap license plate, placard, or hangtag. Handicap parking spaces are located throughout campus.

Operators of vehicles driven or parked on university property are responsible for knowing and complying with university driving and parking regulations.

Refer to the parking website for more information, or contact University Police at 617.373.2121.

John A. and Marcia E. Curry Student Center

617.373.2663
Website (http://www.northeastern.edu/curry/)

This campus “living room” serves as a hub of student activity. It is the crossroads of community life at Northeastern, offering cultural, social, and recreational programs and services.

The center offers ATM machines, an art gallery, the afterHOURS late-night club, food court and cafeteria, game room, lounge space, meeting rooms, student organization offices, TTY machines, and WRBB-FM.

Student center facilities may be reserved by recognized student organizations and university departments. The university reserves the right to limit the use of its facilities when the general public is involved.

Information for International Students

Office of Global Services

Website (http://www.northeastern.edu/ogs/)
617.373.2310
617.373.8788 (fax)

The Office of Global Services provides advice and support services to over 20,000 international students and scholars who represent approximately 147 nations.

OGS serves as a "home away from home" for all international students and offers a wide array of **programs and services** to assist international students with their cultural adjustment, academic success, and professional growth. Throughout the year, OGS hosts cocurricular events that celebrate culture and the rich diversity of the campus. These events are encouraged as a way to gain familiarity with Northeastern University in a cross-cultural context while also facilitating the formation of friendships across cultures. OGS promotes meaningful interaction and intercultural understanding among citizens of all countries and their local peers, providing educational and cultural enrichment opportunities for all members of Northeastern. All students in the Northeastern community are welcome to participate in our events.

OGS provides **comprehensive immigration advising services** to assist international students in understanding the benefits and restrictions of being an international student, as governed by the federal immigration regulations set forth by the country of the student's study location within the Northeastern University Global Network. OGS advises students on the complexities of immigration compliance and interfaces with various government agencies.

During **international student orientation**, international students will receive an overview of the immigration compliance requirements along with information and resources to support academic success, student life, campus safety, and cultural adjustment.

During every required academic term, international students must maintain **full-time status and appropriate on-ground presence** at Northeastern to comply with federal immigration regulations. Note that timely registration for courses is especially important so that international students may remain in compliance with Northeastern's reporting requirements to the federal government about where they are studying. Because understanding federal regulations is complex and often nuanced, international students should consult with OGS if they have questions about their individual status.

OGS—United States (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students and scholars attending Northeastern in the United States, including I-20 (F-1) or DS-2019 (J-1) issuance, visa processing, general guidelines, orientation, events and programs, and support services. F-1 and J-1 students are encouraged to regularly review the guidelines on maintaining status (https://international.northeastern.edu/ogs/current-students/understanding-visa-requirements/guidelines-on-maintaining-status/).

OGS—Canada (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students attending the Northeastern program in Canada, including study permit compliance and extension, work eligibility, co-op work permit application, Post-Graduation Work Permit application, general guidelines, and support services.

Visa Immigration Compliance Team (https://www.nulondon.ac.uk/study/international-students/visa/visasupport/)—United Kingdom

The visa compliance team in London is committed to providing comprehensive support to international students throughout their CAS (Certificate of Acceptance for Studies) and UK student visa application processes. Their role encompasses assisting students in both pre- and postenrollment visa compliance activities.

The team also offers full support for an in-person enrollment on the first day at Northeastern University, London—which is a crucial process where the university verifies the information provided by international students and ensures their right to study in the UK. It is the university's responsibility to ensure that every international student possesses the correct visa to study in the UK. Once enrollment is successfully completed and all requested information is submitted, the visa compliance team issues a student ID card as a confirmation of the student's enrollment with Northeastern University, London.

The visa compliance team remains available throughout the student's enrollment life cycle to provide advice, guidance, and comprehensive support for any issues related to student visas. This includes addressing changes in program or any other matters related to visas or immigration, until the international student graduates.

Housing

Students at Northeastern University College of Professional Studies are not eligible for on-campus housing at Northeastern. There are, however, a number of housing resources (https://offcampus.sites.northeastern.edu/#_ga=2.75307026161853827016551374 44-1738848965153390599 1) students may consult if seeking off-campus housing.

Information Technology Services

IT Services is the university's central group that provides technology services, solutions, and support to all Northeastern University students. Visit the Connect To Tech guide (https://connect-to-tech.northeastern.edu/students/) for information and key technology resources that are particularly helpful to students, including:

- Northeastern accounts
- Access to email
- Laptop recommendations and discounts
- Canvas learning management system
- Software such as Office 365 and Adobe Creative Cloud
- Frequently used websites and mobile apps

Technology Support and IT Service Desk

Technology support is available 24/7 online or by phone and email. Walk-up support is available at the Tech Bar on the Boston and Oakland campuses. G (https://service.northeastern.edu/tech/?id=its_contact_us)**et IT Support >**

service.northeastern.edu/tech (https://service.northeastern.edu/tech/)
617.373.HELP [4357]
help@northeastern.edu

Visit the Tech Service Portal (https://service.northeastern.edu/tech/) to search for how-tos and FAQs, borrow a laptop or other equipment, start a live chat, and search other resources.

Occasionally, interruptions to university systems, services, and tools can happen—when they do, get updates about them through Northeastern's IT status page (https://its.northeastern.edu/status/).

New Admitted Students Site

In addition to participating in New Student Orientation, students are strongly encouraged to review the New Admitted Students (http://www.orientation.cps.northeastern.edu/) site provided by the Office of Academic Advising.

This is a tool and resource intended to help new students prepare for their first term of enrollment, as well as provide information that students can reference throughout their time at Northeastern University and beyond. The site is organized with checklists students may use during different points in their academic career.

New Student Orientation (On-Ground and Online)

New students taking courses on-ground receive an invitation to the on-ground orientation, which typically takes place in the week before the term begins. The purpose of New Student Orientation is to provide information and tools for each student's success from the point of program entry to degree completion. Some parts of the orientation may be virtual.

Each regional campus has their own on-ground orientation.

All new on-campus students are expected to attend the on-ground orientation. If students cannot attend the on-ground orientation, they should thoroughly review the New Admitted Students (http://www.orientation.cps.northeastern.edu/) site and any virtual/recorded parts of the orientation.

Online students should thoroughly review the New Admitted Students (http://www.orientation.cps.northeastern.edu/) site, as well as the Online Orientation Module (https://rise.articulate.com/share/V3mBBz5BO1T4O_RfYWT-0c-vNl958kUi/#/).

International students are also expected to attend a separate orientation with the Office of Global Services (https://international.northeastern.edu/ogs/).

Office of the University Registrar

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services, including class scheduling, registration, record functions, verification of enrollment, reporting, and transcript services.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu/) to provide students convenient access to information and services, including class schedules and registration, most recent grades, unofficial transcripts, and transcript and enrollment verification requests.

Office of the University Registrar website (https://registrar.northeastern.edu/)
registrar@northeastern.edu
617.373.2300
617.373.5351 (fax)

Maintenance of Student Records

The Office of the University Registrar is responsible for ensuring appropriate maintenance and safekeeping of student records. The transcript, which is stored electronically and maintained indefinitely, is the holistic record of student attendance and degree progress. In the event that the university discontinues operations, the archive of student records would be maintained by:

Massachusetts Department of Higher Education
One Ashburton Place
Room 1401
Boston, MA 02108

Public Safety

Northeastern University Police Department

100 Columbus Place
617.373.3333 (EMERGENCY—police, fire, medical)
617.373.3934 (TTY emergency or nonemergency)
617.373.2121 (nonemergency regular business)

Website (https://nupd.northeastern.edu/)

Public Safety Division Administrative Offices
617.373.2696

Personal Safety
617.373.2121

The Public Safety Division is committed to working with Northeastern University faculty, students, staff, and neighbors to build relationships and keep our campus thriving. Our work extends far beyond Boston, as we support learners in their academic and experiential endeavors around the world. The Public Safety Division is comprised of three sections: Police Department, Emergency Management, and International Safety.

The Northeastern University Police Department (https://nupd.northeastern.edu/) is a full-service and accredited police agency that comprises patrol and investigative divisions providing 24-hour service. NUPD has developed robust crime-detection and prevention strategies centered on technology and campus community engagement. Our well-trained officers are ready and willing to assist all members of our community.

A personal safety escort (https://nupd.northeastern.edu/our-services/safety-escort-services/) can be provided from one on-campus location to another, any time of day, whenever personal safety is a concern. You'll need to provide your name, Northeastern ID number, and location. Safety escorts usually arrive in 10 to 15 minutes. A special, nighttime off-campus escort service, called the RedEye, runs from dusk to dawn to transport students to their residence within two miles from the center of campus. Every night from 7 p.m. until 6 a.m., the RedEye van will pick students up at the Snell Library. In order to use this escort, you must book a ride in advance using the RedEye app, or you can book a ride at the RedEye dispatch center located at the Northeast Security office in the Ruggles Substation.

SafeZone (https://nupd.northeastern.edu/safezone/) is a mobile safety app that is unique to Northeastern. SafeZone is a smartphone app that any student or staff member can download and use for free. This app will connect you directly to the NUPD should you need our assistance or emergency support while you are on campus.

NUPD encourages you to not only familiarize yourself with all of the services provided by NUPD but to also utilize the services and safety-related tips provided. If you see something that does not look or feel right, NUPD encourages you to say something by contacting NUPD at 617.373.2121 or utilizing the SafeZone app.

LOST AND FOUND (HTTPS://NUPD.NORTHEASTERN.EDU/OUR-SERVICES/LOST-AND-FOUND/)

If you have lost an item on Northeastern's Boston campus, call 617.373.3913. If your item has been turned in, we will contact you by telephone or email. If you have found an item on campus, return it to our headquarters located at 100 Columbus Place. If you suspect the item has been stolen, call the NUPD at 617.373.2121 to report the theft.

UNIVERSITY EMERGENCY INFORMATION (HTTP://WWW.NORTHEASTERN.EDU/EMERGENCY/)

617.373.2000 (snow emergencies)
617.373.3333 (police, medical, or fire emergencies)

Northeastern is committed to providing members of its community with a safe and secure place in which to live, work, and study.

The university is prepared to respond to emergencies and urgent situations that require immediate action. A trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals form a coordinated group that is able to manage a wide range of potential situations.

NU Alert, emergency broadcast communication messages, are sent to the email addresses and telephone numbers students, faculty, and staff have provided the university. For more information on NU Alert and Emergency Planning, visit the NUPD website (https://nupd.northeastern.edu/safety/emergency-planning/).

We Care

617.373.7591
wecare@northeastern.edu (we_care@northeastern.edu)

Website (http://www.northeastern.edu/wecare/)

We Care assists students who are experiencing unexpected challenges to maintain their academic progress. The staff works with students to coordinate among university offices, to offer appropriate referrals, and to help develop viable options to support their continued success at the university. We Care also provides guidance to faculty and staff in identifying Northeastern resources and policies to help students succeed.

Financial Information

- Bill Payment (p. 27)
- Delivery of Services (p. 30)
- Financial Aid Assistance (p. 31)
- General Financial Aid Policies and Procedures (p. 33)
- Northeastern University Student Health Plan (NUSHP) (p. 35)
- Tuition and Fees (p. 36)

Bill Payment

Office of Student Financial Services

617.373.2270
617.373.8735 (fax)
studentaccounts@northeastern.edu

Full payment of tuition and other related charges is due prior to the start of the term as specified on the original bill. For questions related to overload charges, the billing process, late fees, payment methods, tuition payment plan, and refunds, contact us at the above phone and email address.

E-Bill

Tuition bills are only generated electronically and are available via the Student Hub (https://me.northeastern.edu). Paper bills are not generated. For additional information regarding the e-bill, please visit the Billing & Payments Frequently Asked Questions webpage (https://studentfinance.northeastern.edu/billing-payments/billing-faq/).

Payment of Tuition

Payments will be accepted for billed charges only. The university is not able to process payments for more than the balance due on the student's account. Please note, a past-due balance may result in late fees, prevention of registration, prevention of participation in global study programs, or withdrawal from the university.

Accepted methods of payment are:

- **Electronic check and credit card:** Electronic check payments can be made online via NUPay on the Student Hub. Credit card payments can be made via the CIBC link on the Student Hub. Visa and Mastercard are accepted.
- **International payments using Flywire:** Northeastern University has partnered with Flywire and CIBC to streamline the international wire payment process to the university. This service provides students and their families a safe, cost-effective, and convenient method of making payments to Northeastern in foreign currencies. To learn more about international payments through Flywire and CIBC, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/payment-methods/).
- **Monthly payment plan:** The monthly payment plan, administered through Flywire, allows students to divide costs into more manageable installments. For additional information, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).
- **Supplemental loans:** There are a number of supplemental educational loan programs available to assist students and families in financing their education. Review options at the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).

For additional information regarding available payment and financing options, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/).

Student Financial Responsibility Agreement

As compelled by federal law, all students who enroll in classes at Northeastern are required to complete and accept the Student Financial Responsibility Agreement (https://studentfinance.northeastern.edu/billing-payments/sfra/). This agreement must be completed once per academic year and is located on the Student Hub. Failure to complete the SFRA will result in a hold that prevents attendance.

Northeastern's Monthly Payment Plan

Northeastern offers a monthly payment plan, administered through Flywire, which allows students to divide their educational costs into smaller, more manageable installments. For additional information, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).

Tuition Reimbursement

Many companies, embassies, and agencies directly reimburse students for their educational expenses upon successful completion of courses. In these situations, the student is responsible for paying the bill in full at the beginning of the term or selecting another payment option. Tuition may not be left unpaid pending reimbursement by a third party. Check with your human resources department to see if you qualify.

If your company requires an official transcript to process the tuition reimbursement, you may request your transcript (https://registrar.northeastern.edu/article/transcript-requests/) through the Office of the University Registrar. Transcripts should be requested prior to the due date on your initial billing statement. In adherence to university policy, transcripts and other academic records will typically be withheld until all financial obligations to the institution have been fulfilled. However, students enrolled in Washington, California, and Maine will receive their transcripts even if they have outstanding financial obligations, in accordance with state regulations.

Update: Starting May 3, 2024, the university will no longer withhold transcripts due to outstanding financial obligations for any student, regardless of their state of enrollment or campus affiliation.

Tuition Remission/Third-Party Payer

When a third party pays tuition directly to the university, the student must provide the Office of Student Accounts with a purchase order, or a written statement of intent to pay by the third party, prior to the first week of classes. If there are stipulations associated with the payment agreement, such as a minimum grade level, then the student must either pay the university directly or enroll in one of the payment options.

Documents pertaining to a third-party agreement can be emailed to thirdparty@northeastern.edu, faxed to 617.373.8735, or mailed to the address below:

Student Financial Services
Northeastern University
ATTN: Third-Party Billing
354 Richards Hall
360 Huntington Ave
Boston, MA 02115

VA Education Benefits

In accordance with Title 38 USC 3679 (e), covered individuals utilizing Chapter 31 or Chapter 33 education benefits at Northeastern University will not have any penalty imposed on their account nor will they be required to take out additional funding due to pending or late payments from the Department of Veterans Affairs as long as the Dolce Center for the Advancement of Veterans and Servicemembers has a current Certificate of Eligibility or VRE Authorization on file AND a Request for VA Benefit Certification is submitted through the Student Hub (https://me.northeastern.edu) portal.

COEs must be submitted before the start of the student's first term but do not need to be resubmitted unless entitlement information changes. Students are also required to complete the Request for VA Benefit Certification form through the Student Hub (https://me.northeastern.edu) portal before the start of each term they wish to use VA benefits. Students may have a hold placed on the account if there is an outstanding balance after payment from the VA is received by Northeastern.

Discrepancies in Your Bill

Discrepancies in your bill should be addressed in writing via email (studentaccounts@northeastern.edu) to the Office of Student Financial Services. Include your name, Northeastern ID, permanent home billing address, Northeastern email address, dollar amount in question, date of invoice, and any other relevant information.

Responses will be sent to the student's Northeastern email address. If there is a discrepancy in your bill, pay the undisputed part of the bill to avoid responsibility for any late fees or financial holds.

Late Fees

Late fees can be placed on accounts any time after the due date if the account remains fully or partially unpaid. The university typically waits, however, until after the conclusion of the add/drop period, for the specified semester, prior to assessment of late fees. These fees are based on the amount past due at the time of assessment and can range from $75 to $200. Late fees are assessed once per term.

If a student or payer wishes to dispute a late fee assessment, they must do so, in writing, to studentaccounts@northeastern.edu. Please be sure to include the student's name, Northeastern ID, and reason for the dispute in the email.

Refund Policies

To be eligible for a refund, a student must drop their course(s) before the course drop deadline. There is no partial tuition refund or credit. Once the course drop date passes, the student is responsible for 100% of tuition and associated charges. Refer to the academic calendar (https://registrar.northeastern.edu/group/calendar/) for course registration dates. Credit balances will be refunded to the student unless otherwise directed by the student or the bill payer. Note the following exceptions:

- **Payment plans, Parent PLUS Loans, and supplemental loans:** Credit balances created from Parent PLUS Loans, supplemental loans, or overpayment to the monthly payment plan will be refunded to the bill payer on record unless a completed Refund Authorization form (https://studentfinance.northeastern.edu/forms/), stating that funds may be released directly to the student, is received from that borrower. Please note that anticipated credits are funds that have not been received by the university and, therefore, cannot be refunded.
- **International payments:** Credit balances created from an international payment must be returned to the originating bank by the payment method used.
- **Credit cards:** Credit balances created from an overpayment with a credit card must be returned to the credit card used at the time of payment.

Official Withdrawal Adjustments

Students who officially withdraw, either from a course or from the university, during an academic term will receive a tuition refund based on the policy specified in this catalog. Institutional funds awarded by Northeastern will be adjusted based on the actual charges incurred during the term. Funds from federal Title IV programs will be returned to the government according to federal regulations. The federal government Return of Funds Policy

dictates that a student's eligibility for federal financial aid is determined by the number of days enrolled during the term. The refund will be calculated from the day the student submits a notification of withdrawal to the Office of the University Registrar.

Credit policies vary according to the duration of the course. Typical tuition adjustments are made according to the schedule described below.

Fifteen-Week and Seven-Week Courses

The College of Professional Studies will permit students to drop a 15-week and 7-week course within 14 days from the start of the term in Eastern Standard Time and receive a 100% refund. After the 14th day of the term, any student seeking to withdraw from a 15-week or 7-week course will be ineligible for a refund. Should a student decide to withdraw from a course, they are expected to do so via the Student Hub. For specific dates in each term, refer to the academic calendar (https://registrar.northeastern.edu/group/calendar/).

Students who experience difficulty adding, dropping, or withdrawing from a course should promptly email (registrar@northeastern.edu) the Office of the University Registrar. If it is determined that there is an issue with Student Hub access, they need to contact the Service Desk at the following:

617.373.4357 (HELP)
help@northeastern.edu
Information Technology Services (https://its.northeastern.edu/)

Students with holds (e.g., financial, judicial) may have restricted access to add, drop, or withdraw from a course. In such instances, students are responsible for resolving the hold immediately and to meet the established course registration deadlines.

Courses Meeting for One Week or Less

With the exception of Education Summer Institutes and one-day courses, the College of Professional Studies will permit students to drop a course meeting for one week or less through the first day of the course in Eastern Standard Time and receive a 100% refund. After the first day of the course, any student seeking to withdraw from an intensive course meeting for one week or less will be ineligible for a refund.

Students who experience difficulty adding, dropping, or withdrawing from a course should promptly email (registrar@northeastern.edu) the Office of the University Registrar. If it is determined that there is an issue with Student Hub access, they need to contact the Service Desk at the following:

617.373.4357 (HELP)
help@northeastern.edu
Information Technology Services (https://its.northeastern.edu/)

Students with holds (e.g., financial, judicial) may have restricted access to add, drop, or withdraw from a course. In such instances, students are responsible for resolving the hold immediately and to meet the established course registration deadlines.

Note: Nonattendance does not constitute official course dropping or withdrawal. A student who registers for a course, completes the "I Am Here" process, or begins attendance and does not officially drop from the course before the deadline is responsible for paying 100% of the tuition charges and applicable fees. A student in this situation may earn an F grade that will be part of the student's permanent academic record.

Like all grades for courses attempted and/or completed, a grade earned due to nonattendance impacts a student's academic progression, an international student's visa eligibility, and a federal financial aid recipient's aid eligibility and award.

Delivery of Services

Northeastern University assumes no liability for delay or failure to provide educational or other services or facilities due to causes beyond its reasonable control. Causes include, without limitation, power failure, fire, strikes by university employees or others, damage by natural elements, and acts of public authorities. The university will, however, exert reasonable efforts, when it judges them to be appropriate, to provide comparable services, facilities, or performance; but its inability or failure to do so shall not subject the university to liability.

In the event that Northeastern determines it must suspend or alter its operations in whole or in part due to epidemic, pandemic, other public health emergency, extreme weather, natural disaster, acts or threatened acts of terrorism or war, or any single act or combination of events beyond the university's control, Northeastern may suspend, reduce, terminate and/or modify its operations in whole or in part, which may or may not include offering online or other alternative learning options, in its discretion. In any such event, Northeastern is under no obligation to refund or credit any portion of tuition, fees, or other charges paid or owed, but it may do so in its discretion.

Northeastern reserves the sole right to promulgate and change rules and regulations and to make changes of any nature in its program; calendar; admissions policies, procedures, and standards; degree requirements; fees; and academic schedule whenever necessary or desirable, including, without limitation, changes in course content and class schedule, the cancellation of scheduled classes and other academic activities, and the substitution of alternatives for scheduled classes and other academic activities. In any such case, the university will give whatever notice is reasonably practical.

Northeastern will endeavor to make available to its students a fine education and a stimulating and congenial environment. However, the quality and rate of progress of an individual's academic career and professional advancement upon completion of a degree or program are largely dependent on the individual's own abilities, commitment, and effort. In many professions and occupations, there are also requirements imposed by federal and state statutes and regulatory agencies for certification or entry into a particular field. These requirements may change while a student is enrolled in a program and may vary from state to state or country to country. Although the university stands ready to help its students find out about requirements and changes in them, it is the student's responsibility to initiate the inquiry.

Financial Aid Assistance

Student Financial Services

617.373.2897 (College of Professional Studies)
617.373.5714 (TTY)
sfs@northeastern.edu (cpssfs@northeastern.edu)
studentfinance.northeastern.edu (https://studentfinance.northeastern.edu/)

Northeastern University is committed to assisting students in developing a plan for financing their Northeastern education. Through a variety of options—including federal financial aid, Northeastern's monthly payment plan, supplemental loans, and your own resources—a plan can be designed that will make your education costs affordable.

Federal Financial Aid

To apply for federal financial aid programs, students must submit the Free Application for Federal Student Aid (https://studentaid.gov/h/apply-for-aid/fafsa/) annually and include Northeastern's FAFSA school code, 002199. To electronically sign your FAFSA, you will need an FSA ID. If you do not have one or have forgotten your FSA ID, visit the Federal Student Aid website (https://studentaid.gov/apply-for-aid/fafsa/filling-out/) to obtain one before starting the FAFSA online.

Students must meet the following criteria to be eligible for federal financial aid:

- Be enrolled in at least 6 credits, applicable toward a degree-granting program, per term, unless you are enrolled in a full-time or part-time stand-alone course
  Note: Although some programs may consider students enrolled in 4 credits to have half-time status, in order to qualify for federal financial aid, students must be enrolled in a minimum of 6 credits.
- Be a U.S. citizen or eligible noncitizen
- Be matriculated in a degree-granting program

  Please note that students in certificate and nondegree programs are not eligible for federal financial aid.
- Have received a high school diploma or GED and be able to document upon request
- Be registered with Selective Service (if required)
- Not be convicted of a drug-related crime in the last year
- Not be in default from previous student loans
- Maintain satisfactory academic progress (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/)

Awarding Timelines

For information regarding your financial aid status, visit the Student Hub (https://me.northeastern.edu).

New students are awarded on an ongoing basis after we have been notified that they have been admitted into their program. Awarding will commence as detailed below, and award notifications for new students will be sent to the email address provided during the admissions process.

Term of Entry	Earliest Award Availability
Fall	July
Spring	October
Summer	May

Award notifications for returning students will be available beginning in June and will be sent to their Northeastern email address.

Federal Loans

All students eligible to receive federal financial aid are awarded a Federal Direct Loan, provided they have not exhausted aggregate loan maximums. Eligibility for a need-based Federal Direct Loan is determined by the information provided on the FAFSA and academic level. Students **must be registered** for at least 6 credits each term to be eligible for a federal loan. Additionally, all credits taken must count toward their current degree program for students to be eligible for federal financial aid.

Supplemental Student Loans

There are a number of educational loan programs available to assist students in covering their expenses over and above any federal financial aid that may be awarded to them from the Office of Student Financial Services. Most private lenders have credit and income requirements that must be met before being approved for these programs.

Additional information regarding supplemental loans is available on the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/). The Office of Student Financial Services recommends to students that, when researching the loan and lender

that best meets their needs, they make sure they take into consideration the interest rate; the quality of customer service; the amount needed for borrowing; as well as origination, disbursement, and/or repayment fees.

General Financial Aid Policies and Procedures

Financial Aid Policies

Student Financial Services reserves the right to adjust a student's initial offer of assistance based upon information brought to the office's attention subsequent to extension of the offer, including the receipt of outside scholarships or revised family financial data.

Return of Title IV Funds

Northeastern University is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a term. Recalculation is based on the percentage of earned aid using the Federal Return of Title IV funds formula. Federal regulations require students to obtain at least an A, B, C, D, or S in at least one course for the term; students who receive all unsuccessful grades for a term (F, NE, W, I, U) may be considered unofficially withdrawn from the term and subject to an aid recalculation, including the possible loss of financial aid for that term.

Satisfactory Academic Progress (SAP)

To continue receiving financial aid, undergraduate students must have a 2.000 grade-point average and have earned academic credit in 67% of the courses attempted. SAP will be evaluated once per academic year. Refer to the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/) for more information about how satisfactory progress affects financial aid.

Change in Enrollment Status

Students must notify the Office of Student Financial Services about any changes to their enrollment, whether due to withdrawal from a class, a leave of absence, a change in coursework, or withdrawal from the university. Students should be aware that any change in enrollment status may result in the loss of all or part of their federal and/or institutional aid eligibility. It is the student's responsibility to notify the Office of Student Financial Services about any change in enrollment status and understand the ramifications of such changes.

It is highly recommended that whenever possible, students discuss the impact of such changes with the Office of Student Financial Services before making them.

Unusual Enrollment

Some FAFSA applications will be flagged for "unusual enrollment history" by the U.S Department of Education as a result of the student having received Federal Pell Grants or Federal Direct Loans at multiple institutions in recent years. These files will need to be reviewed by the Office of Student Financial Services; if necessary, additional documentation may be required. We will not be able to award students with federal financial aid assistance until the unusual enrollment history has been resolved.

Ability to Benefit

In general, students who have received a high school diploma, GED, associate degree, or higher may be eligible for federal financial aid assistance. As a part of the application process, students will have to document receipt of one of these credentials in order to be admitted into the College of Professional Studies. If appropriate documentation was not provided during the admission process, our office will request proof of high school diploma, GED, or college degree. Aid cannot be disbursed until this process is completed.

Appeal/Change in Circumstances

If the student feels that the aid process does not accurately reflect their situation, or if family circumstances change during the year, the student should notify the Office of Student Financial Services for further evaluation. Additional documentation might be requested to substantiate a change in financial circumstances.

Outside Sources of Aid

Students must notify the Office of Student Financial Services of any aid received from outside sources, such as scholarships. Receipt of outside sources of financial aid may require that financial aid offered by Northeastern be adjusted.

Military Tuition Rate

Undergraduate students who are enrolled in a bachelor's completion program through the College of Professional Studies and are actively serving in the U.S. military, or the current spouse of an active servicemember, will be eligible for a special Military Tuition Rate of $250 per semester hour. Students receiving the Military Tuition Rate are required to recertify their status as actively serving in the U.S. military (or their spousal eligibility) on a yearly basis. Students who fail to complete the yearly recertification process by the end of the add/drop period of the fall semester will be assessed the standard CPS undergraduate per-semester-hour tuition rate. The full policy and eligibility requirements can be found at the university's support site for U.S. military-affiliated students (https://military.northeastern.edu/fund-your-education/).

Reapplication Process

Students must reapply for financial aid each year by filing the FAFSA (https://studentaid.gov/h/apply-for-aid/fafsa/).

Verification

If a student is selected for verification (https://studentfinance.northeastern.edu/federal-verification-process/), the Office of Student Financial Services may be required to collect tax transcripts and other financial documents to verify the information provided on the FAFSA. We will not be able to award students with federal financial aid assistance until this process has been completed.

Northeastern University Student Health Plan (NUSHP)

GENERAL INFORMATION

Since September 1989, Massachusetts law (M.G.L. c.15A, § 18) has required every full-time and part-time student enrolled in a certificate, diploma, or degree-granting program in a Massachusetts institution of higher learning to participate in a Student Health Plan or in a health benefit plan with comparable coverage.

The Northeastern University Student Health Plan defines a full-time student as having full-time student status and enrolled in any amount of credits of a full-time curriculum.

NUSHP defines a part-time student as having part-time student status and enrolled in at least 75% of credits of the full-time curriculum (CPS undergraduate students—9 credits, CPS graduate students—6 credits).

The health fee is assessed each term on a student's account based on these definitions unless the student has previously waived the health plan fee in the current academic year.

Students on co-op or on study abroad are considered active students and will be enrolled in and billed for NUSHP each year.

Students enrolled in prematriculation and online programs are not eligible for NUSHP.

HEALTH INSURANCE WAIVER

Eligible students are automatically enrolled in NUSHP each academic year and may waive NUSHP via the Student Hub (https://me.northeastern.edu) once they have been billed for NUSHP. In addition, to be eligible to waive, comparable coverage must be effective from the beginning of the term the student meets Student Health Program requirements.

The burden of proof that the alternative insurance is adequate falls upon the student choosing to waive. By submitting the waiver form, the student will be accepting responsibility for all medical expenses incurred, and neither Northeastern University nor its Student Health Plan will be responsible for these expenses.

Northeastern reserves the right to verify that the student's insurance meets the criteria indicated. Disciplinary action may be taken if a student knowingly waives NUSHP without comparable coverage.

Visit the NUSHP website (https://www.northeastern.edu/nushp/) for waiver deadlines.

Tuition and Fees

Your total tuition due for the semester is dependent upon the total number of credit hours in which you are enrolled. Course tuition is assessed just prior to the start of each class. Fees typically are assessed each semester.

To calculate the total tuition for an individual class, you would multiply the total number of credit hours for the course by the cost per credit hour.

Example: The 2023–2024 tuition for an on-campus undergraduate class that is 3 semester hours is $541 × 3 = $1,623.

Please note the different price structure for different types of courses, e.g., lecture vs. lab.

College of Professional Studies Undergraduate Tuition Rates (2023–2024)

These tuition rates are for the 2023–2024 academic year, which begins with the fall 2023 semester. For a complete listing of tuition and fee rates, visit the College of Professional Studies website (https://cps.northeastern.edu/tuition-financial-aid/). Tuition and fees are subject to revision by the president and Board of Trustees at any time.

Course Type	Tuition per Credit Hour
Undergraduate CPS course	$541
Lab course (science lab or writing lab)	$781

Fees

- **Campus Recreation Fee:** An $18 per semester campus recreation fee will be assessed for all students at Northeastern University's Boston Huntington Avenue campus. This fee covers admission to home athletic events, use of the Marino Fitness Center, SquashBusters athletic facility, and the Cabot Gym (fitness and pool). This fee will also support the maintenance of existing athletic fields and facilities.

Military Tuition Rate

Undergraduate students who are enrolled in a bachelor's completion program through the College of Professional Studies and are actively serving in the U.S. military, or the current spouse of an active servicemember, will be eligible for a special Military Tuition Rate of $250 per semester hour. Students receiving the Military Tuition Rate are required to recertify their status as actively serving in the U.S. military (or their spousal eligibility) on a yearly basis. Students who fail to complete the yearly recertification process by the end of the add/drop period of the fall semester will be assessed the standard CPS undergraduate per-credit tuition rate. The full policy and eligibility requirements can be found at the university's support site for U.S. military-affiliated students (https://military.northeastern.edu/fund-your-education/).

Academic Policies and Procedures

Universitywide Academic Policies and Procedures

- Accommodations for Students with Disabilities (p. 38)
- Attendance Requirements (p. 39)
- Campus Transfer and Campus Location Change (p. 40)
- Clearing an Academic Deficiency (p. 41)
- Code of Student Conduct (p. 42)
- Course Credit Guidelines (p. 43)
- Course Numbering System (p. 44)
- Family Educational Rights and Privacy Act (FERPA) (p. 45)
- Grade Change Policy (p. 47)
- Grade Table and GPA (p. 48)
- Leaves of Absence and University Withdrawal (p. 50)
- Personal Information (p. 53)
- Requesting and Clearing An Incomplete Grade (p. 54)
- Retaking Courses (p. 55)
- Student Bill of Academic Rights and Responsibilities (p. 56)
- Student Responsibility Statement (p. 59)
- Student Right-to-Know Act (p. 60)
- Substituting Courses (p. 61)
- University-Sponsored Travel (p. 62)

CPS Undergraduate Academic Policies and Procedures

- Academic and Research Integrity (p. 63)
- Academic Appeals Policies and Procedures (p. 64)
- Academic Honors (p. 66)
- Academic Progression Standards (p. 67)
- Appropriate Use of Computer and Network Resources Policy (p. 68)
- Attendance Verification (p. 69)
- Completing Program Requirements (p. 70)
- Cooperative Education (p. 71)
- Degrees, Majors, and Minors (p. 73)
- Full-Time Status (p. 74)
- Global Partnership Programs (p. 75)
- Graduation Requirements (p. 76)
- Readmission to Program (p. 77)
- Reentry to Program (p. 78)
- Registration and Taking Courses (p. 79)
- Reinstatement after Academic Dismissal (p. 82)
- Seeking More Than One Certificate or Degree (p. 9)
- Student Evaluation of Courses (p. 84)

Accommodations for Students with Disabilities

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Attendance Requirements

Class participation is essential to success no matter the course format or its delivery. Individual instructors may have course-specific attendance policies. It is the student's responsibility to ascertain what each instructor requires. Failure to meet attendance requirements may force a student to drop the applicable courses. Students should not make conflicting commitments until the class schedules for each semester are final. Permission to make up work may be granted by instructors for reasonable cause. Requests must be made immediately upon a student's return to class. Laboratory work can be made up only during the hours of regularly scheduled instruction.

Absence Because of University-Sponsored Activities

Participation in university-sponsored activities, where the students are representing their university, college, or department, may cause absences from class that qualify as excused absences. Excused absences, with appropriate prior arrangement, are not subject to penalty, and missed work may be satisfied through agreement between the student and the instructor. University-sponsored activities that may justify excused absences include athletic competition, performing arts events, and research or other presentations.

Students must discuss absence(s) with instructors at least two weeks in advance of the university-sponsored activity, or as soon as possible if the activity is at the beginning of the term or is the result of an unforeseen circumstance. Instructors may require a written statement from the administrator in charge of the activity. Instructors are expected to make reasonable accommodations for these class absences, including administration of makeup assignments and exams whenever possible. It is expected that students seeking an excused absence will develop a plan and timetable to make up the missed coursework with their instructor(s). Note, however, that the requirements of some courses or programs may preclude such accommodations.

Absence Because of Religious Beliefs

Any student who is unable, because of their religious beliefs, to attend classes or to participate in any examination, study, or work requirement should be provided with an opportunity to make up such examination, study, or work requirement that they may have missed because of such absence on any particular day, provided that such makeup examination or work does not create an unreasonable burden upon the university. Students should make appropriate arrangements with the instructor in advance of the absence, preferably at least two weeks before the religious observance.

Absence Because of Jury Duty

Members of the university community are expected to fulfill their obligations to serve on a jury if called upon. A student selected for jury duty should inform their instructors. They will provide a reasonable substitute or compensatory opportunities for any required work missed. A student with such an absence will not be penalized in any way.

Absence Because of Military Deployment

See "Leave of Absence Due to Military Deployment (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#military)."

Other Absences

Unforeseen events or circumstances, including illness, may cause a student to be absent from class. Students must notify their instructors and academic advisor, as appropriate, as soon as possible to apprise them of the circumstances leading to their absence, as well as how much time will be missed. Students must work with their instructors to develop a plan, with a timetable, to make up missed coursework. Students cannot be required to provide medical documentation. (Faculty and students should note that the University Health and Counseling Services does not provide sick notes or medical excuses except for long-term illness.) Instructors are expected to make reasonable accommodations for warranted class absences, including administration of makeup assignments and exams, whenever possible.

Extended Absences

A student who is absent from school for an extended period of time must inform their academic advisor by letter, email, or telephone. The expected length of the absence may determine whether the student should apply for a medical or emergency leave of absence (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#medical). It is strongly recommended that the student contact their academic advisor to discuss potential next steps, which could include incomplete grades; withdrawal from classes; or, in the event of an extended absence due to a chronic medical condition or disability, consultation with the Disability Resource Center to explore potential accommodation.

Nonattendance

Nonattendance does not constitute official course dropping or withdrawal, which means the student is fully responsible for the academic and financial consequences. Like all grades for courses attempted and/or completed, a grade earned due to nonattendance impacts a student's academic progression, an international student's visa eligibility, and a federal financial aid recipient's aid eligibility and award.

Campus Transfer and Campus Location Change

Campus Transfer

Students may request an official campus transfer from their school/college to complete their program. The program has to be approved by the school/college academically AND meet regulatory requirements (state/provincial licensure). If the student is an international student, the program has to be offered in compliance with F-1/study permit requirements at the requested new home campus location. International students should seek advice from the Office of Global Services (https://international.northeastern.edu/ogs/) before the final decision to transfer to another campus.

Campus Location Change

Students may request a campus location change to a new campus (the host campus) for a period no longer than one academic year (two consecutive semesters or three consecutive quarter terms) and no more than 50% of a degree program. It must be approved by the school/college academically, and courses must be offered that allow the student to make normal academic progress in compliance with regulatory requirements. In order for international students to change a campus location, the academic program has to be offered in compliance with F-1/study permit requirements at the requested host campus location.

Clearing an Academic Deficiency

An academic deficiency occurs when a student fails to complete a course with a satisfactory grade. The deficiency may occur because the student has failed the course or because the student has passed the course but with a grade that does not meet the minimum required by the student's program.

Students who have academic deficiencies may be required to clear them before progressing within the curriculum, especially if a given course is a prerequisite for future coursework. Deficiencies may affect the student's expected year of graduation.

With the approval of the appropriate program faculty and/or academic advisor, students can clear deficiencies in the following ways:

1. Retake the same course at one of Northeastern University's colleges, which will result in a "retake" grade (see "Retaking Courses" in this section of the catalog).
2. Substitute a comparable course at one of Northeastern's colleges, which will result in a "retake" grade (see "Substituting Courses" in this section of the catalog).
3. Under special circumstances, if the course is not currently offered at Northeastern, a student may be advised to take a preapproved course at another institution outside Northeastern. The original grade will remain on the student's Northeastern transcript and will still be used in the calculation of the GPA.

Code of Student Conduct

The Code of Student Conduct can be found on the Office of Student Conduct and Conflict Resolution (https://osccr.sites.northeastern.edu/code-of-student-conduct/).

Course Credit Guidelines

Guidelines for Assigning Credit to Courses

The primary standard for establishing course credit at Northeastern University is the semester/quarter hour, or Carnegie Unit, the standard used by the federal government. One hour of credit is awarded for a lecture/seminar class meeting 50 minutes each week during a 15-week semester or 12-week quarter and also requiring a minimum of two hours of outside preparation each week by the student. An hour of contact time in the rest of the document is based on this 50-minute session.

- 2 semester/quarter hours (100 minutes per week of instruction plus 4–6 hours homework, or equivalent)
- 3 semester/quarter hours (150 minutes per week of instruction plus 6–9 hours homework, or equivalent)
- 4 semester/quarter hours (200 minutes per week of instruction plus 8–12 hours homework, or equivalent)

The Office of the University Registrar (https://registrar.northeastern.edu/) maintains the official record for all courses. In the event of error in any publication, the academic record will reflect the correct semester/quarter hours applicable to any degree requirement.

On occasion, course titles change, while the course number remains the same. Despite such title changes, the course is still considered to be the same course. Students who have taken the course under the old title and then take the course again under the new title are considered to have repeated the course.

NOTE ABOUT HOMEWORK AND STUDENT PREPARATION FOR CLASS

The credit hour assumes a set proportion of two hours of student preparation or homework for every hour spent in class. Northeastern wishes to emphasize that the federal government has established this as the minimum amount of work expected, and assigning more work does not in itself justify an increase in the credit value of the course. We also wish to note that there is great variation in the amount of time each student will need to devote to each course or to a specific form of study (e.g., reading, writing, completing problem sets), and, therefore, it is not possible to enforce any exact accounting of student work outside of class.

CREDIT ASSIGNMENT PROCESS

Northeastern uses the Carnegie Unit to determine class meeting time requirements. The actual amount of academic work that goes into a single credit hour is calculated as follows:

- One lecture (taught) or seminar (discussion) credit hour represents one hour per week (50 minutes) of scheduled class/seminar time and two hours of student preparation time.
- One laboratory or studio credit hour represents one hour per week of lecture or discussion time plus one to two hours per week of scheduled supervised or independent work, or a total of three hours in the lab or studio.

DEFINED INSTRUCTIONAL METHODS

- Traditional: meets fully on ground in a physical location with instructor present
- Hybrid: meets majority on ground in a physical location with instructor present with some online instructional component
- Live cast: meets fully on ground in a physical location with the instructor in a different location teaching synchronously and supported by an instructional assistant in the physical location
- Online: meets fully online

FULL-TIME AND HALF-TIME EXPERIENCES

Academic experiences integral to curriculum and requiring registration (but not credit bearing) have the following required hours of participation:

- Full-time experiences: 32–40 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days
- Half-time experiences: 16–31.99 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days (to achieve full-time status, graduate students must take 3 or more academic credits and undergraduate students must take 4 or more academic credits)
- Summer 1 or Summer 2 semester: minimum of 5 weeks or 25 workdays
- Summer quarter: 6 weeks or 30 workdays

International students must confer with the Office of Global Services to determine CPT requirements as appropriate.

Course Numbering System

0001–0999	**Orientation and basic**
	No degree credit

Undergraduate

1000–1999	**Introductory level (first year)**
	Survey, foundation, and introductory courses, normally with no prerequisites and designed primarily for students with no prior background
2000–2999	**Intermediate level (sophomore/junior year)**
	Normally designed for sophomores and above but in some cases open to freshman majors in the department
3000–3999	**Upper-intermediate level (junior year)**
	Designed primarily as courses for juniors; prerequisites are normally required, and these courses are prerequisites for advanced courses
4000–4999	**Advanced level (senior year)**
	Designed primarily for juniors and seniors; also includes specialized courses such as research, capstone, and thesis

Graduate

5000–5999	**First-level graduate**
	Courses primarily for graduate students and qualified undergraduate students with permission
6000–6999	**Second-level graduate**
	Generally for master's and clinical doctorate only
7000–7999	**Third-level graduate**
	Master's- and doctoral-level courses; includes master's thesis
8000–8999	**Clinical/research/readings**
	Includes comprehensive exam preparation
9000–9999	**Doctoral research and dissertation**

Family Educational Rights and Privacy Act (FERPA)

FERPA for Students—General Information

The Family Educational Rights and Privacy Act is a federal law that applies to educational institutions. Under FERPA, schools must allow students who are 18 years or over or attending a postsecondary institution:

- Access to their education records
- An opportunity to seek to have the records amended (see the *Student Handbook* for this procedure)
- Some control over the disclosure of information from the records

FERPA General Guidance for Parental Disclosure

When a student turns 18 years of age or attends a postsecondary institution, the student, and not the parent, may access, seek to amend, and consent to disclosures of their education records.

If you are an undergraduate day student and you choose not to share information with your parents, Northeastern will, if asked, indicate that you have restricted access to your records.

Release of Directory Information

The primary purpose of directory information is to allow Northeastern University to confirm attendance for employers, health insurance companies, and loan agencies. Northeastern may disclose appropriately designated "directory information" without written consent, unless you have advised the university to the contrary in accordance with the procedures below. If you choose not to release directory information, all communications with all third parties and agencies will need to be done through your written request to the university or in person.

As of June 30, 2016, Northeastern directory information includes:

- Student name
- Home address (city, state, country only)
- Major field of study
- College
- Class year
- Enrollment status (e.g., undergraduate or graduate, full-time or part-time)
- Dates of attendance
- Degrees, honors, and awards received
- Most recent educational agency or institution attended
- Sports activity participation, showing weight/height of members of athletic teams
- Participation in officially recognized activities

If Northeastern currently has permission to release data and you do not want the university to disclose directory information without your prior written consent, you must notify the university. Instructions are available at the Office of the University Registrar (https://registrar.northeastern.edu/article/family-educational-rights-privacy-act-ferpa/).

Notification of Rights under FERPA

FERPA affords students certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day the university receives a request for access. Students should submit to the registrar, dean, or head of the academic department (or appropriate official) written requests that identify the record(s) they wish to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education record that the student believes is inaccurate or misleading. Students may ask the university to amend a record that they believe is inaccurate or misleading. They should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interest. A school official is defined as a person employed by the university in an administrative, supervisory, academic, or support staff position (including law enforcement unit and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a person assisting another school official in performing their

tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill their professional responsibility.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the university to comply with the requirements of FERPA. At Northeastern, the Office of the University Registrar, 271 Huntington Avenue, administers FERPA.

Additional Information

Additional information can be obtained at the U.S. Department of Education's website (http://www.ed.gov/policy/gen/guid/fpco/ferpa/) or by writing to:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-5920

Grade Change Policy

If a student has not graduated, a grade can be changed by a course instructor within 12 months of the end of the semester in which the grade was given.

If a student has graduated, or if more than 12 months have elapsed, a grade can only be changed by request of a course instructor with the approval of the college that offers the course.

If more than 24 months have elapsed, grades can no longer be changed.

If a course instructor is not available, course change requests may be initiated by the department or college that offers the course.

Colleges may place additional restrictions on how grades can be changed.

The grade change policy explains when a course instructor may change a student's grade to correct errors. This policy does not apply to incomplete grades or to student-initiated appeals to change grades. In particular, the grade change policy should not be used to allow a student to submit work after the completion of a class.

Grade Table and GPA

Grade Table

Grades are officially recorded by letters, evaluated as follows:

Letter Grade	Numerical Equivalent	Explanation
A	4.000	Outstanding achievement
A–	3.667	
B+	3.333	
B	3.000	Good achievement
B–	2.667	
C+	2.333	
C	2.000	Satisfactory achievement
C–	1.667	
D+	1.333	Undergraduate only
D	1.000	Undergraduate only/Poor achievement
D–	0.667	Undergraduate only
F	0.000	Failure
I		Incomplete
IP		In progress
CR		Credit (School of Law only)
HH		High Honor (School of Law only)
H		Honor (School of Law only)
P		Pass (School of Law only)
MP		Marginal Pass (School of Law only)
NE		Not enrolled
NG		Grade not reported by faculty
S		Satisfactory (pass/fail basis; counts toward total degree requirements)
U		Unsatisfactory (pass/fail basis)
X		Incomplete (pass/fail basis)
L		Audit (no credit given)
T		Transfer
W		Course withdrawal

An I, IP, or X grade shows that the student has not completed the course requirements.

The IP grade is intended for courses that extend over several terms. The time restrictions on the incomplete grade do not apply to the IP grade. While the IP grade is left unchanged, it is not included in computing the grade-point average. If the IP grade is never changed, the course does not count toward graduation requirements.

Course Comments

The following notations may also appear on the student's transcript:

E	Course excluded from GPA
HON	Honors-level course
I	Course included in GPA

GPA

Numerical equivalents for scholastic averages are weighted according to the number of hours the course carries. For example, suppose a student receives a grade of B in a course carrying 4 semester hours and a grade of A in a course carrying 1 semester hour. The weightings for these example courses are as follows:

Grade	Numerical Equivalent	Semester Hours	Weight
B	3.000	4	12
A	4.000	1	4
Totals:		5	16

The GPA for both courses would then be the total weight (16) divided by the total semester hours (5), or 3.200. Grades of I, IP, S, U, and X are not included in the calculation of the GPA. See Grade Table (p. 48) for a complete list of grades and numerical equivalents.

Leaves of Absence and University Withdrawal

Students may request to take the following types of leaves of absence:

- Personal or Academic
- Medical or Emergency
- Military Deployment or Missionary Service

Students in Prematriculation and Pathway programs (including N.U.in, Foundation Year, NU Immerse, Global Scholars, London Scholars, Global Pathways) do not fall under the leave of absence policy below. Students in these programs with emergent, medical, or personal circumstances that require a conversation about their ability to continue with their program of study should reach out to We Care *(*https://we-care.studentlife.northeastern.edu/*) for further guidance.*

General Leave of Absence Policy

Students who wish to take a leave of absence should complete a request through the Student Hub (https://me.northeastern.edu) (or via University Health and Counseling Services for a medical leave of absence, as described below) before the last day to drop without a W in a term. Please consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/#_ga=2223181403151090330616212601 60-171526951816133256 28) for the last day to drop without a W in the term.

Students can request a leave until the last day to drop with a W in a term but should review the financial implications of withdrawing from courses on the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/withdrawalleave-of-absence/).

Students can take up to one year of leave.

Any leave of absence type, if approved, is subject to the following conditions:

- International students must make an appointment with the Office of Global Services (https://international.northeastern.edu/ogs/) to discuss leave of absence procedures in accordance with federal regulations.
- Students who do not return at the end of the leave will be withdrawn and must contact their college for reentry prior to the term start.
- Students must return to a university-sponsored activity that contributes toward the satisfaction of outstanding program requirements, such as registration for academic coursework.
- Students must be considered active in the period for which they are requesting a leave. Students are considered active when they are currently engaged in university-sponsored activity, such as academic coursework and co-op. If a student is withdrawn for personal reasons, the withdrawal can be reversed and a request for a leave of absence can only be processed if it is before the last day to drop without a W in a term. If the student has been administratively withdrawn, a request for leave of absence cannot be considered until the withdrawal is resolved.
- If a leave extends more than six months, students who have taken loans for education expenses may be required to begin repayment of those loans. Students who receive financial aid should meet with a financial aid counselor before going on a leave. Please see Return of Title IV Aid (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/expenses/financial-aid/) for the possible financial aid impact of a leave of absence.
- Students in university housing should refer to the Office of Housing and Residential Life for policy information.
- A student's enrollment status cannot include more than one academic year of consecutive nonclass enrollments. Students on leave for more than one year will be withdrawn from the university.
- If a student has taken multiple leaves, resulting in the postponement of expected graduation date of a calendar year, the next leave request will be processed as a withdrawal.
- While on leave, students are not allowed to take classes for credit toward their Northeastern University degree, either at Northeastern or at an outside institution.

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, the student should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

LEAVE OF ABSENCE FOR INTERNATIONAL STUDENTS

International students must discuss maintenance of U.S. immigration status with an advisor at OGS before requesting any type of leave of absence.

PERSONAL OR ACADEMIC LEAVE OF ABSENCE

Personal leaves of absence are general leaves of absence that do not meet the criteria of more specific leaves outlined in the catalog. Academic leaves are applied to a student record in the rare cases when a student has fulfilled the last remaining requirements abroad but final grades have been yet to be received at Northeastern; or are taking a leave of absence from Northeastern to pursue other academic work. A student interested in requesting a personal or academic leave of absence should speak with an academic advisor.

MEDICAL OR EMERGENCY LEAVE OF ABSENCE

Medical leave is an option available to those Northeastern students who develop a major medical condition that precludes class attendance, completion of requirements, and/or participation in co-op. Medical leave of absence requests must be initiated at UHCS (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

Students on a medical leave will no longer have Husky Card access to the Marino Center, libraries, dining services, residence halls, and UHCS. If a student is in treatment at UHCS, they will be provided with referral resources for care in the community where they will reside during their medical leave. Students are not to be participating in student groups while on medical leave.

Emergency leaves may be granted when a student cannot continue attending class after the start of the term due to life-changing situations beyond the student's control. Students interested in requesting emergency leave are encouraged to contact We Care (https://we-care.studentlife.northeastern.edu/). Students can request an Emergency Leave of Absence via the Student Hub (https://me.northeastern.edu).

Students who have been granted a medical or emergency leave of absence due to extenuating circumstances may submit a Leave of Absence Refund Appeal Form (https://service.northeastern.edu/sfs/?id=sc_cat_item&sys_id=50dc23cddb464150ebcdcafc13961951&sysparm_category=98921886db600d54ca10819b1396197e) for financial consideration. If the appeal is approved, please note that housing and other fees will not be included in the appeal decision; refer to the Residence Hall and Dining License Agreement (https://www.northeastern.edu/housing/license-agreement/). Please only complete the Leave of Absence Refund Appeal Form if you have been approved for a medical or emergency leave of absence.

Please note that any outstanding balance (including unpaid balances) for the academic term in which the leave is taken are still due to the university.

Financial aid recipients must contact their financial aid counselor to understand the effects on aid received.

If the leave extends more than six months, students who have taken loans for education expenses may be required to start repayment of those loans.

Students enrolled in the Northeastern University Student Health Plan will remain enrolled in the plan for the plan year, ending August 31.

LEAVE OF ABSENCE DUE TO MILITARY DEPLOYMENT OR MISSIONARY SERVICE

When a student is called to active duty or missionary service, they must request the leave by filling out the proper request form through the Student Hub (https://me.northeastern.edu). Proof of official deployment or call to service paperwork will be required as an attachment when filling out the leave of absence request.

When a student is called during the term, the university will:

- Excuse tuition for that term. Any payment made will be credited to the student's account.
- Post a leave of absence for the term to hold a place for the student when they return.

If a student is called near the end of the term, the student and faculty members may determine that incomplete (I) grades are more appropriate. In this case, tuition will not be waived.

When a student returns to the university after completion, they will notify the college academic student services office if the leave was longer than one year; that office will in turn notify the Office of the University Registrar. The college academic student services office will assist the student with reentry and registration. If the leave was less than one year, the student should register for classes for the upcoming term prior to returning to campus.

International students who must take a leave of absence to engage in military service in their home country must also complete a form for leave of absence with OGS.

RETURNING FROM A LEAVE OF ABSENCE

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, they should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

Students who are withdrawn and are applying for Commencement may be reentered on a leave of absence, pending the college's approval, prior to the term in which they will graduate. International students returning from a leave of absence should contact OGS regarding the Student and Exchange Visitor Information System procedures three to four months prior to anticipated return date.

Students who wish to reenter the university following a medical leave must contact UHCS. Reentry from a medical leave requires receipt of all documentation delivered to UHCS approximately one month prior to the start of the term they wish to return. Once all documentation is received by UHCS, it will be reviewed and the student will be notified of the decision Requests for reentry from medical leave must be completed no later than one week prior to the beginning of a term. Students must be enrolled in Northeastern classes for the term in which they wish to return from their medical leave of absence. More specific information about the reentry process can be found at the UHCS website (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

University Withdrawal

Students seeking to withdraw from the university for any reason should meet with their academic advisor before completing the university withdrawal form online. Students should review the financial implications of withdrawing from all classes on the Student Financial Services website.

Students may be withdrawn from the university for financial, disciplinary, or academic reasons. Students looking to withdraw for medical reasons should reach out to UHCS (mloa@northeastern.edu) to review medical leave of absence.

Personal Information

Change of Name

Report all name changes to the Office of the University Registrar immediately. Official documentation of the name change is required.

Change of Address

Report all address changes via the Student Hub (https://me.northeastern.edu). Both the permanent home address and the local address are required. International students must report any changes of local address or phone number via the Student Hub (https://me.northeastern.edu) within 10 days in order to ensure compliance with immigration regulations.

Requesting and Clearing An Incomplete Grade

An incomplete grade may be reported by the instructor when a student has failed to complete a major component of a required course, such as homework, a quiz or final examination, a term paper, or a laboratory project. Students may make up an incomplete grade by satisfying the requirements of the instructor or, if the instructor is absent, the chair of the department. Be aware that instructors' policies on the granting of incomplete grades may vary and that the final decision on an incomplete grade is up to the instructor. Instructors may deny requests for an incomplete grade.

To request an incomplete grade, the student must obtain and complete in consultation with the instructor an Incomplete-Grade Contract (https://registrar.northeastern.edu/article/incomplete-grade-contract/) on which the precise agreement for clearing an incomplete grade is specified. The contract is then signed by the student, the instructor, and the student's academic advisor. Copies of the form are kept by the student, the instructor, and uploaded to the student's advising notes. The maximum time period for clearing an incomplete grade is restricted to 30 days from the end of the term in which the course was offered. Instructors may require a shorter due date before approving incomplete grade requests.

International students should consult with the Office of Global Services before requesting an incomplete grade to ensure that they will remain in compliance.

If the missing assignment(s) have not been submitted to the instructor within 30 days from the end of the term in which the course was offered, or the agreed upon due date, the grade entered will reflect the student's grade in the course for the work completed and the missing assignments receiving no credit toward the final grade. Changes in the final grade will be applied to the term in which the student was enrolled in the course. Any exception to this policy or extension of the deadline must be recommended by the college in which the course was offered and must be forwarded in writing to the Office of the University Registrar for implementation.

Retaking Courses

When the appropriate course is available, students may retake a nonrepeatable course to earn a better grade. In all cases, the most recent grade earned in a course is the one used in calculating the overall grade-point average followed by the retake notation I, indicating the course grade is included in the overall GPA; however, previous grades remain on the transcript followed by the retake notation of E, signifying that that course grade has been excluded. Consult your academic advisor before retaking a course. Students are required to pay normal tuition for all retaken coursework.

When the course description for the student's registration term indicates that the course may be repeated up to a certain number of course completions, each completion of the course (up to the limit stated in the course description) will appear on the student's transcript, and the grade for each such completion will be used in the calculation of the student's overall GPA.

Student Bill of Academic Rights and Responsibilities

This bill was drafted by the Student Senate, the Vice President for Student Affairs, and members of the Faculty Senate. It was passed in the spring of 1992. It was then updated by the Student Body President, Vice President for Academic Affairs, and passed by the Student Senate in the Fall of 2017 and Faculty Senate in the Spring of 2018 for adoption in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*) for the 2018–2019 academic year.*

We, the students of Northeastern University, believe that a quality education is the paramount goal of all students. In order to fulfill this goal, the university recognizes certain rights and responsibilities, which follow below.[1] Northeastern University students recognize and accept that redress of complaints arising from these rights is limited to the procedures specified in "Student Academic Appeals Procedures".[2]

Course-Related Rights

ARTICLE 1

Students have the right to instructors who attend classes on time.

ARTICLE 2

Students have the right to receive grades and feedback in a timely manner, particularly in the case of sequentially related assignments. At least one summative assessment should be given and returned a week prior to the end of the withdrawal period. Students also have the right to view work they submit to satisfy course requirements after it is graded and receive their instructor's rationale for grades received on said work.

ARTICLE 3

Students have the right to adequate access to instructors. This includes instructors replying to communications from students in a timely manner, suggested to be within two business days, with the exception of during university recesses, as well as maintaining consistent office hours for in-person courses, occurring at the same time at least once a week. Instructors may change office hours by notifying students in a timely manner, suggested to be within two business days, baring extenuating circumstances.

ARTICLE 4

Students have the right to receive a course outline, which includes a fair and explicit grading policy, at the beginning of each course. Changes to the course outline that result in a deadline, assignment, major exam, or similar course event being introduced to or moved earlier in the schedule shall be communicated to students in a timely manner, suggested to be at least 10 business days prior to the new deadline.

ARTICLE 5

Students have the right to instructors who communicate the material pertaining to the course effectively in the English language except in the case of foreign language instruction.

ARTICLE 6

Students have the right to participate in and have access to Student Government Association teacher/course evaluations.

ARTICLE 7

Students have the right to have a list of all course materials that must be purchased. Possible substitutions for said course materials, (i.e., acceptable previous editions of textbooks, digital versions, library owned resources, etc.) should be made available to students at least a week prior to the start of the academic term.

ARTICLE 8

Students have the right to alternative grading arrangements if they are unable to attend a graded activity that takes place outside the scheduled class time.

Rights to University Academic Services

ARTICLE 9

Students have the right to adequate access to effective academic services, including academic and co-op advising, as described in the student handbook and other university publications, provided by the university.

ARTICLE 10

Students have the right[3] to an environment conducive to learning and to faculty who respect students' academic freedom[4] in the classroom. When exercising academic freedom, students are expected to comply with all applicable university ethics, anti-harassment, and nondiscrimination policies.

ARTICLE 11

Students have the right to access university health resources provided by University Health and Counseling Services (https://www.northeastern.edu/uhcs/) (UHCS), and in accordance to Massachusetts State Law, to have access to a medical plan that they can purchase (Northeastern University Student Health Plan (http://www.northeastern.edu/nushp/)).

ARTICLE 12

Students have the right to access university resources provided by the university's Disability Resource Center in accordance with the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf). Students have the right to pursue informal and formal grievances through the procedures outlined by the Disability Resource Center (https://drc.sites.northeastern.edu/).

Scheduling Rights

ARTICLE 13

Students have the right to final exam schedules in accordance with established university policy, including non-conflicting final exam schedules.

ARTICLE 14

Students have the right to attend any course session held prior to the end of the add/drop period so long as permission from the instructor is obtained in advance and all duly registered students have proper access to seating and other course resources.

ARTICLE 15

Students will not be penalized for excused absences, with the understanding that students may need to make up for the academic commitment from which they were excused. Reasons for an excused absence include religious, medical issues, jury duty, bereavement, and military service. See this catalog (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/attendance-requirements/) and other applicable policies (http://gonu.com/sports/2013/7/15/SASS_0715134535.aspx?path=sass) for the full attendance and excusal policy.

General Academic Rights

ARTICLE 16

Students have the right to be informed, in a timely fashion, of proposed action to be taken against them.

ARTICLE 17

Students have the right to the redress of academic grievances through the processes provided by the university.

ARTICLE 18

Students have the right to university support and resources, such as the Office of Global Services (https://www.northeastern.edu/ogs/), with regard to their visa status.

ARTICLE 19

In accordance with the Northeastern University's Nondiscrimination Policy (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), students have the right to a learning environment free of discrimination or harassment, including as provided for in Northeastern University's Title IX Policy (https://policies.northeastern.edu/policy104/).

ARTICLE 20

Northeastern University's policy on student produced intellectual property can be found under *Copyrightable Materials* in the *Undergraduate Student Handbook*.

ARTICLE 21

Students have the right of access to their academic and financial aid records and maintenance of the privacy of these records, as provided by the Family Educational Rights and Privacy Act.

Student Responsibilities

ARTICLE 1

Contribute to a climate of open inquiry and honesty in all aspects of the university's academic life. This includes reviewing, and becoming familiar with, the Academic Integrity Policy on the OSCCR website.

ARTICLE 2

Commit sufficient time and effort for study and for use of library, studio, laboratory, and computational facilities, as appropriate for each course.

ARTICLE 3

Contribute to the classroom/laboratory/studio learning environment through discussion and active participation.

ARTICLE 4

Acquire the necessary prerequisites for full participation in each academic course.

ARTICLE 5

Attend scheduled classes regularly and on time, and arrive to class prepared, having completed all the readings and other assignments.

ARTICLE 6

Seek out faculty and teaching assistants outside of class time, to obtain help with problems encountered in a given course.

ARTICLE 7

Respect the academic freedom[4] of each faculty member and student.

ARTICLE 8

Assist the university in its various self-evaluations (e.g., TRACE, surveys) by responding honestly and conscientiously.

ARTICLE 9

Maintain effective communication with the university by providing permanent and local address information to the university through a system designated by the university, and by reading university email on a frequent and consistent basis.

ARTICLE 10

Act as positive representatives and genuine ambassadors of the university when studying and working in domestic and international settings associated with Northeastern University.

ARTICLE 11

Complete an entry (including itinerary, accommodation information, and contact information) using 'My Travel Plans,' located via the Student Hub (https://me.northeastern.edu) or other system as required by the university, prior to all university-sponsored travel outside of Massachusetts, including but not limited to: Study Abroad, Dialogues of Civilization, Foreign Exchange Programs like BSIB, Alternative Spring Break, Engineers without Borders, Co-op Placements outside of Massachusetts, etc.

ARTICLE 12

Complete all required activities prior to attending classes for their entrance date (including alcohol education, violence prevention programming, required reading, etc.).

ARTICLE 13

Have in their possession at all times the officially approved and properly validated photo identification card.

Students who fail to comply with these responsibilities could lose certain student privileges as well as face possible disciplinary sanctions under the Code of Student Conduct.

[1] The student rights, through their representatives in the Student Government Association (SGA), described in these sections arise from faculty and staff employment responsibilities and obligations to the university. Northeastern University students recognize and accept that it is the sole prerogative of the university to enforce these obligations and responsibilities and to determine whether and to what extent they are being carried out or violated in specific instances. Northeastern University students recognize and accept that their ability to effect redress of complaints arising from these rights is limited to the procedures specified in the current *Undergraduate Student Handbook*.

[2] The articles shall be interpreted by the Office of the Provost in conjunction with the Office of the Vice President for Student Affairs, and shall be monitored by the Student Government Association. Further, should any student discover that they have been subject to any violation of the principles stated herein, the student should follow the appropriate complaint resolution procedure in the Undergraduate Student Handbook (https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13). The Student Government Association, if requested by the student, will monitor the progress of any student academic grievances.

[3] Because the university operates on a twelve-month calendar in an urban environment, many construction, remodeling, renovation, and repair projects must take place while the university is in session, and other potential distractions from the learning process arise from the surrounding urban environment on which it is dependent but over which it exerts little or no control. Thus, though the university is committed to maintaining an appropriate learning environment for its students, Northeastern University students recognize and accept, as part of their relationship with the university, that the conditions described above may cause occasional disturbances to that environment.

[4] For more on academic freedom, please refer to the AAUP's definition (https://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure/).

Student Responsibility Statement

By accepting responsibility for their education, students enhance the development of their academic, social, and career goals. As a condition of enrollment, students are responsible for reviewing, understanding, and abiding by the university's policies, regulations, procedures, requirements, and deadlines as described in all official publications, including the university's Academic Catalog, Northeastern and college websites, and official university email communications, as applicable.

Students are responsible for meeting the degree requirements of their academic programs in all respects, including completeness and correctness of course selection, compliance with prerequisite and corequisite requirements, completion of program and degree requirements through regular, comprehensive review and understanding of the degree audit, and observance of all academic regulations and deadlines.

Students are expected to seek guidance from appropriate university representatives, such as departmental program advisors, academic advisors, co-op coordinators, and the Office of the University Registrar (https://registrar.northeastern.edu/), to confirm their compliance with all applicable academic expectations and requirements.

Student Right-to-Know Act

For information about the Student Right-to-Know Act, visit the Office of the University Registrar's website. (https://registrar.northeastern.edu/article/student-right-to-know-act/)

Substituting Courses

In some cases, it may not be possible to retake a course if a student wishes to do so. In unusual circumstances, students may petition to substitute one course for another they have already taken, as long as the subject matter of both courses is substantially alike. With the approval of the student's academic advisor and the agreement of the department that offered the first course taken, a grade received in the new course will be labeled "Substitute" on the transcript and will be treated in the grade-point-average calculation as a "retake" grade, as described above. The original grade will remain on the student's Northeastern University transcript. Students should consult with their academic advisor before enrolling in any proposed substitute course. Students are required to pay normal tuition charges for all substitute coursework.

University-Sponsored Travel

Northeastern University is committed to the health, safety, and security of its students and all other members of the university community. As a global institution, our university members undertake university travel around the world in pursuit of teaching, research, consulting, service, cocurricular activities, and work intended to advance learning and the interests of the university. The university supports standards and expectations associated with travel that are designed to reduce personal and university risk.

To enhance the health and safety of our students, you are required to comply with the university travel policies and guidance when undertaking university travel. These include, but are not limited to:

- **Registering University Travel—**Students, faculty, and staff are required to enter their travel itineraries and other requested information into the travel registry. To access the registry, go to the Student Hub (https://me.northeastern.edu/) and navigate to My Travel Plans to register your travel.
- **Review Destination Risks and Take Steps to Reduce Risks Before and During Travel—**Review the country briefing for your destination found in the Travel Security portal (https://travelsecurity.garda.com/checkMail/) and travel health and safety advice issued by the U.S. Department of State, the U.S. Centers for Disease Control and Prevention, other government organizations, the host nation, international organizations, etc. Travelers will be reminded about these sources via an email following trip registration.
- **Connectivity—**All students traveling on university programs must carry a cell phone with international calling, SMS, and cellular data capabilities. Phones must be able to receive incoming and make outgoing phone calls without relying solely on data-calling or a Wi-Fi signal. Phone number must be updated in the Student Hub (https://me.northeastern.edu/) profile and My Travel Plans registry before travel.
- **Complete Travel Petitions or Waivers—**Visit the Travel Protocols page (https://globalsafety.northeastern.edu/travel-protocols/) to determine what forms travelers are required to complete before participating in off-campus programming. The page also explains how to obtain approval to travel to a destination designated as high risk by the university.
- **Reduce Your Travel Cyber-Risk and Exposure—**Review and comply with the Policy on Portable Devices for High Cybersecurity Risk Destinations (https://cpb-us-w2.wpmucdn.com/sites.northeastern.edu/dist/b/620/files/2020/09/Policy-on-Computers-and-Mobile-Devices-for-International-Travel.pdf).
- **Personal Health Insurance—**All travelers are required to have personal health insurance that provides coverage while participating on university trips. Insurance requirements and an explanation of the university-provided urgent and emergency program can be viewed on the insurance and global safety support network pages of the university's global safety (https://globalsafety.northeastern.edu/)website.
- **Attend Predeparture Orientation—**PDO provides travelers with information about resources, requirements, safety, and security while traveling. Contact your program office to enroll in an in-person or online training.
- **Register Side Trips—**Side trips are travel that takes place prior to, during the course of, and/or immediately following a scheduled program but is not part of the program. Travelers are required to notify the university and register side trips.

Students are responsible for familiarizing themselves with the university travel policies and are encouraged to visit the university's global safety (https://globalsafety.northeastern.edu/) website for guidance. If you have questions related to travel or travel support, please email mytravelplans@northeastern.edu. If you need assistance during university travel, please call the university's 24-hour travel assistance line at +1.857.214.5332.

Academic and Research Integrity

Essential to the mission of Northeastern University is the commitment to the principles of intellectual honesty and integrity. Academic integrity is important for two reasons. First, independent and original scholarship ensures that students derive the most from the educational experience and the pursuit of knowledge. Second, academic dishonesty violates the most fundamental values of an intellectual community and depreciates the achievements of the entire university.

Accordingly, Northeastern views academic dishonesty as one of the most serious offenses that a student can commit while in college. Academic dishonesty includes cheating, fabrication, plagiarism, unauthorized collaboration, participation in academically dishonest activities, and facilitating academic dishonesty.

All members of the Northeastern community—students, faculty, and staff—share the responsibility to bring forward known acts of apparent academic dishonesty. Any member of the academic community who witnesses an act of academic dishonesty should report it to the appropriate instructor or to the director of the Office of Student Conduct and Conflict Resolution.

Violations of the Academic Integrity Policy will result in disciplinary action, which may include a failing grade in the assignment or course, academic probation, suspension, or immediate dismissal from the program. No student may withdraw from a course in which they are found responsible for violating the Academic Integrity Policy.

The university's complete Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/) is available through the Office of Student Conduct and Conflict Resolution.

Students unclear as to whether or not a source requires citation should speak with their instructor; consult a writing resource (e.g., Writing Center, University Library); and/or utilize the Northeastern Citation and Academic Integrity Checklist. (https://osccr.sites.northeastern.edu/code-of-student-conduct/)

Academic Appeals Procedures and Procedures

It is the policy of the university that all students shall be treated fairly in evaluations made of their academic performance, standing, and progress. The university presumes that academic judgments by its faculty are fair, consistent, and objective. Students must understand that the substitution of a different academic judgment for that of the original evaluator is a serious intrusion upon teaching prerogatives.

Nonetheless, the university believes it is essential to provide an appeals mechanism to students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education determination. This includes claims of misinterpretation or inequitable application of any academic provision of the university's *Undergraduate* or *Graduate Catalog, Student Handbook, or Faculty Handbook.*

In all cases, students are encouraged to informally discuss concerns with the faculty member who taught the course to see if it is possible to reach an agreement on the issue(s). If the student is not satisfied with the outcome of this discussion, or if the student is not comfortable discussing the issue with the instructor, the student should request a meeting with their academic and career advisor who can help facilitate the process to resolve the issue(s). If these informal attempts to resolve the issue(s) fail, the student can enter the formal procedure at the college level as outlined below.

Though students are always entitled to seek the advice of legal counsel, a student's lawyer cannot be present in the informal or formal academic appeals procedures. A student may consult their academic and career advisor at any point in these procedures for advice or assistance. University officials may take whatever steps they deem reasonably appropriate to achieve resolution of the issue at any stage of these procedures.

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, they should consult with the Office of University Equity and Compliance as soon as they become aware of alleged prohibited harassment or discrimination and are not required to wait until a term grade or determination is received before seeking advice or redress. If OUEC is advised of such alleged prohibited conduct as part of an academic appeal, the appeal shall be pursued and investigated by OUEC first. In such cases, the student should contact their academic and career advisor regarding the next appeal steps. Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures.

The Academic Standing Committee may not consider appeals on the basis of medical claims; students are encouraged to meet with their academic and career advisor to determine the best course of action for any disputes on the basis of medical or personal issues.

For Dismissal Appeals

If the appeal concerns academic dismissal, the student should contact their academic and career advisor regarding appealing to the college ASC.

For Grade Disputes

Students are encouraged to contact their instructor regarding all grade disputes within 15 calendar days of the assignment or course grade being awarded. If resolution cannot be achieved within 15 calendar days of initial contact, the student may submit a formal appeal no more than 30 calendar days following the end of the term the grade was awarded. The student must contact their academic and career advisor to start the formal appeal process. Resolution that is not attempted within this time frame is no longer eligible for appeal.

The program level has 30 calendar days to respond with a decision and brief explanation of that decision. If the student does not receive a response within 30 calendar days of their appeal at the program level, the student may appeal to the ASC. If a decision has been rendered at the program level, the student may only appeal to the ASC *if they have new/additional evidence and documentation to present that would not have reasonably been available at the time of the program-level appeal.* The student should contact their academic and career advisor before appealing any decision to the ASC.

Once a grade change has been made in response to an appeal, that change is final.

For All Other Appeals/Disputes

The student should contact their academic and career advisor with questions and information regarding next steps.

Appealing Beyond the ASC

In appeals that arise from a violation, misrepresentation, or inequitable application of the academic provisions of the *Student Handbook* or *Undergraduate Catalog* or *Graduate Catalog,* the ASC serves as the final decision maker within the college.

Issues concerning admission or readmission into a program cannot be appealed beyond the ASC at the college level.

Outside of issues concerning admission or readmission into a program, if the student or faculty member is not satisfied with the ASC's decision at the college level, they may further pursue the matter at the university level by requesting in writing within 14 calendar days that the university convene an Academic Appeals Resolution Committee to review the appeal. Students may obtain information on this process through the Office of the Provost (110 CH). The AARC has been designated as the final authority on appeal matters. This request must be made within 14 calendar days of the finding of the ASC.

1. Academic Appeals Resolution Committee
   The AARC includes:

- The vice provost for graduate education or a designee.
- The student's faculty advisor will be appointed by the appropriate vice provost except in cases where no specific advisor exists or where the faculty advisor is involved in the dispute. In those cases, a faculty member from the student's major college, department, or area of specialization will be appointed.
- Two faculty members appointed by the Faculty Senate Agenda Committee (if the appeal is based on a cooperative education determination, one of the faculty members shall be a member of the cooperative education faculty but not from the student's area of study) and a representative of the Office of Institutional Diversity and Inclusion (if the appeal had at any point involved a matter of sexual harassment/discrimination).
- The chair shall be elected from among the committee's three faculty members but cannot be the student's faculty advisor.

2. Preliminary Matters
   If the AARC determines, by a majority vote, that the appeal is patently without substance or merit, it may dismiss the appeal.
3. Investigation
   The AARC shall investigate the matter under appeal as quickly as possible by studying the relevant documents, interviewing the parties (especially the student and the involved faculty member), and taking any other action it deems appropriate. At no time shall the committee be bound by rules of evidence but shall at all times conduct itself in a manner that is not arbitrary or capricious. The AARC may, but is not required to, hold a hearing prior to resolving the issues. However, in all instances, the student and the involved faculty member shall have the right to appear and testify separately and privately before the AARC. The student shall have the right to have an advocate from the university community present during their testimony to the AARC.
4. Authority to Act
   The AARC has been designated as the final authority on these matters. At the conclusion of its investigation, the AARC shall resolve, by majority vote, the issue by either upholding the finding of the ASC or dean, in which case no further appeal is available, or granting such relief to the student as the AARC deems appropriate.
   a. The AARC may not determine a resolution that contradicts the prior findings or actions of the Office of Institutional Diversity and Inclusion with respect to elements of this appeal.
   b. In the event of a tie vote, the action of the ASC or dean shall be considered upheld.
5. Resolution
   All direct parties to the appeal, including but not limited to the student, the provost, the dean, the department chair or equivalent supervisors, graduate coordinator or equivalent supervisor, and the faculty member shall be promptly informed in writing of the decisions and actions taken (i.e., the Report) during this academic appeals procedure.
6. Report
   A written Report of the appeal and its resolution shall be submitted by the chair of the AARC to the student, the involved faculty member, the Faculty Senate Agenda Committee, the vice president for student affairs, the appropriate vice provost, the registrar, and the dean, as appropriate.
7. Action
   The dean(s) or their designee in the involved college(s) shall take whatever action is necessary to implement fully the resolution of the AARC. This includes reporting the change of grade to the registrar.
8. Appeal
   No further appeal can be instituted by the student or the involved faculty member with respect to the issue(s) raised at any level of the formal appeals resolutions procedures once adjudicated.

Academic Honors

Dean's List

A dean's list for the undergraduate programs is compiled at the end of each fall and spring term to recognize students' academic accomplishments.

The requirements to be on the dean's list are:

- 3.500 or higher term GPA
- In good academic standing
- Enrolled in at least half-time (6 semester hours per full semester)
- No incomplete grades
- No grade below C–
- No grade on a satisfactory/unsatisfactory (pass/fail) basis, except when there is no alternative or when required by the program

Dean's list recognition is noted on the student's official academic record.

Graduation with Honors

Graduation with honors is reserved for bachelor's degree candidates who have completed 60 semester hours in residence and who meet the following GPA requirements to graduate with honors:

GPA	Honor Conferred
3.500–3.699	Graduate with honor (cum laude)
3.700–3.849	Graduate with high honor (magna cum laude)
3.850–4.000	Graduate with highest honor (summa cum laude)

Note: The university reserves the right to change these standards.

Residency Requirement

In addition to meeting all degree and major requirements, students must earn a minimum of 50% of the total hours required for graduation at the College of Professional Studies in order to receive a bachelor's degree. Exceptions to this requirement include active-duty military personnel, bachelor's degree students who transferred from a qualifying college at Northeastern University, or students who transferred from an approved academic partnership. Active-duty military personnel must earn 25% of their undergraduate credits at the College of Professional Studies. Students who transfer from another college at Northeastern must earn a minimum of 15% of their semester hours at the College of Professional Studies. Students who transfer from an approved academic partnership must earn the required percentage of undergraduate credits at the College of Professional Studies as detailed in their partnership agreement.

Active-Duty Military Personnel

As a member of the Service Member Opportunity Colleges, the College of Professional Studies' academic residency requirement is different for active-duty service members. Active-duty service members are required to complete 25% of the undergraduate certificate/degree program at the College of Professional Studies.

Academic Progression Standards

Faculty Advisor Communication Tool

FACT is a communication tool that provides faculty with a method for providing input to career and academic advisors and students for early intervention, coaching, and assistance. Faculty members are expected to submit input around the midpoint of each term/session.

EAB/Navigate

EAB/Navigate is a tool used by faculty and academic and career advisors to better service and communicate with learners. Learners can utilize EAB/Navigate to make appointments with academic and career advisors, while faculty can use it to provide academic and career advisors with information on learner progress in the classroom.

Academic Progress/Standing

To be in academic good standing, an undergraduate student must continuously maintain a minimum cumulative grade-point average of 2.000 on a 4.000 scale and must also make continuous satisfactory academic progress. To make SAP, a student must earn at least 66% of their cumulative attempted credits. Nonmatriculated students are required to be in good academic standing to be allowed to register for any subsequent classes.

Students are responsible for reviewing their grades and academic standing at the end of each term through the Student Hub (https://me.northeastern.edu). If there are any discrepancies, students should immediately contact the instructor(s) directly. Students have 30 calendar days after final grades are posted to appeal a grade.

Academic Probation and Dismissal

Notation of academic probation appears on a student's internal record but not on their permanent transcript.

An undergraduate student is placed on academic warning for low academic performance if their GPA is below 2.000 at the College of Professional Studies and/or if they do not earn at least 66% of their cumulative attempted credits. At this point, the student is strongly encouraged to consult with their academic and career advisor to develop an action plan to improve their academic standing. Attempted credits include all credits/courses for which the student registered and did not drop.

An undergraduate student is placed on academic probation if, after already having been placed on academic warning, their cumulative GPA remains below 2.000 at the College of Professional Studies and/or if they do not earn at least 66% of their cumulative attempted credits in their subsequent term of enrollment. The student is encouraged to consult with their academic and career advisor to develop an individualized success plan to improve their academic standing. Otherwise, a registration hold may be placed on the student's account.

A student whose cumulative GPA remains below 2.000, and/or does not earn at least 66% of their cumulative attempted credits in the term of enrollment subsequent to the one after they were placed on academic probation, will be academically dismissed. An undergraduate student who has been academically dismissed from the university is automatically dismissed from their major.

A student will be notified about their dismissal within one week following the end of the term and has the right to appeal the dismissal decision to the college's Academic Standing Committee if they can provide documented evidence supporting an appeal. The notification of dismissal will include the appeal deadline.

Students appealing a dismissal decision will not be eligible to enroll in classes the term following their dismissal to allow time for the appeal process.

Students are responsible for reviewing their grades and academic standing at the end of each term through the Student Hub (https://me.northeastern.edu).

Appropriate Use of Computer and Network Resources Policy

The information systems of Northeastern University are intended for the use of authorized members of the community in the conduct of their academic and administrative work. Northeastern's information systems consist of all networking; computing and telecommunications wiring; equipment; networks; security devices; passwords; servers; computer systems; computers; computer laboratory equipment; workstations; internet connection(s); cable television plant; university-owned mobile communications devices; and all other intermediary equipment, services, and facilities. These assets are the property of the university. This policy describes the terms and conditions of use for Northeastern information systems.

This policy applies to any and all users of these resources, both authorized and unauthorized.

The university's complete Policy on Appropriate Use of Computer and Network Resources is available through the University Policies site (https://policies.northeastern.edu/policy700/).

Attendance Verification

“I Am Here” Process

After course registration, students are required to verify their intent to enroll in College of Professional Studies class(es) through their Student Hub (https://me.northeastern.edu) account during the first week of each class start. This verification process is called “I Am Here.” Students who fail to complete this process on time will be dropped from their class(es), which may impact their financial aid or international student visa eligibility.

Students are responsible for ensuring completion of the “I Am Here” process, which requires that they do not log out of the system early. Students who do not receive a “Successful Completion” message have not reached the end of the procedure and must start again. Sometimes it may take 24 hours before students can restart the procedure.

A student who registers for a course and completes the “I Am Here” process but does not officially drop the course by the deadline, regardless of their level of participation or attendance/nonattendance, is responsible for paying 100% of the tuition charges and applicable fees and the final earned grade. A student in this situation may earn an F grade that will be part of their permanent academic record.

Students who experience difficulty with the process or have questions should email (registrar@northeastern.edu) the Office of the University Registrar.

Completing Program Requirements

Undergraduate Degree Programs

To earn an undergraduate degree at the College of Professional Studies, students must complete all courses as prescribed in the curriculum, the required number of credits as per the curriculum, and maintain a minimum cumulative grade-point average of 2.000 or as outlined by the specific program.

Undergraduate Certificate Programs

To earn an undergraduate certificate at the College of Professional Studies, students must complete all courses as prescribed in the curriculum, the required number of credits as per the curriculum, and maintain a minimum cumulative GPA of 2.000 or as outlined by the specific program.

Time Limit on Program Completion

Although there is no set limit for an undergraduate student to complete their certificate or degree, there is a limit to how long a course may be used toward program completion. Science and technology courses expire after seven years unless an extension is approved by the program director.

At the time of reentry or readmission for an undergraduate student, the science or technology courses that were completed seven or more years ago cannot be used to satisfy the science or technology requirement for the degree. The student has to retake the course or take a different course in the subject area to satisfy degree requirements.

Note: The College of Professional Studies makes adjustments to its academic program offerings and curricula to stay current and to be able to offer students the most relevant courses and knowledge in the field. Examples of such changes include adding new programs, adding/adjusting course requirements, adding/adjusting courses, and adding/adjusting curriculum requirements.

When there is a change to a curriculum or program requirement, students already matriculated and actively enrolled in the program may continue to follow the program requirements at the time of matriculation or to follow the new curriculum/program requirements, unless it is otherwise specified by the academic program at the time of the announcement of said changes.

Students who leave the College of Professional Studies and then return at a later date will be required to follow the most current curriculum for their program of study. If the program into which the student is seeking readmission or reentry is no longer offered, the student may apply to another program and must meet the admissions requirements for that program.

Cooperative Education

Website (http://www.northeastern.edu/coop/)

Cooperative education is the cornerstone of Northeastern University's experiential learning approach, in which on-campus study is enhanced by real-world experience through full-time employment at locations all over the world. Through co-op, students alternate periods of academic courses with periods of employment in positions related to their academic or career interests. This combination provides an integrated learning experience that enhances both in-class studies and career development.

General Requirements

- Be a full-time student to participate in co-op.
- Complete all pre–co-op requirements as established by the college of the student.
- Make satisfactory progress toward degree completion, including grade-point average requirements, as defined by the university, the colleges, and the major program curricula.
- Have accurate information about the co-op placement in the university's official co-op placement system, including specific start and end dates and meeting the minimum hour and day requirements.
- Not participate in co-op in the final term unless it is specified in the curriculum requirements of the program in the catalog.
- Resolve any previous disciplinary or academic probation issues, or have the cooperative education coordinator approve a plan to resolve these issues prior to applying for co-op jobs.
- Have any self-developed co-op approved by the cooperative education coordinator before accepting the position.
- Comply with any preemployment checks required by the employer, such as drug testing, credit checks, physical examinations, security clearance, and criminal record checks.
- Participate in Title IX training, as required.
- Complete any additional requirements (https://careers.northeastern.edu/students/student-co-op/global-co-op/) if participating in a global co-op.
- Work with the cooperative education coordinator if an Unsatisfactory (U) grade has been received for a past co-op to reestablish eligibility in accordance with the policies and requirements of the college.

TRANSFER AND INTERNATIONAL STUDENTS

- Transfer students from other universities must have met the same requirements in their major's co-op program as nontransfers and must have completed at least one semester of classes before starting co-op.
- International students must attend one academic year, or its equivalent, and obtain proper authorization from the Office of Global Services before engaging in co-op.

Academic Requirements

1. **Be full-time while on co-op. Full-time status for co-op is defined as either:**
   a. One full-time co-op job; 32–40 hours per week
   b. Two simultaneous half-time co-op jobs; 16–31.99 hours each
   c. One half-time co-op job; 16–31.99 hours with graduate students taking 3 or more academic credits or undergraduate students taking 6 or more academic credits
      i. Undergraduate students on co-op in a Summer 1 or Summer 2 term may be registered for one half-time co-op without acquiring a second job or taking an accompanying class.
2. **Meet the minimum length requirements for an academic term:**
   a. Semester full-term: minimum of 11 weeks or 55 workdays
   b. Quarter full-term: minimum of 9 weeks or 45 workdays
   c. Summer 1 or Summer 2 term: minimum of 5 weeks or 25 workdays
3. **Receive a grade of Satisfactory or Unsatisfactory for the co-op experience.**

Registration for Co-op

Students are registered for co-op based on a completed co-op record that meets the minimum hour and day requirements with accurate start and end dates in the university's official co-op database system. Students must be registered for the co-op work experience course by the end of the add period, or alternately registered for classes if still searching for a job by this deadline. All co-op positions need to be approved by the university and entered as completed records in the official co-op database system by the last day to drop without a W for the respective semester.

Co-op Financial Planning

- No tuition is charged while a student is on co-op only (students will pay room and board if they stay in university housing).
- If a student takes a credit-bearing class while on co-op, tuition will be charged at the per-credit rate.
- Students who wish to register for more than 4 credits while on full-time co-op must complete the Petition Registration form (https://registrar.northeastern.edu/wp-content/uploads/sites/9/form-pet-reg-14.pdf).
- Financial aid will be distributed to match the student's tuition bill and other allowable expenses.

- Students on co-op are required to maintain the same health insurance coverage (either through a private provider or through the university program) as they would while attending classes.

Further Information

For more detailed information about co-op policies and procedures, see the *Cooperative Education Student Handbook* on the Cooperative Education website (https://www.northeastern.edu/coop/).

Degrees, Majors, and Minors

Declaring an Undergraduate Major

A bachelor's degree student who was undeclared at the time of admission must declare their major before they earn a maximum of 75 credits inclusive of awarded transfer credits and credits earned at the College of Professional Studies. Failure to declare a major may result in a block on the student's record, preventing future course enrollment.

To declare an undergraduate major, a student must consult with their academic advisor before completing the appropriate form. The student is responsible for meeting all admission requirements for the intended program.

Previous transfer credit awards are subject to change as a result of a major declaration. Students on financial aid are responsible for understanding the impact that results from a major declaration.

Changing a Major/Program of Study

An undergraduate student matriculated in a certificate/degree program (with a declared major/program) may choose to enroll in a different undergraduate major/program, after consulting with their academic advisor. The student then completes the appropriate form and is responsible for meeting all admission requirements for the intended major/program.

Previous transfer credit awards are subject to change as a result of a major/program change. Students on financial aid or an international student visa are responsible for understanding the impact that results from a major change.

Declaring an Undergraduate Minor

Bachelor's degree students may add up to two minors to their programs of study.

An undergraduate minor requires a minimum of 15 but no more than 18 credit hours of undergraduate-level coursework, as specified by the individual minor program. A student may choose from among the undergraduate minor programs offered by the College of Professional Studies. The completed undergraduate minor appears on the student's official record.

The following rules apply:

- A bachelor's degree student may declare their intent to pursue a minor at the time of application for admission or after acceptance as an enrolled student, up until the beginning of their last term of enrollment. It is strongly encouraged that a student who wishes to pursue an undergraduate minor begins planning early and consults with their academic advisor.
- The program of study for their major and minor cannot be the same where the courses for the minor are a subset of required courses in the major, e.g., a Bachelor of Science student with a biology major cannot enroll in the biology minor; a Bachelor of Science student with a management major cannot enroll in the business minor.
- Courses used to fulfill requirements for the minor may be used to satisfy open electives of a major.
- A student must fulfill all requirements for the minor and major concurrently and may not extend their program of study to complete a minor.
- A student must adhere to the curriculum of the undergraduate minor(s) for which they have been approved. If a student wishes to request a course substitution to fulfill a requirement of an undergraduate minor, they must seek prior approval through their academic advisor. Deviation from the minor requirements without prior approval will result in nullifying the minor on a student's record.
- A student may apply up to 6 semester hours of transfer credits toward an undergraduate minor.
- A student in the Bachelor of Science in Interdisciplinary Studies program may choose to complete courses specified for a minor as part of their major elective requirements.

Full-Time Status

A student is considered a full-time undergraduate student if they are enrolled in a minimum of 12 semester hours of undergraduate credit for the semester.

Note that full-time status may be defined differently for federal loan purposes. International students have other considerations/requirements to maintain their visa eligibility.

Course Load

Federal financial aid recipients must be enrolled in and successfully complete a minimum number of credits each semester to maintain eligibility. For more information, contact your financial aid counselor.

Students who are not studying in F-1 or J-1 status and who are eligible to study in the United States may be enrolled part-time or full-time. Applicants in B-1/B-2 status cannot enroll part-time or full-time; however, they may choose to apply for a change to a status in the United States and may enroll only upon approval by the U.S. Citizenship and Immigration Services.

Course Overload

A maximum course load (not full-time status) for an undergraduate student is 18 semester hours taken across a 15-week semester, with no more than 9 semester hours per half-semester session.

To be eligible for a course overload (more than 18 semester hours per 15-week semester or more than 9 semester hours per half-semester session), an undergraduate student must:

- Have a record of successful study at Northeastern University—transfer students must wait at least one term to request an overload
- Have a minimum cumulative grade-point average of 3.000
- Provide a rationale to support the request

A student needs to complete the appropriate form and return it to their academic advisor. If approved, the student is required to pay the normal tuition charges for all attempted courses. They are responsible for informing their financial aid counselor, if applicable, and for making the necessary arrangements to manage the increased workload. Should an approved course overload impact an international student's degree completion date and their visa end date, the student is responsible for communicating with the Office of Global Services (https://international.northeastern.edu/ogs/) and obtaining the necessary approvals within the required timelines.

Global Partnership Programs

Students enrolled in a College of Professional Studies' global partnership or a dual-degree program are required to abide by the policies and procedures of both institutions or as specified in their program.

Dual-degree candidates must apply to graduate at each institution by following each institution's policies and procedures.

Graduation Requirements

Graduation Procedures

The following information is for degree-seeking students only. Certificate students should refer to the "Certificate" section below.

Only students who complete the graduation application process by specified deadlines will be considered for graduation and included in the graduation ceremony program. All qualified students must submit a graduation application in order to receive their diploma, regardless of whether they plan to attend the graduation ceremony.

Note important definitions: "Degree conferral date" and "graduation ceremony date" are not the same. Degree conferral date refers to the date of the university's official recognition of degree completion. For the purposes of the graduation application that is accessed via the Student Hub (https://me.northeastern.edu), the "Expected Graduation Date" is the same as the degree conferral date. Northeastern University confers degrees three times each academic year: at the end of the fall, spring, and summer terms. The graduation ceremony date is the date that the college hosts the annual graduation ceremony.

Each fall, the Office of the University Registrar sends an email notification to students who may be eligible to graduate that academic year about applying to graduate. Eligibility is based on the number of earned credits at the beginning of the fall term. This email notification informs and instructs students to complete the "Apply to Graduate" process, accessed via the Student Hub. (https://me.northeastern.edu) Students are prompted to verify and provide critical information, e.g., spelling of the student's name on the diploma, intent to participate in the graduation ceremony, and mailing address.

An accurate EGD is required to gain access to the graduation application. The EGD is also used by clearinghouses to determine loan deferment schedules. A student who needs to update their EGD should contact their academic advisor.

Diploma

Information that will be printed on diplomas includes:

- Degree.
- The major will be printed on diplomas for nonspecified degrees (Associate in Science, Bachelor of Science, Bachelor of Arts) only. Minors are not printed on any diplomas.
- Honors designation, for those who qualify.

Changes made to a student's name after the diploma has been printed may be subject to a $50 fee and take more than one month to reprint.

Changes made to a student's degree information and name submitted after the program deadline will not be noted in the graduation ceremony program.

Certificate

The College of Professional Studies confers undergraduate certificates at the same time degrees are conferred each year in fall, spring, and summer terms. Students must submit a completed Request to Declare Certificate Completion form (https://cps.northeastern.edu/current-students/academic-forms/) to their academic advisor in order to have their academic record audited to receive their certificate. Deadlines apply. Students should contact their academic advisor for more information.

Academic Transcripts

Currently enrolled students may obtain unofficial transcripts and also order official transcripts from the Student Hub (https://me.northeastern.edu/). For further information on transcript requests, visit the Office of the University Registrar website (https://registrar.northeastern.edu/article/transcript-requests/). All questions concerning transcript requests should be directed to 617.373.2300, TTY 617.373.5360.

Academic information noted on official academic transcripts include degree/certificate name; major; minor (if applicable); academic history, including transfer credits; and graduation honors designation (if applicable).

Readmission to Program

A new admission application is required of students whose studies were interrupted for more than three years.

Students are expected to meet the requirements of the program curriculum current at the time of the approved readmission term. If the program into which the student is seeking readmission is no longer offered, the student may apply to another program and must meet the admissions requirements for that program.

If readmitted, College of Professional Studies and transfer credits that a student was previously awarded will be reevaluated. The seven-year time limit on science and technology courses may have expired. It is at the discretion of the academic program to determine applicability of courses previously completed.

For students whose studies were voluntarily interrupted, once they have reapplied, their application should be vetted by the academic advising team and the appropriate lead faculty.

For students who were academically dismissed over three years ago, once they have reapplied, their application should be vetted by the associate dean of undergraduate academics and the appropriate lead faculty. If readmitted, the student needs to develop an academic plan and have monthly meetings with their advisor to monitor progress.

Reentry to Program

Application for reentry into any academic program is required of students whose studies are interrupted voluntarily for a period of one to three years. Students seeking reentry must fill out the Request for Reentry form (https://cps.northeastern.edu/academic-resources/academic-forms/).

Students who are dismissed must wait at least one academic term before applying for reinstatement.

Students are expected to meet the requirements of the program curriculum current at the time of the approved reentry term. In addition, College of Professional Studies and transfer courses will be reevaluated. The seven-year time limit on science and technology courses may expire. If a student does not enroll in the term in which they were approved for reentry, they must follow the curriculum requirements for the term in which they resume coursework. If a student waits for more than one year to resume their studies after being approved for reentry, they will have to apply for reentry again.

If the program into which the student is seeking reentry is no longer offered, the student may choose to enroll in another program if they meet the admissions requirements for that program.

Registration and Taking Courses

Course Registration

For course registration information, visit the College of Professional Studies website (http://www.cps.neu.edu/class-registration/registration-instructions.php).

Course registration procedures are as follows:

- Newly accepted and returning students add or drop courses through the Student Hub (https://me.northeastern.edu) any time during the registration period.
- Certificate- and degree-seeking students whose studies have been interrupted voluntarily for one to three years need to first apply for reentry through the Office of Academic Advising. Once a student is accepted for reentry, they will register via the Student Hub.
- Students who have been absent voluntarily for more than three years must apply for readmission.
- Students interested in taking undergraduate-level courses for personal professional enrichment may register using the Express Registration form (https://prod-web.neu.edu/wasapp/CPSCourseReg/?form=expressReg#_ga=2.266146767.1316488288.1617619412-1715269518.1613325628). Students who study under the PPE status:
  - Are responsible for satisfying course prerequisites and corequisites, if applicable, before enrolling in courses
  - May elect to apply to an undergraduate certificate or degree program by completing the online application process
  - Understand that up to 8 qualifying credits earned while on PPE status may be applied to the intended undergraduate certificate program and up to 16 credits may be applied to the intended undergraduate degree program

All students need to be mindful of the college's course add/drop policies and deadlines to register as early as possible with the intent to secure a spot in the preferred course and to avoid being charged in full for withdrawing after the deadline.

Auditing a Course

Undergraduate students are permitted to audit undergraduate courses, but they must complete the usual registration process and pay regular tuition fees. There is no reduction in fees for auditing.

An auditor may participate in class discussions, complete papers and projects, and take tests and examinations for informal evaluation. Regardless of the amount or quality of work completed, however, no academic credit will be granted for an audited course. In addition, an audited course may not be used in the determination of enrollment status for financial aid purposes and does not count toward program completion.

The student's decision to audit a course must be communicated in writing to the Office of the University Registrar before the fourth class meeting for full-semester courses. For half-semester courses, requests must be received by the second class meeting. No exception to this procedure may be approved without the authorization of the college's academic standing committee.

The student should inform the instructor of their status as auditor of the course.

S/U (Pass/Fail) System

An undergraduate student may elect to take courses on a satisfactory/unsatisfactory (commonly known as pass/fail) grading scale. The following rules apply:

- Undergraduate degree students may register for one open elective course per semester on a satisfactory/unsatisfactory (S/U) basis and may not take more than a total of four S/U courses at the College of Professional Studies.
- To be eligible for S/U status, the student must be in good academic standing and also must meet all prerequisites for the course.
- To be graded on an S/U basis, the student must file an S/U petition prior to the fourth class meeting for full-semester courses.
  - For half-semester courses, petitions must be received by the second class meeting
- The grades recorded on the basis of the S/U system will not figure in the computation of the grade-point average.
- An "incomplete" in a course taken on an S/U basis is designated by the letter X on the permanent record and must be treated according to the normal procedure for incomplete grades.

Course Selection and Planning

Students should refer to their degree audits for program curriculum information, to select courses, and to monitor their progress toward degree completion. Students should access their degree audits through the Student Hub or request an audit from their academic advisor.

Degree audits are unofficial records of academic progress. Students are encouraged to consult with their academic advisor about their academic planning.

Course Prerequisites

Course prerequisites are courses that are required to have been completed prior to enrolling in another course. Before registering for a course through the Student Hub, students, regardless of matriculation status, should consult the College of Professional Studies website (http://www.cps.neu.edu/degree-programs/prerequisites.php) to determine whether they have completed the course prerequisites.

Course prerequisites may be met by taking the prerequisite course(s) for undergraduate courses, by taking college-level or proficiency examinations for undergraduate courses, or by obtaining credit in specific academic disciplines for knowledge gained through prior learning experiences for undergraduate courses. Some courses have two parts. It generally is not possible to take part two before successfully completing part one.

Course Corequisites

Course corequisites are courses that are required to be taken concurrently; e.g., College Writing 1 (ENG 1105) and Lab for ENG 1105 (ENG 1106), which are part of the undergraduate written communication core requirement, must be taken at the same time. Before registering for a course through the Student Hub, students, regardless of matriculation status, should read the course description to determine what the corequisite is and register for both courses.

Repeating a Course

If a student wishes to improve their cumulative grade-point average by repeating a course, they may do so. A student may take the same course up to three times to earn a better grade. Only the grade earned in the last attempt is used to compute the GPA, while all grades remain part of the student's permanent academic record. A student is required to pay the normal tuition charges for all repeated courses.

Financial aid recipients must be mindful that repeating a course could impact their aid eligibility. As per financial aid regulations, students may repeat a course only once and be eligible for aid. Students with questions about this possible impact should contact their financial aid counselor.

Course Substitution and Course Waiver

In some cases, a student has taken a similar course for transfer credit, so the student may request a course substitution to satisfy degree requirements. The substituting course must be comparable in content and rigor. Students may request a maximum of four course substitutions for a College of Professional Studies undergraduate degree program.

A course substitution may be awarded to a student who has completed an equivalent course at an accredited institution other than CPS in the past seven years. The substitution will replace the required course, meeting the program requirement. A student must complete a Request for Course Substitution form and submit it to their academic advisor, who will work with the academic program for review and approval/denial.

A course waiver is used in more unusual circumstances, such as when the original course is no longer being offered by CPS. In these situations, the required course may be waived, and the student will complete another course, as approved by the program, to satisfy the number of credits required for the program. Students requesting a course waiver must meet with their academic advisor to ensure a waiver is appropriate and to make the request.

Directed Study

Directed studies are offered when a course is required for a student's program of study but said course is not available in a given academic term and there is immediacy for a student to complete said course. Academic deans/directors will make the decision if there is a compelling need to run a course as a directed study.

Independent Study

Independent study is an opportunity for a degree student to work independently under the supervision of an instructor to undertake special research, literature review, or experimental study projects in areas related to their program of study that they cannot accomplish as part of a standard course in the curriculum. A degree student may take up to two independent studies. The work to be done for an independent study is usually crafted by the student, with faculty input. Independent studies are entirely optional and not needed to graduate. A completed Request for Independent Study form (https://cps.northeastern.edu/current-students/academic-forms/), signed by both the student and the faculty member, must be submitted to the academic program for review and approval.

Course Add/Drop Policy

Refer to the academic calendar (http://www.northeastern.edu/registrar/calendars.html) for specific dates. Students should consult with their academic advisor before adding or dropping classes.

Students may add a half-semester course within the first week of the course. For full-semester courses, students may add a course within the first two weeks of the course. Students who add a class during the add/drop period are responsible for all assignments missed prior to enrolling. Enrolled students are responsible to attend classes during the add/drop period, and any absences will be held accountable to the instructor's attendance policy.

Students who drop a course before the deadline will not be charged for the course and will not have a W (withdrawal) on their transcript. Thereafter, students are responsible for 100% of the tuition charges and applicable fees, and the earned grade will be on their permanent academic record. All such dates are specified in the academic calendar (http://www.northeastern.edu/registrar/calendars.html).

Students must add/drop courses using the Student Hub.

Students who experience difficulty adding, dropping, or withdrawing from a course should promptly email (registrar@northeastern.edu) the Office of the University Registrar. If it is determined that there is an issue with Student Hub access, they need to contact the Service Desk at the following:

617.373.4357 (HELP)
help@northeastern.edu
Website (http://www.northeastern.edu/its/audience/students/)

Students with holds (e.g., financial, judicial) may have restricted access to add, drop, or withdraw from a course. In such instances, students are responsible for resolving the hold immediately and to meet the established course registration deadlines.

A reduction in a student's course load could affect a student's international student visa status or financial aid eligibility.

Course Withdrawal Policy

Reference the academic calendar for specific dates by which students may withdraw from a course.

Students who withdraw from a course after the add/drop deadline and before the last day to withdraw will receive a W grade and will be responsible for 100% of the tuition charges and applicable fees. The W grade does not affect the calculation of the cumulative grade-point average but it does impact a student's academic progression, which may result in the student being placed on academic probation or dismissal.

Students must withdraw from courses using the Student Hub.

Students who experience difficulty withdrawing from a course should promptly email (registrar@northeastern.edu) the Office of the University Registrar. If it is determined that there is an issue with the student's Student Hub access, they need to contact the Service Desk at the following:

617.373.4357 (HELP)
help@northeastern.edu
Website (http://www.northeastern.edu/its/audience/students/)

Students with holds (e.g., financial, judicial) may have restricted access to add, drop, or withdraw from a course. In such instances, students are responsible for resolving the hold immediately and to meet the established course registration deadlines.

A reduction in a student's course load could affect a student's international student visa status or financial aid eligibility.

Students who fail to withdraw from a course by the deadline, regardless of their level of class participation or attendance, are financially and academically responsible. A student's lack of participation/attendance will likely result in a final grade of F.

All students are encouraged to consult with their academic advisor prior to withdrawing from a course. Withdrawals may impact a student's time to degree completion.

Reinstatement after Academic Dismissal

A student who is academically dismissed from the College of Professional Studies is not eligible to register again for courses at the college until they are approved for reinstatement. A student may apply for reinstatement after a minimum of one academic term if they can provide documented evidence supporting the application (e.g., completed two courses with a grade of B or higher at another accredited college or relevant professional development opportunities during the minimum one-term absence). The application must be made in writing by submitting the appropriate form and providing supporting documentation to the Office of Academic Advising (https://cps.northeastern.edu/academic-resources/advising/).

If reinstatement to the college is approved, a student is expected to meet the most current requirements for program admissions and curriculum.

A student approved for reinstatement but who does not meet the admissions requirements for the intended program of study, or if the intended program of study is no longer available, may apply to another program.

Seeking More Than One Certificate or Degree

An undergraduate student can be enrolled in only one undergraduate program at a time.

Undergraduate students seeking more than one certificate or degree after having completed a program should note that undergraduate credits earned toward:

1. A certificate earned at the College of Professional Studies may be used to satisfy the requirements of a bachelor's degree, if the contents are determined to be applicable per the program director.
2. A certificate earned at the College of Professional Studies may be used to satisfy the requirements of a second certificate with a cap of 6 credits, if the contents are determined to be applicable per the program director.
3. A bachelor's degree earned at the College of Professional Studies may be used to satisfy the requirements of a second bachelor's degree with a cap of 50% of the requirements for the second degree, if the contents are determined to be applicable per the program director.

Student Evaluation of Courses

Students play a critical role in the university's commitment to quality teaching and academic excellence when they participate in the evaluation of courses, an online survey students complete anonymously. Students are expected to participate in the course evaluation process with constructive feedback that is relevant to teaching and course content.

Students may access the course evaluation summary results from previous terms via the Student Hub (https://me.northeastern.edu). Courses with three or fewer students enrolled are not surveyed.

University Academics

- NUpath (p. 86)

NUpath

Learning, Knowing, Doing, Leading

NUpath is Northeastern University's set of institutionwide general education requirements for all students in all majors. The goal of NUpath is to develop in our students the knowledge and skills to be lifelong learners with success in many careers, to be thoughtful global citizens, and to be fulfilled human beings. It offers students the flexibility to integrate general education learning into their individual educational journeys while maintaining the rigor of high standards through defined learning outcomes, making NUpath a unique tool for personalized enrichment. NUpath is competency based rather than course based. It is built around essential, broad-based knowledge and skills—such as understanding societies and analyzing and using data—integrated with specific content areas and disciplines.

NUpath requirements are met throughout a student's program of study and can be fulfilled through major, minor, or concentration requirements as well as through general electives. NUpath courses may not be taken pass/fail. NUpath is required for all freshmen who entered in fall 2016 and later. It does not apply to students already admitted with a different set of core requirements or to transfer students whose entry year was earlier than the fall of 2016.

- Requirements (p. 87)
- Learning Goals (p. 89)
- Writing-Intensive Courses (p. 92)

NUpath Requirements

NUpath requirements are a set of 10 competencies designed to prepare students for personal success in an ever-evolving global society regardless of their chosen field of study. NUpath requirements are as follows:

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning
- Writing Across Audiences and Genres
- Demonstrating Thought and Action in a Capstone

Because NUpath is competency based rather than course based, students have many options of courses to fulfill the requirements. Students can use the Self-Service Banner (https://nubanner.neu.edu/StudentRegistrationSsb/ssb/registration/registration/)"Browse Classes" tool to find class sections both in and beyond their major requirements that satisfy NUpath. Courses that meet major, minor, or concentration requirements can also meet NUpath requirements. There are no level restrictions or semester-hour restrictions. No course taken as pass/fail can be used to satisfy a NUpath requirement. A single course can count for up to two of the following requirements:

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning

The two additional requirements (writing-intensive in the major and capstone) are not limited. So, for example, a course may have two out of the first list (such as Differences and Diversity and Societies and Institutions) and *also* fulfill writing-intensive in the major and capstone.

Transfer credit and placement tests can also be used to meet the NUpath attributes of the Northeastern course equivalents. Up to five of the following eight requirements can be met by transferred or placement test credits:

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning

Transfer credits cannot be used to fulfill the capstone or experiential requirements. Of the writing requirements (p. 92), only the first-year writing requirement can be met by transferred or placement test credits.

NUpath Learning Goals

Established and assessed learning goals ensure rigorous opportunities for students to achieve the essential skills and competencies of NUpath regardless of the context or course within which the learning occurs. Any course that meets a NUpath requirement incorporates the learning goals of that requirement. The requirement short name and/or user code is what will appear in course descriptions and student audits.

Engaging with the Natural and Designed World

SHORT NAME: NATURAL AND DESIGNED WORLD
USER CODE: ND
Students study and practice scientific investigation and/or engineering design in order to understand the natural world and to effect changes in it to meet human and societal needs and wants. They learn critical thinking and analytical problem solving; the biological, chemical, and/or physical principles that govern the natural world; and the efforts that underlie the origins, development, acceptance, and applications of those principles.

LEARNING GOALS
By the end of the course, students should be able to:

A. Formulate a question that can be answered through investigation or a challenge that can be addressed through research or design.

B. Develop and use models based on evidence to predict and show relationships among variables between systems or components of systems in the natural and/or designed world.

C. Use and question scientific principles and practices to evaluate issues raised by the interplay of science, technology, and society.

Exploring Creative Expression and Innovation

SHORT NAME: CREATIVE EXPRESSION/INNOVATION
USER CODE: EI
Students study and practice creative expression and innovation. They learn about traditions of creative expression and innovation in any of a number of modes (texts, image, sounds, design, etc.) and products (poems, paintings, prototypes, business plans, games, apps, medical devices and procedures, etc.) and develop their own creative processes and products as a means of seeing and experiencing the world in new ways and communicating those experiences to others.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe creative processes in one or more disciplines (e.g. art, business, writing, science, engineering).

B. Generate an artifact (e.g., design, poem/essay, application, visualization, musical composition, product, prototype) through a creative process.

C. Evaluate experimentation, failure, and revision in the creation of innovative projects.

Interpreting Culture

SHORT NAME: INTERPRETING CULTURE
USER CODE: IC
Students study and analyze cultural practices, artifacts, and texts (e.g., visual art, literature, theatrical performances, musical compositions, architectural structures). They learn critical reading and observation strategies and how traditions of theoretical, aesthetic, and/or literary criticism provide different lenses for the interpretation of cultural objects and practices.

LEARNING GOALS
By the end of the course, students should be able to:

A. Recognize and identify a variety of cultural practices and creations, their forms of production, and development over time.

B. Acquire and assess techniques of interpretation (including critical reading and observation techniques), criticism, and analysis of cultural practices, texts, and/or artifacts.

C. Formulate arguments for and against different theories and interpretations of cultural practices, texts, and/or artifacts.

Conducting Formal and Quantitative Reasoning

SHORT NAME: FORMAL/QUANTITATIVE REASONING
USER CODE: FQ
Students study and practice systematic formal reasoning using either the symbolic languages of mathematics and logic or the combinations of text and symbols characteristic of computer software. They learn when and how to apply formal reasoning to particular problems and subject matters.

LEARNING GOALS
By the end of the course, students should be able to:

A. Recognize when examination of a phenomenon or situation can benefit from problem-solving techniques and analyses that use formal reasoning.

B. Use their expertise in some applications of formal reasoning and know when to call upon domain experts when a problem is beyond their personal expertise.

C. Generate artifacts that require formal reasoning and planning. These artifacts might include logical proofs, mathematical computations, software, simulations, problem solutions, or plans/analyses in a variety of disciplines that require a formal, systematic component.

Understanding Societies and Institutions

SHORT NAME: SOCIETIES AND INSTITUTIONS
USER CODE: SI
Students study and practice social science, historical, and/or literary methods of inquiry and theories in order to understand human behavior and cultural, social, political, and economic institutions, systems, and processes. They learn theories of social behavior as they relate to phenomena such as globalization, social change, and civic sustainability.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe current theories of how social, political, or economic institutions, systems, and processes work.

B. Explain the historical and cultural contingency of many descriptions and explanations of human behavior, institutions, systems, and processes.

C. Evaluate social, political, or economic theories by applying them to local and global phenomena.

Analyzing and Using Data

SHORT NAME: ANALYZING AND USING DATA
USER CODE: AD
Students study and practice methods and tools of data analysis and use. Students learn about the structure and analysis of at least one type of data (e.g., numbers, texts, documents, web data, images, videos, sounds, maps) and acquire the skills to examine, evaluate, and critique such data; extract patterns; summarize features; create visualizations; and provide insight not obvious from the raw data itself. Students also learn to be sensitive to ethical concerns associated with data: security, privacy, confidentiality, and fairness.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe how data may be acquired, stored, transmitted, and processed.

B. Analyze at least one important type of data and summarize the results of an analysis in ways that provide insight.

C. Use mathematical methods and/or computational tools to perform analysis.

D. Evaluate and critique choices made in selection, analysis, and presentation of data.

Engaging Differences and Diversity

SHORT NAME: DIFFERENCES AND DIVERSITY
USER CODE: DD
Students study and practice methods for recognizing and understanding human diversity of various kinds in global, local, and organizational contexts. They learn theories and perspectives of human difference; civic sustainability and multiculturalism; how social arrangements shape and are shaped by difference; and the histories, cultures, and interactions of diverse groups.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe how notions of human difference have changed over time and across local and global contexts.

B. Discuss the value in recognizing, respecting, and embracing human diversity and how diversity contributes to culture and society, including civic sustainability.

C. Evaluate and compare two or more theories of human difference and approaches to cultivating and leveraging diversity.

D. Connect theories of human difference and approaches to diversity to one's own experience

Employing Ethical Reasoning

SHORT NAME: ETHICAL REASONING
USER CODE: ER
Students study and practice methods of analyzing and evaluating the moral dimensions of situations and conduct. They learn ethical theories and frameworks; explore how conceptions of morals and ethics shape interpretation of concepts such as justice, fairness, rights and responsibilities, virtue, and the good life; and apply these to personal, professional, social, political, historical, or economic questions and situations.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe the moral and ethical elements of an issue, problem, or situation.

B. Explain at least two key ethical theories.

C. Apply ethical theories to moral dilemmas and personal positions.

Writing Across Audiences and Genres

SHORT NAME: WRITING ACROSS AUDIENCES/GENRES
USER CODE: WF/WD/WI
Note: **This requirement is met by four courses. See more details under** Writing-Intensive Courses (p. 92)**.**

Students study and practice writing for multiple public, academic, and professional audiences and contexts. They learn to use writing strategies, conventions, genres, technologies, and modalities (e.g., text, sounds, image, video) to communicate effectively.

LEARNING GOALS FOR FIRST-YEAR WRITING
A. Adapt writing for multiple academic, professional, and public occasions and audiences.

B. Identify and practice writing conventions of various genres.

C. Identify credible, relevant sources and engage and cite them appropriately in their written work.

D. Draft, revise, and edit their writing using feedback from readers.

LEARNING GOALS FOR ADVANCED WRITING IN THE DISCIPLINES
A. Adapt writing for multiple academic, professional, and public occasions and audiences.

B. Display familiarity with the writing conventions of genres in an academic field or profession.

C. Identify credible, relevant sources and engage and cite them appropriately in their written work.

D. Draft, revise, and edit their writing using feedback from readers.

LEARNING GOALS FOR WRITING-INTENSIVE COURSES IN THE MAJOR
A. Demonstrate facility with the writing conventions of genres in the academic field or profession.

B. Identify credible, relevant sources and engage and cite them appropriately in their writing work.

C. Draft, revise, and edit their writing using feedback from readers.

Demonstrating Thought and Action in a Capstone

SHORT NAME: CAPSTONE EXPERIENCE
USER CODE: CE
Each student must take at least one course designated as a capstone experience. Capstone courses may be designed for a specific degree program, for a department, or for a college. The learning goals for a capstone will be developed by the unit that is designing the capstone. Students must complete a capstone in their major. In cases where a student has multiple majors (such as in a combined or double major), the units may specify in which major to take the capstone or may leave the choice to the student.

Writing-Intensive Courses

The faculty expects all students to become effective writers and achieve the learning goals of the Writing Across Audiences and Genres NUpath attributes. To this end, students are given opportunities to improve their writing throughout their curriculum. Learn more about the Online Writing Labs here (https://cps.northeastern.edu/academics/online-writing-center/).

First-Year Writing Requirement

All first-year students must satisfy a first-year writing requirement by completing the following courses:

Code	Title	Hours
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4

Students must earn a C or better in the required writing course to satisfy the first-year writing requirement.

Advanced Writing Requirement

Students must satisfy the advanced writing requirement by completing one of the following courses. Transfer credit cannot be used to satisfy this requirement. Students must earn a C or better to satisfy the advanced writing requirement:

Code	Title	Hours
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4

Writing-Intensive Courses in the Major

Each major includes at least two additional writing-intensive courses. These courses are characterized by frequent and regular writing, assessment, and revision of student work and the opportunity for students to improve their work.

Global Pathways Program

Global Pathways is designed for academically qualified international students who need additional preparation to achieve the required English-language skill level to enter a CPS (https://international.northeastern.edu/global-pathways/programs/)graduate program or select graduate programs (https://international.northeastern.edu/global-pathways/programs/) offered by other Northeastern University colleges. The duration of the program (one or two terms) for each individual student depends on English-language proficiency. Global Pathways helps international students to strengthen their academics, transition to American culture and an American classroom, and improve their English skills. After successful completion of Global Pathways and its degree progression requirements listed under each of the program pages (https://international.northeastern.edu/global-pathways/programs/), participating international students can transfer up to 4 credits toward their master's degree in the area of their interest.

CPS Graduate Programs Entrance Requirements

- Academic record equivalent to a grade-point average of at least 2.500
- Minimum iBT score requirements:
  - Two terms = 61
  - One term = 74

Other Graduate Programs Entrance Requirements

To enter this Global Pathways program, you must meet each of the College of Professional Studies' established admissions requirements listed under each of the college/program pages (https://international.northeastern.edu/global-pathways/programs/). Please note, most colleges offer one- and two-term Global Pathways, and your English-language score will determine the length of your Global Pathways studies.

Program Benefits

- Select from multiple entry points throughout the term
- Complete the program in one or two terms depending on qualifications
- Benefit from academic advising, transferable credit, tutoring, and student support services and extracurricular activities
- Enjoy access to all university facilities
- Choose from a wide range of graduate degree programs
- Be guaranteed entry to a Northeastern University graduate degree program upon successful completion of Global Pathways and its degree progression requirements listed under each of the program pages (https://international.northeastern.edu/global-pathways/programs/)

Visit the Global Pathways website (https://international.northeastern.edu/global-pathways/) for more information about the programs, admissions process, and curriculum.

Bachelor of Science Degree Programs

Business and Social Sciences Programs

- Finance and Accounting Management (p. 95)
- Interdisciplinary Studies (p. 99)
- Management (p. 102)

Finance and Accounting Management, BS

The Bachelor of Science in Finance and Accounting Management degree program offers students an opportunity to obtain a broad understanding of the role that business plays in the world economy along with a strong focus on accounting and financial management. Students also take courses in the major areas of business so that, as they move into managerial positions, they have the understanding and skills to work across functional areas.

Students take courses such as financial reporting, managerial accounting, intermediate accounting, and cost accounting, as well as tax and audit. They also complete courses in the key areas in finance: corporate and managerial finance, working capital management, and investments.

Graduates may pursue careers in the private, nonprofit, and government sectors. They work in the cost accounting and budgeting areas, in short-term or long-term asset management, and in financial planning and security analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

54 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Introductory Course Work		
MGT 1100	Introduction to Business	3
MGT 2310	Organizational Behavior	3
Mathematics		
MTH 1100	College Algebra	3
MTH 2300	Business Statistics	3
Economics and Marketing		
ECN 1100	Principles of Microeconomics	3
ECN 1200	Principles of Macroeconomics	3
MKT 2100	Principles of Marketing	3
Ethics and Law		
MGT 2330	Business Law	3
PHL 2100	Business Ethics	3
Accounting and Finance		
ACC 2100	Financial Accounting	3
ACC 2200	Managerial Accounting	3
FIN 2105	Introduction to Corporate Finance	3
Information Management and Technology		
ITC 1000	Computer Applications	3
or ITC 2016	End-User Data Analysis Tools	

MGT 2210	Information within the Enterprise	3
or ITC 2430	E-Commerce Systems	

Major Courses

31 semester hours required

Code	Title	Hours
Accounting and Analysis		
ACC 2300	Cost Accounting	3
ACC 3201	Financial Reporting and Analysis 1	3
ACC 3202	Financial Reporting and Analysis 2	3
ACC 3330	Principles of Auditing	3
ACC 3410	Principles of Taxation	3
ACC 4320	Financial Statement Analysis	3
Finance		
FIN 3310	Financial Institutions and Markets	3
FIN 3330	Risk Management and Insurance	3
FIN 3340	Investments	3
Capstone		
MGT 4850	Business Strategy	4

Elective Courses / Optional Concentration

Complete one of the following options to reach 120 semester hours.

MAJOR ELECTIVES

Complete 9 semester hours from the following and an additional 26 general elective semester hours to reach 120 semester hours.

Code	Title	Hours
Complete 9 semester hours from the following:		9
ACC, FIN (4000 level)		

ENTREPRENEURSHIP CONCENTRATION

Note: Please consult with your advisor.

Complete the 15 semester hours listed below and an additional 20 general elective semester hours to reach 120 semester hours. Courses from the major may not double count in the concentration.

Code	Title	Hours
Required Courses		
Complete the following four courses:		
FIN 3100	Finance for New Ventures	3
MGT 2550	Sustainable Entrepreneurship	3
MGT 4995	Experiential Management Practicum	3
MKT 2700	Product Design and Development	3
Elective Courses		
Complete one of the following elective courses:		3
LDR 3200	Leading and Managing Change	
MGT 4230	New Venture Creation	
MKT 3010	Digital Marketing	

Recommended General Elective Courses

Given industry trends, students are encouraged to consider the follow general elective courses as they fulfill their elective requirements.

Code	Title	Hours
ALY 2010	Probability Theory and Introductory Statistics	
ALY 2100	Introduction to Programming for Data Analytics	
ITC 2000	Principles of Systems Analysis and Design	

ITC 2016	End-User Data Analysis Tools
ITC 2050	Designing the User Experience

NUPATH REQUIREMENTS SATISFIED

- Analyzing/Using Data (AD)
- Capstone Experience (CE)
- Engaging Difference/Diversity (DD)
- Ethical Reasoning (ER)
- Conducting Formal/Quantitative Reasoning (FQ)
- Society/Institutions (SI)
- Advanced Writing in the Disciplines (WD)
- Writing Intensive in the Discipline (WI)

NUpath requirements Creative Expression and Innovation (EI), Interpreting Culture (IC) and Engaging with Natural and Designed World (ND) are not explicitly satisfied by required courses in the curriculum at this time. Students are responsible for satisfying these requirements, and if these are not fulfilled in required major courses, they should use general electives to do so.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
MGT 1100	3
ACC 2100	3
ECN 1100	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
MTH 2300	3
ECN 1200	3
ACC 2200	3
ITC 1000 or 2016	3
	16

Term 3	Hours
ACC 2300	3
FIN 2105	3
MGT 2330	3
MGT 2310	3
Open elective	3
	15

Term 4	Hours
MKT 2100	3
PHL 2100	3
Open elective	3
Open elective	3
Open elective	3
	15

Term 5	Hours
ACC 3201	3
FIN 3310	3
FIN 3330	3
ITC 2430 or MGT 2210	3

Open elective	3
	15

Term 6	**Hours**
ENG 3107 and ENG 3108	4
FIN 3340	3
ACC 3202	3
ACC 3410	3
Open elective	3
	16

Term 7	**Hours**
Major elective	3
Major elective	3
Major elective	3
Open elective	3
Open elective	3
	15

Term 8	**Hours**
ACC 3330	3
ACC 4320	3
MGT 4850	4
Open elective	2
	12

Total Hours: 120

Interdisciplinary Studies, BS

The Bachelor of Science in Interdisciplinary Studies allows students to design a social science-, science-, and humanities-based program of study that reflects their academic passions and strengths. Students have the unique opportunity to choose an area of academic specialization while engaging with the diverse array of disciplines—such as history, music, philosophy, literature, math, science, and psychology—that constitute a liberal studies education, while fostering practical skills essential to the workplace and graduate education—critical thinking, analysis of large bodies of information, problem solving, and effective written communication.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

The NUpath requirement Creative Expression/Innovation (EI) is not explicitly satisfied by required courses in the curriculum at this time. Students are responsible for satisfying this requirement, and if this is not fulfilled in required major courses, they should use general electives to do so.

No more than 27 total credits of business courses (ACC, FIN, MGT, MKT) are permitted for the degree.

Foundation Courses

30 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Mathematics		
MTH 1100	College Algebra	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Information Technology		
ITC 1000	Computer Applications	3
Behavioral and Cognitive Sciences		
PSY 1100	Foundations of Psychology	3
Philosophy		
PHL 2100	Business Ethics	3
or PHL 2120	Ethical Issues in Communication	
or PHL 2130	Ethical Issues in Healthcare	
or PHL 2140	Ethical Issues in Science and Engineering	
Social Sciences		
CMN 1100	Organizational Communication	3

Core Courses

18 semester hours required

Code	Title	Hours
LDR 1200	Assessing Your Leadership Capacity	3
LDR 3200	Leading and Managing Change	3
HSV 2240	Human Behavior in the Social Environment	3
PJM 1100	Project Management Fundamentals - Project Initiation and Close	3
ENG 3260	Writing to Inform and Persuade	3
CMN 2310	Professional Speaking	3

Major Required Courses

33 semester hours required

Code	Title	Hours
Interdisciplinary		
Self-designed interdisciplinary program created by the student with advisor and faculty, approved by associate dean.		30
Include two or three areas of study.		
Complete no more than four 1000-level classes.		
Capstone		
LST 4850	Capstone Project in Liberal Studies	3

Major Electives

18 semester hours required

Code	Title	Hours
Complete 18 semester hours of coursework at or above the 3000 level.		18

Open Electives

Complete a minimum of 21 semester hours to reach 120 semester hours.

Plan of Study

Interdisciplinary studies is a self-designed program. Students will work with their career and academic coach advisor and faculty in order to plan their course-taking schedule in the major and open elective requirement areas.

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
ITC 1000	3
CMN 1100	3
LDR 1200	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
PJM 1100	3
CMN 2310	3
LDR 3200	3
PHL 2100	3
	16

Term 3	Hours
ENG 3107 and ENG 3108	4
MTH 2310	3
HSV 2240	3
Major required course	3
	13

Term 4	Hours
ENG 3260	3
Major required course	3
Major required course	3
Major required course	3
Major required course	3
	15

Term 5	Hours
Major required course	3
Major required course	3
Major required course	3
Major required course	3
Open elective	3
	15

Term 6	Hours
Major required course	3
Major elective	3
Major elective	3
Major elective	3
Major elective	3
	15

Term 7	Hours
Major elective	3
Open elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Term 8	Hours
LST 4850	3
Major elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Total Hours: 120

Management, BS

The Bachelor of Science in Management program is designed to equip students to dive into the world of business with real-world, experiential opportunities to develop the skills they will need to manage resources, solve problems, and oversee staff on a daily basis. The program provides the opportunity for students to acquire the tools needed to respond effectively to complex business challenges, including accounting, business strategy, law, marketing, communications, project management, international business, and entrepreneurship. The coursework is flexible, and students can adjust their academic program to meet the demands of their schedules. From the fundamental principles of management to the critical questions of diversity, corporate responsibility, and the impacts of globalization, this program provides both the theoretical background and the practical proficiency needed to succeed.

The program also provides students with an opportunity to focus on the industry or skill set that most interests them by selecting electives offered in a variety of business disciplines or by choosing among the program's optional concentrations. Graduates of this program work as management analysts, human resource budget analysts, cost estimators, market and survey researchers, operations research analysts, and more.

This bachelor's degree completion program is online and is accredited by the Association to Advance Collegiate Schools of Business (AACSB (https://www.aacsb.edu/accreditation/)).

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

54 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Introductory Coursework		
MGT 1100	Introduction to Business	3
MGT 2310	Organizational Behavior	3
Mathematics		
MTH 1100	College Algebra	3
MTH 2300	Business Statistics	3
Economics and Marketing		
ECN 1100	Principles of Microeconomics	3
ECN 1200	Principles of Macroeconomics	3
MKT 2100	Principles of Marketing	3
Information Management and Technology		
ITC 1000	Computer Applications	3
or ITC 2016	End-User Data Analysis Tools	
MGT 2210	Information within the Enterprise	3
or ITC 2430	E-Commerce Systems	
Ethics and Law		

MGT 2330	Business Law	3
PHL 2100	Business Ethics	3
Accounting and Finance		
ACC 2100	Financial Accounting	3
ACC 2200	Managerial Accounting	3
FIN 2105	Introduction to Corporate Finance	3

Major Required Courses

25 semester hours required

Code	Title	Hours
Introductory Course		
MGT 2100	Principles of Management	3
Supply Chain Management		
MGT 2220	Supply Chain Management	3
International Business		
MGT 3220	International Business	3
Project and Talent Management		
HRM 2320	Human Resources Management	3
MGT 4210	Project Management	3
Change Management		
MGT 4220	Innovation and Change Management	3
MGT 4230	New Venture Creation	3
Capstone		
MGT 4850	Business Strategy	4

Professional Electives/Optional Concentrations

Complete one of the following options. Courses from the major may not double count in the concentration.

PROFESSIONAL ELECTIVES

Code	Title	Hours
Complete 12 semester hours from the following:		12
ENG 3300, CMN, ITC, LDR, MGT, MKT, HRM		

ENTREPRENEURSHIP CONCENTRATION

Note: Please consult with your advisor.

15 semester hours required

Code	Title	Hours
Required Courses		
FIN 3100	Finance for New Ventures	3
MGT 2550	Sustainable Entrepreneurship	3
MKT 2700	Product Design and Development	3
MGT 4995	Experiential Management Practicum	3
Elective Course		
Complete one of the following:		3
LDR 3200	Leading and Managing Change	
MKT 3010	Digital Marketing	
MGT 4230	New Venture Creation	

DIGITAL MARKETING CONCENTRATION

Note: Please consult with your advisor.

15 semester hours required

Code	Title	Hours
Required Courses		
MKT 3010	Digital Marketing	3

MKT 3100	Marketing Analytics	3
CMN 3800	Designing and Implementing a Promotional Campaign	3
CMN 3850	Managing Communication Projects	3
Elective Course		
Complete one of the following:		3
CMN 3410	Digital Communication Strategy	
MKT 2220	Consumer Behavior	
MKT 2700	Product Design and Development	
LDR 3250	Leading Teams Locally and Virtually	

Electives

Complete elective courses to reach the required 120 semester hours.

NUPATH REQUIREMENTS SATISFIED

- Analyzing/Using Data (AD)
- Capstone Experience (CE)
- Engaging Difference/Diversity (DD)
- Exploring Creative Expression and Innovation (EI)
- Ethical Reasoning (ER)
- Conducting Formal/Quantitative Reasoning (FQ)
- Society/Institutions (SI)
- Writing-Intensive in the Major (WI)
- Advanced Writing in the Disciplines (WD)

Students are responsible for using the general electives in this program to complete NUpath requirements not satisfied by required courses in this program.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
MGT 1100	3
ACC 2100	3
Open elective	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
MTH 2300	3
ECN 1100	3
ACC 2200	3
ITC 1000 or 2016	3
	16

Term 3	Hours
FIN 2105	3
MGT 2330	3
MGT 2310	3
ECN 1200	3
MGT 2100	3
	15

Term 4	Hours
PHL 2100	3
MKT 2100	3
MGT 2220	3

Open elective	3
Open elective	3
	15

Term 5	**Hours**
ENG 3107 and ENG 3108	4
MGT 2210 or ITC 2430	3
HRM 2320	3
Open elective	3
Open elective	3
	16

Term 6	**Hours**
MGT 3220	3
MGT 4210	3
Professional elective	3
Open elective	3
Open elective	3
	15

Term 7	**Hours**
MGT 4230	3
MGT 4220	3
Professional elective	3
Open elective	3
Open elective	3
	15

Term 8	**Hours**
MGT 4850	4
Professional elective	3
Professional elective	3
Open elective	2
	12

Total Hours: 120

Bachelor's and Postbaccalaureate Programs, Lowell Institute School

Bachelor of Science Programs

- Advanced Manufacturing Systems (p. 107)
- Analytics (p. 110)
- Biological Science (p. 114)
- Biotechnology (p. 117)
- Digital Communication and Media (p. 120)
- Health Science (p. 123)
- Healthcare Administration (p. 126)
- Information Technology (p. 129)
- Mechatronics (p. 133)
- Project Management (p. 136)
- Psychology (p. 140)

Advanced Manufacturing Systems, BS

Northeastern's Bachelor of Science in Advanced Manufacturing Systems will create pathways for entry- and midlevel manufacturing employees to deepen their knowledge and gain new skills across the advanced manufacturing ecosystem. The program's challenge-based learning architecture balances autonomy with a structured path through a rigorous curriculum.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

32 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Math		
MTH 2120	Technical Math 1	3
MTH 2220	Technical Math 2	3
MTH 2500	Statistical Quality Control	3
Science		
CHM 1100	General Chemistry 1	3
EET 2000	Circuits 1	3
PHY 1200	Physics 1	3
Philosophy		
PHL 2140	Ethical Issues in Science and Engineering	3
Communication		
CMN 1100	Organizational Communication	3

Advanced Manufacturing Foundation Courses

18 semester hours required

Code	Title	Hours
AVM 1100	Fundamental Measurement Analysis	3
AVM 1150	Fundamentals of Manufacturing Systems	3
EET 3100	Electronics 1	3
GET 1150	Foundations of Engineering Graphics and Design	3
MET 2000	Engineering Computer-Aided Design and Tolerance Analysis	3
MET 2040	Engineering Manufacturing Process	3

Advanced Manufacturing Core Courses

33 semester hours required

Code	Title	Hours
AVM 2250	Materials Performance and Applications	3
AVM 3000	Materials Processing	3
AVM 3100	Nondestructive Testing	3
AVM 3500	Business Operations and Supply Chain	3
AVM 4100	Mechatronics (Mechatronics)	3
AVM 4300	Advanced Manufacturing and Additive Processes	3
GET 3100	Computer Control of Manufacturing Processes	3
MET 3100	Engineering Stress Analysis	3
MET 3300	Engineering Materials Science	3
MET 4100	Mechanical Engineering Systems Design	3
MGT 2220	Supply Chain Management	3

Advanced Manufacturing Capstone

Code	Title	Hours
Grand challenges at the end of each accelerator will make up this requirement:		
GET 4840	Engineering Technology Capstone Project Preparation and Proposal	2
GET 4850	Engineering Technology Capstone Project Execution	4

Electives

Complete a minimum of 31 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
AVM 1100	3
CMN 1100	3
MTH 2120	3
PHL 2140	3
	12

Term 2	Hours
AVM 1150	3
EET 3100	3
ENG 1105 and ENG 1106	4
MTH 2220	3
	13

Term 3	Hours
CHM 1100	3
ENG 3105 and ENG 3106	4
GET 1150	3
MTH 2500	3
	13

Term 4	Hours
EET 2000	3
MET 2000	3
MET 2040	3
PHY 1200	3
	12

Term 5	Hours
AVM 3500	3
MET 4100	3
MGT 2220	3

Open elective	3
	12

Term 6	**Hours**
AVM 2250	3
AVM 3000	3
MET 3300	3
Open elective	3
	12

Term 7	**Hours**
AVM 3100	3
Open elective	3
	6

Term 8	**Hours**
AVM 4300	3
GET 4840	2
Open elective	3
Open elective	3
	11

Term 9	**Hours**
GET 3100	3
AVM 4100	3
Open Elective	3
GET 4850	4
	13

Term 10	**Hours**
AVM 2200	3
Open elective	3
Open elective	3
Open elective	3
Technical elective	4
	16

Total Hours: 120

Analytics, BS

Employers seeking analytics professionals with "moderate" levels of data analysis skills - typically positions at the bachelor's level — most often prefer candidates with *Analytics* as a field of study. Skills frequently required in candidates are data analysis and the ability to interpret and communicate data analysis results to others, problem solving, mastery of spreadsheets, analysis tools, statistical software, relational databases as well as programming language. The general demand for Teamwork/Collaboration and Project Management reflects the need for employers to find analytics professionals with general business skills which can be used in a variety of function areas.

The Bachelor of Science in Analytics (BSA) helps to meet the demand from employers with an undergraduate program and entry level education requirements that prepares learners as data analyst practitioners capable of applying data analysis methods, technological, professional, and strategic expertise necessary for supporting decision making in organizations. With emphasis on experiential learning, the program provides dynamic opportunities for learners with varying degrees of work experience to practice their knowledge both globally and collaboratively while implementing effective data analysis concepts to real-life company demands.

The BSA has general foundation courses (including mathematical and philosophical logic), specific data analysis foundation courses, major required courses, as well as a variety of elective courses on diverse domain areas.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

54 semester hours required

Code	Title	Hours
English		
Complete the following:		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Communication		
CMN 1100	Organizational Communication	3
CMN 2310	Professional Speaking	3
Philosophy		
PHL 2120	Ethical Issues in Communication	3
PHL 2310	Symbolic Logic	3
Mathematics		
MTH 1100	College Algebra	3
MTH 2400	Technology and Applications of Discrete Mathematics	3
Information Technology		
ITC 2000	Principles of Systems Analysis and Design	3
ITC 2016	End-User Data Analysis Tools	3
ITC 2050	Designing the User Experience	3
Leadership		
LDR 1200	Assessing Your Leadership Capacity	3

LDR 3400	Evidence-Based Leadership and Decision Making	3
Computer Engineering Technology		
CET 2200	Data Structures and Algorithms	3
Analytics		
ALY 2010	Probability Theory and Introductory Statistics	3
ALY 2100	Introduction to Programming for Data Analytics	3

Major Required Courses

27 semester hours required

Code	Title	Hours
Information Technology		
ITC 2300	Database Management Systems	3
ITC 3300	Structured Query Language (SQL)	3
ITC 3320	Data Warehousing Technologies	3
Analytics		
ALY 3015	Intermediate Statistics for Data Analytics	3
ALY 3040	Data Mining	3
ALY 3070	Communication and Visualization for Data Analytics	3
ALY 3110	Big Data and Web Mining	3
ALY 4000	Analytics Using R	3
ALY 4020	Predictive Analytics Using R and Python	3

Professional Electives

Code	Title	Hours
Complete 12 semester hours in the following subject areas below:		12
BTC, CET, FIN, HMG, LDR, MGT, MKT, PJM		
Suggested Electives:		
ACC 2100	Financial Accounting	
HRM 2320	Human Resources Management	
MGT 1100	Introduction to Business	
MGT 2210	Information within the Enterprise	
MKT 2100	Principles of Marketing	
PJM 1100	Project Management Fundamentals - Project Initiation and Close	

Capstone

3 semester hours required

Code	Title	Hours
ALY 4850	Analytics Capstone	3

Electives

Complete a minimum of 24 semester hours to reach 120 semester hours. Courses from the major may not double count for Electives.

Code	Title	Hours
Suggested elective courses:		
ART 2100	Foundation in Visual Communication	
BIO 1050	Medical Terminology	
ECN 1200	Principles of Macroeconomics	
ENG 3260	Writing to Inform and Persuade	
FIN 2105	Introduction to Corporate Finance	
FIN 3310	Financial Institutions and Markets	
HRM 2320	Human Resources Management	
ITC 2430	E-Commerce Systems	
LDR 3200	Leading and Managing Change	
TCC 3450	Writing for the Web	

Plan of Study

Term 1	Hours
ENG 1105	3
ENG 1106	1
ITC 2000	3
LDR 1200	3
MTH 1100	3
PHL 2310	3
	16

Term 2	Hours
CMN 2310	3
ENG 1107	3
ENG 1108	1
ITC 2016	3
ITC 2300	3
MTH 2400	3
	16

Term 3	Hours
ALY 2010	3
CET 2200	3
ENG 3107	3
ENG 3108	1
ITC 2050	3
Open Elective	3
	16

Term 4	Hours
ALY 2100	3
ALY 3015	3
CMN 1100	3
ITC 3300	3
LDR 3400	3
	15

Term 5	Hours
ALY 3070	3
ALY 4000	3
ITC 3320	3
PHL 2120	3
Professional Elective	3
	15

Term 6	Hours
ALY 3040	3
ALY 3110	3
Professional Elective	3
Open Elective	3
Open Elective	3
	15

Term 7	Hours
ALY 4020	3
Professional Elective	3
Open Elective	3
Open Elective	3

Open Elective	3
	15

Term 8	**Hours**
ALY 4850	3
Professional Elective	3
Open Elective	3
Open Elective	3
	12

Total Hours: 120

Biological Science, BS

The Bachelor of Science in Biological Science program is designed for students who wish to pursue a science-based career or continue their education by obtaining a graduate degree in a health- or science-related field. The program offers the mathematical, chemical, and physical background necessary for understanding biology along with the oral and written communication, critical thinking, and problem-solving skills necessary for success in the workplace. The program fosters a basic understanding of the organization and the processes of life, from molecules and cells through organs and organ systems to populations, species, ecosystems, and evolution. Graduates of the program pursue careers in areas such as research and development or sales and marketing in biological and pharmaceutical companies. Students may also choose to continue their education in graduate or medical school.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

51 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Mathematics		
MTH 2100	Calculus 1	3
MTH 2105	Calculus 2	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Biology		
BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	4
BIO 1200 and BIO 1201	Principles of Biology 2 and Lab for BIO 1200	4
Chemistry		
CHM 1100 and CHM 1101	General Chemistry 1 and Lab for CHM 1100	4
CHM 1200 and CHM 1201	General Chemistry 2 and Lab for CHM 1200	4
Physics		
PHY 1200 and PHY 1201	Physics 1 and Lab for PHY 1200	4
PHY 2200 and PHY 2201	Physics 2 and Lab for PHY 2200	4
Information Technology		
ITC 1000	Computer Applications	3
or ITC 2016	End-User Data Analysis Tools	

Philosophy		
PHL 2140	Ethical Issues in Science and Engineering	3

Major Required Courses

26 semester hours required

Code	Title	Hours
Chemistry		
CHM 2110 and CHM 2111	Organic Chemistry 1 and Lab for CHM 2110	4
CHM 2200 and CHM 2201	Organic Chemistry 2 and Lab for CHM 2200	4
Biology		
BIO 2100 and BIO 2101	Microbiology and Lab for BIO 2100	4
BIO 2300	Cell Biology	3
BIO 2500 and BIO 2501	Genetics and Molecular Biology and Lab for BIO 2500	4
BIO 3100 and BIO 3101	Biochemistry and Lab for BIO 3100	4
Capstone		
BIO 4850	Biological Sciences Senior Project	3

Major Elective Courses

Choose at least 9 semester hours from BIO, BTC, HSC.

Electives

Complete a minimum of 34 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 2100	3
BIO 1100 and BIO 1101	4
CHM 1100 and CHM 1101	4
	15

Term 2	Hours
ENG 1107 and ENG 1108	4
MTH 2105	3
BIO 1200 and BIO 1201	4
CHM 1200 and CHM 1201	4
	15

Term 3	Hours
MTH 2310	3
PHY 1200 and PHY 1201	4
CHM 2110 and CHM 2111	4
BIO 2100 and BIO 2101	4
	15

Term 4	Hours
PHY 2200 and PHY 2201	4
CHM 2200 and CHM 2201	4
ITC 1000 or 2016	3
Open elective	3
	14

Term 5	Hours
ENG 3105 and ENG 3106	4
BIO 2300	3
BIO 2500 and BIO 2501	4
Open elective	3
Open elective	3
	17

Term 6	Hours
BIO 3100 and BIO 3101	4
PHL 2140	3
Open elective	3
Open elective	3
Open elective	3
	16

Term 7	Hours
Major elective	3
Major elective	3
Open elective	3
Open elective	3
Open elective	1-3
	13-15

Term 8	Hours
BIO 4850	3
Major elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Total Hours: 120-122

Biotechnology, BS

The Bachelor of Science in Biotechnology seeks to prepare graduates for entry-level positions in diverse occupations within the biotechnology industry. Building on a strong foundation of liberal arts and sciences, courses focus on state-of-the-art biotechnology principles and delivery. The curriculum promotes effective oral and written communications skills, critical thinking, and problem solving to promote professional competency in a variety of high-tech industries related to pharmaceutical manufacturing, vaccine production, medical device creation and fabrication, clinical drug and medical device trials, and governmental regulatory agency oversight.

Graduates of the biotechnology program pursue careers in bench research and development, regulatory affairs, sales and marketing, public relations, or communications at domestic and international biotechnology-related companies or governmental organizations.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

37 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Mathematics		
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Biology		
BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	4
BIO 1200 and BIO 1201	Principles of Biology 2 and Lab for BIO 1200	4
Chemistry		
CHM 1100 and CHM 1101	General Chemistry 1 and Lab for CHM 1100	4
CHM 1200 and CHM 1201	General Chemistry 2 and Lab for CHM 1200	4
Information Technology		
ITC 1000	Computer Applications	3
or ITC 2016	End-User Data Analysis Tools	
Philosophy		
PHL 2140	Ethical Issues in Science and Engineering	3

Major Required Courses

41 semester hours required

Code	Title	Hours
Biotechnology		
BTC 1300 and BTC 1301	Introduction to Biotechnology and Lab for BTC 1300	4
BTC 4300 and BTC 4301	Biotechnology and Pharmaceutical Processing and Lab for BTC 4300	4
BTC 4450	Quality Control and Validation Issues	3
Chemistry		
CHM 2110 and CHM 2111	Organic Chemistry 1 and Lab for CHM 2110	4
CHM 2200 and CHM 2201	Organic Chemistry 2 and Lab for CHM 2200	4
CHM 2300 and CHM 2301	Analytical Chemistry and Lab for CHM 2300	4
Biology		
BIO 2100 and BIO 2101	Microbiology and Lab for BIO 2100	4
BIO 2300	Cell Biology	3
BIO 3100 and BIO 3101	Biochemistry and Lab for BIO 3100	4
BIO 2500 and BIO 2501	Genetics and Molecular Biology and Lab for BIO 2500	4
Capstone		
BTC 4850	Biotechnology Senior Project	3

Major Electives

15 semester hours required

Code	Title	Hours
Complete 15 semester hours from the following:		15
BIO, BTC, HSC, PHY		
MTH 2100	Calculus 1	
MTH 2105	Calculus 2	

Electives

Complete a minimum of 27 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
BIO 1100 and BIO 1101	4
CHM 1100 and CHM 1101	4
MTH 2310	3
	15

Term 2	Hours
ENG 1107 and ENG 1108	4
BIO 1200 and BIO 1201	4
CHM 1200 and CHM 1201	4
ITC 1000 or 2016	3
	15

Term 3	Hours
CHM 2110 and CHM 2111	4
BIO 2100 and BIO 2101	4
Open elective	3
Open elective	3
	14

Term 4	Hours
CHM 2200 and CHM 2201	4
BTC 1300 and BTC 1301	4
BIO 2300	3
Major elective	3
	14

Term 5	Hours
ENG 3105 and ENG 3106	4
CHM 2300 and CHM 2301	4
BIO 2500 and BIO 2501	4
BTC 4300 and BTC 4301	4
	16

Term 6	Hours
BIO 3100 and BIO 3101	4
BTC 4450	3
PHL 2140	3
Open elective	3
Open elective	3
	16

Term 7	Hours
BTC elective	3
BTC elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Term 8	Hours
BTC 4850	3
BTC elective	3
Major elective	3
Open elective	3
Open elective	3
	15

Total Hours: 120

Digital Communication and Media, BS

The Bachelors of Science in Digital Communication and Media prepares students for jobs in the expanding market for digital based communications. Students are exposed to the digital channels and technology at the core of today's positions in corporate and marketing communications.

Students start with foundation courses in such areas as English and Ethics. These are followed by major course selections in Management, Marketing, and Visual Media.

Students then move to the heart of the program to develop digital competencies. These courses cover communication research methods, digital communication strategy, and inbound marketing fundamentals. From here, students enter a unique virtual public relations firm to design, implement, and manage a digital communication campaign for a real-world client.

Successful graduates of the program should possess the competencies for digital communication jobs in a wide range of fields, including corporations, public relations and marketing agencies, and nonprofit organizations.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

NUpath requirements Understanding Societies and Institutions (SI) and Natural and Designed World (ND) are not explicitly satisfied by required courses in the curriculum at this time. Students are responsible for satisfying these requirements, and if these are not fulfilled in required major courses, they should use general electives to do so.

Foundation Courses

24 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Information Technology		
ITC 2016	End-User Data Analysis Tools	3
Mathematics		
MTH 1100	College Algebra	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Philosophy		
PHL 2120	Ethical Issues in Communication	3

Major Courses

51 semester hours required

Code	Title	Hours
Business		
MGT 1100	Introduction to Business	3
Visual Media and Art		
ART 2100	Foundation in Visual Communication	3

ART 2200	Fundamentals of Graphics and Publishing Production	3
ITC 2050	Designing the User Experience	3
ITC 2400	Web and Mobile Development	3
Marketing		
MKT 2100	Principles of Marketing	3
MKT 2220	Consumer Behavior	3
Communication		
CMN 1100	Organizational Communication	3
CMN 2310	Professional Speaking	3
CMN 3220	Introduction to Public Relations	3
CMN 3350	Intercultural Communication	3
CMN 3410	Digital Communication Strategy	3
CMN 3800	Designing and Implementing a Promotional Campaign	3
CMN 3850	Managing Communication Projects	3
MKT 3010	Digital Marketing	3
Writing		
ENG 3260	Writing to Inform and Persuade	3
TCC 3450	Writing for the Web	3

Major Electives

15 semester hours required

Code	Title	Hours
Complete five of the following:		15
CMN 3360	Crisis Communication	
CMN 3100	Negotiation	
MGT 2310	Organizational Behavior	
PJM 1100	Project Management Fundamentals - Project Initiation and Close	
PJM 1400	Project Planning	
PJM 2000	Project Monitoring and Control	

Capstone

3 semester hours required

Code	Title	Hours
CMN 4850	Capstone in Professional Communication	3

Electives

Complete a minimum of 27 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
ART 2100	3
CMN 1100	3
MGT 1100	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
MKT 2100	3
CMN 3220	3
ITC 2016	3

ART 2200	3
	16

Term 3	**Hours**
ENG 3260	3
PHL 2120	3
MTH 2310	3
CMN 3350	3
SI Core	3
	15

Term 4	**Hours**
CMN 3410	3
CMN 2310	3
ITC 2050	3
MKT 2220	3
TCC 3450	3
	15

Term 5	**Hours**
ENG 3107 and ENG 3108	4
MKT 3010	3
Major Elective	3
Major Elective	3
	13

Term 6	**Hours**
ND Core	3
ITC 2400	3
CMN 3800	3
Major Elective	3
Open Elective	3
	15

Term 7	**Hours**
CMN 3850	3
Major Elective	3
Open Elective	3
Open Elective	3
Open Elective	3
	15

Term 8	**Hours**
CMN 4850	3
Major Elective	3
Open Elective	3
Open Elective	3
Open Elective	3
	15

Total Hours: 120

Health Science, BS

The Bachelor of Science in Health Science seeks to help develop competent professionals who combine a solid understanding of the science underlying healthcare with the principles of healthcare management. Courses in biology, microbiology, chemistry, pharmacology, and pathophysiology provide an understanding of the science of the human body. These courses may be combined with courses in the management of healthcare organizations; health law; public health; or, for students interested in a medical career, additional science courses.

The program seeks to provide preparation for a career in healthcare management in a community, hospital, or private-sector setting or for graduate school for advanced training in areas such as medicine, nursing, and public health.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

30 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Mathematics		
MTH 1100	College Algebra	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Information Technology		
ITC 1000	Computer Applications	3
or ITC 2016	End-User Data Analysis Tools	
Psychology		
PSY 1100	Foundations of Psychology	3
Communication		
CMN 1100	Organizational Communication	3
Philosophy		
PHL 2130	Ethical Issues in Healthcare	3
or PHL 2140	Ethical Issues in Science and Engineering	

Major Required Courses

36 semester hours required

Code	Title	Hours
Health Management		
HMG 1100	Foundations of Healthcare Management	3
HMG 2110	Health Law and Regulation	3
Biology		

BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	4
BIO 1200 and BIO 1201	Principles of Biology 2 and Lab for BIO 1200	4
BIO 1600 and BIO 1601	Human Anatomy and Physiology 1 and Lab for BIO 1600	4
BIO 1700 and BIO 1701	Human Anatomy and Physiology 2 and Lab for BIO 1700	4
Chemistry		
CHM 1100 and CHM 1101	General Chemistry 1 and Lab for CHM 1100	4
CHM 1200 and CHM 1201	General Chemistry 2 and Lab for CHM 1200	4
Health Science		
HSC 3300	Epidemiology	3
Capstone		
HSC 4850	Project in Health Science	3

Professional Electives

15 semester hours required

Code	Title	Hours
Complete 15 semester hours from the following subject areas:		15
BIO, CHM, HMG, HSC, MTH, PHY, PSY		

Electives

Complete a minimum of 39 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
BIO 1100 and BIO 1101	4
HMG 1100	3
PSY 1100	3
	17

Term 2	Hours
ENG 1107 and ENG 1108	4
MTH 2310	3
BIO 1200 and BIO 1201	4
Open elective	3
	14

Term 3	Hours
ITC 1000 or 2016	3
CHM 1100 and CHM 1101	4
BIO 1600 and BIO 1601	4
Open elective	3
	14

Term 4	Hours
CHM 1200 and CHM 1201	4

BIO 1700 and BIO 1701	4
Open elective	3
Open elective	3
	14

Term 5	**Hours**
ENG 3105 and ENG 3106	4
CMN 1100	3
HSC 3300	3
Open elective	3
Open elective	3
	16

Term 6	**Hours**
PHL 2130 or 2140	3
HMG 2110	3
Professional elective	3
Professional elective	3
Open elective	3
	15

Term 7	**Hours**
Professional elective	3
Open elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Term 8	**Hours**
HSC 4850	3
Professional elective	3
Professional elective	3
Open elective	3
Open elective	3
	15

Total Hours: 120

Healthcare Administration, BS

The Bachelor of Science in Healthcare Administration seeks to foster an understanding of management-related concepts in the health industry. The degree offers students an opportunity to learn from experienced professionals how to effectively use communication, critical thinking, and problem-solving skills and techniques to establish competency in the principles relating to the operational, financial, and regulatory management of a health setting.

Students pursue coursework in healthcare operations and systems, healthcare law and policy, and the financial and regulatory aspects of healthcare management.

Successful graduates of the program are prepared to pursue a wide range of careers in the management of healthcare systems in community, hospital, and private-sector healthcare settings.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

33 semester hours required

Code	Title	Hours
College Writing 1		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
College Writing 2		
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
Writing for the Professions		
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Mathematics		
MTH 1100	College Algebra	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Economics		
ECN 1200	Principles of Macroeconomics	3
Information Technology		
ITC 1000	Computer Applications	3
or ITC 2016	End-User Data Analysis Tools	
Social Sciences		
PSY 1100	Foundations of Psychology	3
SOC 1100	Introduction to Sociology	3
CMN 1100	Organizational Communication	3

Major Courses

39 semester hours required

Code	Title	Hours
Management and Finance		
HMG 1100	Foundations of Healthcare Management	3
ACC 2100	Financial Accounting	3
FIN 2105	Introduction to Corporate Finance	3
Law, Regulation, and Policy		
PHL 2130	Ethical Issues in Healthcare	3
HMG 2110	Health Law and Regulation	3
HMG 3225	Public Health	3
HMG 4210	Healthcare Policy	3
Organizational Operations		
CMN 3350	Intercultural Communication	3
HMG 2100	Healthcare Operations	3
HMG 3210	Health Informatics	3
HMG 3220	Risk Management and Quality Assurance	3
HRM 2320	Human Resources Management	3
Capstone		
HMG 4850	Healthcare Management Capstone	3

Professional Electives

15 semester hours required

Code	Title	Hours
Complete 15 semester hours from the following:		15
HSC, HMG, HRM, MGT, MKT, PSY, PJM 1100, PJM 1400		

Electives

Complete a minimum of 33 semester hours to reach 120 semester hours.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
ITC 1000 or 2016	3
SOC 1100	3
HMG 1100	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
ECN 1200	3
MTH 2310	3
PSY 1100	3
ACC 2100	3
	16

Term 3	Hours
CMN 1100	3
FIN 2105	3
HRM 2320	3
Open elective	3
Open elective	3
	15

Term 4	Hours
PHL 2130	3

HMG 2110	3
Open elective	3
Professional elective	3
Open elective	3
	15

Term 5	**Hours**
ENG 3107 and ENG 3108	4
CMN 3350	3
HMG 2100	3
Professional elective	3
Open elective	3
	16

Term 6	**Hours**
HMG 3220	3
HMG 3225	3
HMG 3210	3
Professional elective	3
Open elective	3
	15

Term 7	**Hours**
HMG 4210	3
Professional elective	3
Professional elective	3
Open elective	3
Open elective	3
	15

Term 8	**Hours**
HMG 4850	3
Open elective	3
Open elective	3
Professional elective	3
	12

Total Hours: 120

Information Technology, BS

The Bachelor of Science in Information Technology focuses on the skills and knowledge needed to promote career advancement and pursue advanced degrees in information technology and to provide the critical-thinking and information technology skills needed by local, national, and global employers.

Students have the opportunity to develop strengths in the analysis, applied design, development, implementation, and management of modern information technology systems. Courses cover the critical technology areas of programming for traditional, web, and mobile applications and for networking, database, and information security. The curriculum also includes courses focused on key business areas needed to integrate and manage technology and technology projects in the workplace.

Students may develop the technical and problem-solving skills that allow them to pursue careers in the professional areas of applications development, web and multimedia design, systems and network administration, database administration, and business analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

27 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
Management		
MGT 1100	Introduction to Business	3
MGT 2310	Organizational Behavior	3
Mathematics		
MTH 1100	College Algebra	3
Complete one of the following:		3
MTH 2400	Technology and Applications of Discrete Mathematics	
MTH 2450	Discrete Structures (Required for Computer Programming Concentration)	
Philosophy		
Computer programming concentation students must take ITC 3620. Other students complete any one of the following:		3
ITC 3620	Legal and Ethical Issues in Cybersecurity	
PHL 2100	Business Ethics	
PHL 2140	Ethical Issues in Science and Engineering	

Major Requirements

33 semester hours required

Code	Title	Hours
ITC Core Discipline Areas		
ITC 1200	Operating Systems Concepts	3

ITC 2016	End-User Data Analysis Tools	3
ITC 2050	Designing the User Experience	3
ITC 2100	Introduction to Programming (Java)	3
ITC 2200	Networking Foundations	3
ITC 2300	Database Management Systems	3
ITC 2400	Web and Mobile Development	3
Complete one of the following:		3
ITC 2000	Principles of Systems Analysis and Design	
ITC 2430	E-Commerce Systems	
Professionalism		
ITC 3500	IT Project Management	3
ITC 4600	Information Security Management	3
Capstone		
ITC 4850	Information Technology Project	3

Professional Electives

Code	Title	Hours
Complete a concentration listed below. Those who do not want a concentration should take 27 additional semester hours in the following subject areas:		27
ALY, CET, GET, ITC		

Optional Concentrations

- Applications Development (p. 130)
- Computer Programming (p. 130)
- Systems Administration and Cybersecurity (p. 131)

Note: Please consult with your advisor.

APPLICATIONS DEVELOPMENT CONCENTRATION

Code	Title	Hours
Complete seven courses from the following that have not been taken to fulfill major requirements:		21
ALY 2010	Probability Theory and Introductory Statistics	
ALY 2100	Introduction to Programming for Data Analytics	
CET 2200	Data Structures and Algorithms	
CET 2300	Object-Oriented Programming	
GET 2100	Computer Engineering Programming and Analysis	
ITC 2430	E-Commerce Systems	
ITC 3100	Advanced Applications Development (Android)	
ITC 3150	Database Websites	
ITC 3300	Structured Query Language (SQL)	
ITC 3320	Data Warehousing Technologies	
ITC 3400	Web Design and Multimedia	
ITC 4690	Software Engineering and Security	
PJM 3000	Leading Agile Projects	
ITC 4973	Topics in Emerging Information Technologies	
Complete two courses (6 semester hours) from the systems administration and cybersecurity concentration.		6

COMPUTER PROGRAMMING CONCENTRATION

Code	Title	Hours
ALY 2010	Probability Theory and Introductory Statistics	3
ALY 2100	Introduction to Programming for Data Analytics	3
CET 2200	Data Structures and Algorithms	3
ITC 3150	Database Websites	3
or ITC 3300	Structured Query Language (SQL)	
ITC 3220	Mobile and Wireless Networking	3
ITC 4200	Network Security	3

ITC 3100	Advanced Applications Development (Android)	3
ITC 4690	Software Engineering and Security	3
ITC 4973	Topics in Emerging Information Technologies	3

SYSTEMS ADMINISTRATION AND CYBERSECURITY CONCENTRATION

Code	Title	Hours
Complete seven courses from the following that have not been taken to fulfill major requirements:		21
ITC 3220	Mobile and Wireless Networking	
ITC 3250	UNIX Systems Administration	
ITC 3620	Legal and Ethical Issues in Cybersecurity	
ITC 4200	Network Security	
ITC 4260	Database Administration	
ITC 4660	Encryption Concepts	
ITC 4670	Software Vulnerabilities	
ITC 4680	Forensics in Information Technology	
ITC 4690	Software Engineering and Security	
ITC 4973	Topics in Emerging Information Technologies	
Complete two courses (6 semester hours) from the applications development or computer programming concentrations.		6

Open Electives

Complete a minimum of 33 semester hours of NUpath and open electives to reach 120 semester hours.

NUpath Requirements Satisfied

- Analyzing/Using Data (AD)
- Capstone Experience (CE)
- Engaging Differences/Diversity (DD)
- Ethical Reasoning (ER)
- Conducting Formal/Quantitative Reasoning (FQ)
- Natural/Designed World (ND)
- Writing-Intensive in the Major (WI)
- Advanced Writing in the Disciplines (WD)

Students are responsible for using the general electives in this program to complete the Interpreting Culture (IC) and Societies and Institutions (SI) NUpath requirements not satisfied by the required courses in this program.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
ITC 1200	3
MGT 1100	3
MTH 1100	3
Complete one of the following:	3
ITC 3620	
PHL 2100	
PHL 2140	
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
ITC 2016	3
ITC 2050	3
MTH 2400 or 2450	3
Open elective	3
	16

Term 3	Hours
ITC 2200	3
ITC 2400	3
MGT 2310	3
Complete one of the following:	3
ITC 2000	
ITC 2430	
MGT 2210	
Open elective	3
	15

Term 4	Hours
ITC 2100	3
Concentration or major elective	3
Open elective	3
Open elective	3
Open elective	3
	15

Term 5	Hours
ENG 3105 and ENG 3106	4
ITC 2300	3
Concentration or major elective	3
Open elective	3
Open elective	3
	16

Term 6	Hours
ITC 3500	3
Concentration or major elective	3
Concentration or major elective	3
Concentration or major elective	3
Open elective	3
	15

Term 7	Hours
ITC 4600	3
Concentration or major elective	3
Concentration or major elective	3
Open elective	3
Open elective	3
	15

Term 8	Hours
ITC 4850	3
Concentration or major elective	3
Concentration or major elective	3
Open elective	3
	12

Total Hours: 120

Mechatronics, BS

The Bachelor of Science in Mechatronics is designed to provide students with an interdisciplinary set of skills that will enable them to successfully compete in today's fast-changing manufacturing environment. The program is designed to equip students with the knowledge and relevant experience in the four major areas that compose mechatronics and to help students play key roles in the Fourth Industrial Revolution—mechanical systems, electrical systems, control systems, and computer engineering. Successful graduates will understand in-depth the engineering fundamentals, the related technologies, and their integration in robotic and mechatronic devices and automation systems.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

General Education Courses

Code	Title	Hours
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
CMN 1100	Organizational Communication	3
ECN 1200	Principles of Macroeconomics	3
ENG 3105 and ENG 3106	Writing for the Professions: Science and Engineering and Lab for ENG 3105	4
ITC 3620	Legal and Ethical Issues in Cybersecurity	3

Engineering Education Courses

Code	Title	Hours
MTH 2100	Calculus 1	3
MTH 2105	Calculus 2	3
MTH 3300	Applied Probability and Statistics	3
GET 1150	Foundations of Engineering Graphics and Design	3
GET 2100	Computer Engineering Programming and Analysis	3
MET 3300	Engineering Materials Science	3
PHY 1200 and PHY 1201	Physics 1 and Lab for PHY 1200	4

Fundamental Mechatronics Courses

Code	Title	Hours
CET 2100	Essentials of Computer Organization	3
CET 2200	Data Structures and Algorithms	3
CET 3100	Computer Networking and Communications Technology	3
EET 2005 and EET 2006	Circuits AC/DC and Lab for EET 2005	5
EET 3100 and EET 3101	Electronics 1 and Lab for EET 3100	5
EET 3750	Linear Systems (Linear Systems)	3
EET 3800	Control Systems (Control Systems)	3
MET 2100	Mechanics 1: Statics	3
MET 2200	Mechanics 2: Dynamics (Linear Systems)	3
MET 4100	Mechanical Engineering Systems Design	3

EET 3200 and EET 3201	Electronics 2 and Lab for EET 3200	5

Advanced Mechatronics Courses

Code	Title	Hours
AVM 4100	Mechatronics	3
CET 4210	Robotics	3
EET 3300	Digital Logic	3
MET 2000	Engineering Computer-Aided Design and Tolerance Analysis	3
AVM 4150	Automation	3
AVM 4250	Hydraulics and Pneumatics	3

Capstone Project

Code	Title	Hours
GET 4840	Engineering Technology Capstone Project Preparation and Proposal	2
GET 4850	Engineering Technology Capstone Project Execution	4

Electives

Complete a minimum of 18 semester hours to reach a total of 120 semester hours.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 2100	3
GET 1150	3
PHY 1200 and PHY 1201	4
	14

Term 2	Hours
GET 2100	3
EET 2000 and EET 2001	5
MTH 2105	3
MET 3300	3
	14

Term 3	Hours
CMN 1100	3
Elective	3
EET 3100 and EET 3101	5
	11

Term 4	Hours
MET 2100	3
CET 2100	3
MET 2000	3
	9

Term 5	Hours
CET 2200	3
EET 3750 (Linear Systems)	3
EET 3200 and EET 3201	5
MET 2200	3
	14

Term 6	Hours
MTH 3300	3
Elective	3
	6

Term 7	Hours
AVM 4150	3
MET 4100	3
CET 3100	3
EET 3300	3
EET 3800	3
	15

Term 8	Hours
CET 4210	3
AVM 4250	3
Elective	3
	9

Term 9	Hours
ENG 3105 and ENG 3106	4
ECN 1200	3
	7

Term 10	Hours
AVM 4100	3
GET 4840	2
Elective	3
Elective	3
	11

Term 11	Hours
ITC 3620	3
GET 4850	4
Elective	3
	10

Total Hours: 120

Project Management, BS

Program Mission—The Bachelor of Science in Project Management in the College of Professional Studies provides students opportunities to apply project management processes; foundational knowledge; and the technical, professional, and strategic expertise necessary to lead projects successfully from inception to completion. With emphasis on experiential learning, the program provides dynamic opportunities for learners with varying degrees of work experience to practice their knowledge within each course and beyond the classroom while implementing traditional and innovative project management concepts to real-life and complex projects. Courses align to all three components of the PMI Talent Triangle,[1] which encompasses technical project management skills, leadership-related skills, and strategic and business acumen and skills.

The increasingly important role of project managers is becoming clear as companies orient more of their work in a projectized fashion. This has been made evident through the creation of industry certifications, such as the Project Management Professional (PMP®) and the Certified Associate in Project Management (CAPM®) credential by the Project Management Institute.[2]

PMI's Job Growth and Talent Gap, 2017–2027, notes that on an annual basis, there will be the demand to fill 2.2 million new project-management-oriented jobs worldwide per year through 2027.[3] The Bachelor of Science in Project Management program seeks to provide learners with the tools, techniques, and interdisciplinary skills necessary to work successfully in any environment. Students in this program have an oppportuity to train in those skills that are most critical to their success: project management processes and tools, financial analysis, strategic and leadership skills, and communication skills and strategies.

1 Learn more about the Talent Triangle and the associated research at the following link: http://www.pmi.org/learning/talent-management-resources.aspx.

2 For additional information on PMI certifications, go to https://www.pmi.org/certifications (https://www.pmi.org/certifications/).

3 For the full report, go to https://www.pmi.org/learning/careers/job-growth (https://www.pmi.org/learning/careers/job-growth/).

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

NUpath requirements Creative Expression and Innovation (EI) and Engaging with Natural and Designed World (ND) are not explicitly satisfied by required courses in the curriculum at this time. Students are responsible for satisfying these requirements, and if these are not fulfilled in required major courses, they should use general electives to do so.

Foundation Courses

66 semester hours required

Code	Title	Hours
English		
Complete the following:		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Communication Studies		
CMN 1100	Organizational Communication	3
Economics		
ECN 1200	Principles of Macroeconomics	3
Information Technology		
ITC 2016	End-User Data Analysis Tools	3

Leadership		
LDR 1200	Assessing Your Leadership Capacity	3
LDR 3250	Leading Teams Locally and Virtually	3
Management		
MGT 1100	Introduction to Business	3
MGT 2100	Principles of Management	3
MGT 2210	Information within the Enterprise	3
MGT 2220	Supply Chain Management	3
MGT 2310	Organizational Behavior	3
MGT 2330	Business Law	3
Marketing		
MKT 2100	Principles of Marketing	3
Mathematics		
MTH 1100	College Algebra	3
MTH 2300	Business Statistics	3
Philosophy		
PHL 2100	Business Ethics	3
Project Management		
PJM 1100	Project Management Fundamentals - Project Initiation and Close	3
PJM 1400	Project Planning	3
Writing		
ENG 3260	Writing to Inform and Persuade	3

Major Courses

21 semester hours required

Code	Title	Hours
Leadership		
LDR 3400	Evidence-Based Leadership and Decision Making	3
Project Management		
PJM 2000	Project Monitoring and Control	3
PJM 2100	Quality and Risk	3
PJM 2200	Project Procurement and Contract Management	3
PJM 3000	Leading Agile Projects	3
PJM 3100	Principles of Business Analysis Management	3
PJM 4000	Program and Project Portfolio Management	3

Professional Electives

12 semester hours required

Code	Title	Hours
Complete four of the following:		12
Suggested Industry-Specific Electives		
Healthcare		
HMG 2100	Healthcare Operations	
HMG 4210	Healthcare Policy	
HMG 3225	Public Health	
PHL 2130	Ethical Issues in Healthcare	
Management		
ACC 2100	Financial Accounting	
FIN 2105	Introduction to Corporate Finance	
MGT 4220	Innovation and Change Management	
MGT 4230	New Venture Creation	
Finance		
ACC 2100	Financial Accounting	

ACC 2200	Managerial Accounting
FIN 2105	Introduction to Corporate Finance
FIN 3330	Risk Management and Insurance
Information Technology (Database)	
ITC 2000	Principles of Systems Analysis and Design
ITC 2300	Database Management Systems
ITC 2430	E-Commerce Systems
ITC 3320	Data Warehousing Technologies

Capstone

Code	Title	Hours
PJM 4850	Capstone	3

Electives

Complete a minimum of 18 semester hours to reach 120 semester hours.

Code	Title	Hours
Suggested Electives		
CMN 2310	Professional Speaking	3
CMN 3100	Negotiation	3
CMN 3350	Intercultural Communication	3
CMN 3360	Crisis Communication	3
HRM 2320	Human Resources Management	3
HSV 2240	Human Behavior in the Social Environment	3
PSY 2230	Stress, Resilience, and Behavior Change	3

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
CMN 1100	3
MGT 1100	3
PJM 1100	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
MTH 2300	3
PJM 1400	3
ITC 2016	3
	13

Term 3	Hours
MKT 2100	3
PHL 2100	3
LDR 1200	3
MGT 2220	3
MGT 2310	3
	15

Term 4	Hours
ECN 1200	3
MGT 2100	3
MGT 2210	3
LDR 3250	3

Open Elective	3
	15

Term 5	**Hours**
ENG 3107 and ENG 3108	4
PJM 2000	3
MGT 2330	3
PJM 2100	3
Professional Elective	3
	16

Term 6	**Hours**
PJM 2200	3
PJM 3000	3
Professional Elective	3
Open Elective	3
Open Elective	3
	15

Term 7	**Hours**
PJM 3100	3
PJM 4000	3
LDR 3400	3
Open Elective	3
Professional Elective	3
	15

Term 8	**Hours**
PJM 4850	3
Professional Elective	3
Open Elective	3
Open Elective	3
Open Elective	3
	15

Total Hours: 120

Psychology, BS

The psychology degree at the College of Professional Studies is designed to prepare students with the knowledge, skills, and dispositions needed to serve individuals, groups, organizations, and communities in the 21st century.

The degree provides students with a strong foundational knowledge within the discipline of psychology, including relevant theory and research that promotes social consciousness and intellectual and interpersonal growth. With an emphasis on scientific thinking, ethical behavior, and respect for diversity, students are offered an opportunity to cultivate insight about human behaviors and mental processes and demonstrate concern for the well-being of their surrounding and global communities. Students can opt to major or minor in the degree and choose from specific tracks preparing for careers in applied behavioral analysis and work across a wide range of settings and populations, including educational and clinical settings.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor's degree.

Note: Individual program requirements may exceed the above minima.

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/university-academics/nupath/).

Foundation Courses

49 semester hours required

Code	Title	Hours
English		
ENG 1105 and ENG 1106	College Writing 1 and Lab for ENG 1105	4
ENG 1107 and ENG 1108	College Writing 2 and Lab for ENG 1107	4
ENG 3107 and ENG 3108	Writing for the Professions: Business and the Social Sciences and Lab for ENG 3107	4
Mathematics		
MTH 1100	College Algebra	3
MTH 2310	Statistics for the Behavioral and Social Sciences	3
Behavioral and Cognitive Sciences		
PSY 1050	Introduction to Behavioral Health Science Professions	3
PSY 1100	Foundations of Psychology	3
PHL 2130	Ethical Issues in Healthcare	3
PSY 2110	Principles of Human Learning	3
PSY 2230	Stress, Resilience, and Behavior Change	3
PSY 3220	Cognition and Language	3
Social Sciences		
CMN 1100	Organizational Communication	3
SOC 1100	Introduction to Sociology	3
Biology		
BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	4
Information Technology		
ITC 2016	End-User Data Analysis Tools	3

Major Required Courses

27 semester hours required

Code	Title	Hours
Human Behavior		
HSV 2200	Introduction to Clinical Practice	3
or PSY 2500	Applied Behavior Analysis 1	
HSV 2240	Human Behavior in the Social Environment	3
PSY 3200	Social Psychology	3
PSY 3210	Abnormal Psychology	3
PSY 4230	Physiological Psychology	3
Cognition and Development		
PSY 3230	Development across the Life Span	3
Research		
PSY 3450	Research in Psychology	3
Practicum		
PSY 4600	Advanced Practicum 1	3
PSY 4700	Advanced Practicum 2	3

Professional Tracks

15 semester hours required

Choose one of the tracks below:

Code	Title	Hours
Applied Behavioral Analysis Track		
PSY 2500	Applied Behavior Analysis 1	3
PSY 3330	Autism Spectrum Disorders	3
PSY 3500	Applied Behavior Analysis 2	3
PSY 4400	Behavior Assessment and Evaluation	3
PSY 3700	Behavior Measurement	3
Clinical Track		
HSV 2200	Introduction to Clinical Practice	3
HSV 3200	Techniques in Individual and Group Counseling	3
PSY 2240	Human Sexuality and Love	3
PSY 3150	The Opioid Crisis	3
PSY 4310	Personality	3
MAT (Education) Track		
EDU 6104	Child and Adolescent Development, Learning, and Teaching	4
EDU 6107	Inclusion, Equity, and Diversity	4
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6101	Critical Issues in Education: Past and Present	2
EDU 6102	Reflection, Community Engagement, and Agency in Education	2
EDU 6086	Foundations of Literacy Development and Instruction	4

Open Electives

Complete a minimum of 29 semester hours to reach 120 semester hours.

NUPATH REQUIREMENTS SATISFIED

- Analyzing/Using Data (AD)
- Capstone Experience (CE)
- Engaging Difference/Diversity (DD)
- Ethical Reasoning (ER)
- Conducting Formal/Quantitative Reasoning (FQ)
- Interpreting Culture (IC)
- Natural/Designed World (ND)
- Society/Institutions (SI)

- Writing Intensive in the Major (WI)
- Advanced Writing in the Disciplines (WD)

Students are responsible for using the general electives in this program to complete NUpath requirements not satisfied by required courses in this program.

Plan of Study

Term 1	Hours
ENG 1105 and ENG 1106	4
MTH 1100	3
PSY 1100	3
SOC 1100	3
PSY 2230	3
	16

Term 2	Hours
ENG 1107 and ENG 1108	4
PSY 1050	3
CMN 1100	3
MTH 2310	3
Open elective or NUpath requirement	3
	16

Term 3	Hours
PSY 2110	3
HSV 2200 or PSY 2500	3
BIO 1100 and BIO 1101	4
PHL 2130	3
ITC 2016	3
	16

Term 4	Hours
HSV 2240	3
PSY 3200	3
PSY 3210	3
ENG 3107 and ENG 3108	4
Professional track elective	3
	16

Term 5	Hours
PSY 3220	3
PSY 3230	3
Professional track elective	3
Professional track elective	3
Open elective or NUpath requirement	3
	15

Term 6	Hours
PSY 3450	3
PSY 4230	3
Open elective or NUpath requirement	3
Professional track elective	3
Professional track elective	3
	15

Term 7	Hours
Open elective or NUpath requirement	3
Open elective or NUpath requirement	3
Open elective or NUpath requirement	3
PSY 4600	3
	12

Term 8	Hours
Open elective or NUpath requirement	3
Open elective or NUpath requirement	3
Open elective or NUpath requirement	3
Open elective or NUpath requirement	2
PSY 4700	3
	14

Total Hours: 120

Undergraduate Certificate Programs

- Accounting, Undergraduate Certificate (p. 145)
- Advanced Accounting, Undergraduate Certificate (p. 146)
- Analytics, Undergraduate Certificate (p. 147)
- Healthcare Administration, Undergraduate Certificate (p. 148)
- Premedical Studies, Postbaccalaureate Undergraduate Certificate (p. 149)
- Principles of Manufacturing, Undergraduate Certificate (p. 151)
- Project Management, Undergraduate Certificate (p. 152)

Accounting, Undergraduate Certificate

The certificate program in accounting seeks to provide a broad base of knowledge in accounting principles, including how to compile, analyze, and prepare critical business and financial records. The program is well suited for those who are interested in improving their accounting skills for a current management or bookkeeping position or for those who are seeking an entry-level position in the accounting field.

Students enrolled in the Bachelor of Science in Finance and Accounting degree program are not eligible for this certificate program. A maximum of 12 semester hours of course work may be transferred into the program.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Prerequisite

Code	Title	Hours
MTH 1100	College Algebra	3

Required Courses

Code	Title	Hours
ACC 2100	Financial Accounting	3
ACC 2200	Managerial Accounting	3
ACC 2300	Cost Accounting	3
ACC 3201	Financial Reporting and Analysis 1	3
ACC 3202	Financial Reporting and Analysis 2	3
FIN 2105	Introduction to Corporate Finance	3

Program Requirement

18 total semester hours required

Advanced Accounting, Undergraduate Certificate

The certificate program in advanced accounting is designed for those individuals who already possess an understanding of accounting principles and would like to prepare for an accounting-related career such as auditing, financial analysis, taxation, budgeting and control, cost accounting, or asset management.

This program can be paired with additional course work to meet the minimum CPA educational requirements for those possessing an approved bachelor's degree and meeting all other CPA exam requirements. In addition, the certificate provides nonaccounting managers with a solid foundation in accounting practices relative to new legislation that requires executives to be responsible for the financial statements and internal controls of their organizations.

Students enrolled in the Bachelor of Science in Finance and Accounting Management degree program are not eligible for this certificate program.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Prerequisite Courses

Code	Title	Hours
ACC 2100	Financial Accounting	3
ACC 2200	Managerial Accounting	3
FIN 2105	Introduction to Corporate Finance	3

Required Courses

Code	Title	Hours
ACC 2300	Cost Accounting	3
ACC 3201	Financial Reporting and Analysis 1	3
ACC 3202	Financial Reporting and Analysis 2	3
ACC 3330	Principles of Auditing	3
ACC 3410	Principles of Taxation	3
ACC 4320	Financial Statement Analysis	3
ACC 4410	Advanced Taxation	3
ACC 4420	Advanced Accounting	3
MGT 2330	Business Law	3
PHL 2100	Business Ethics	3

Program Requirement

30 total semester hours required

Analytics, Undergraduate Certificate

The certificate in analytics is designed to assist and inform students looking to change careers or to upskill the current workforce in appropriate industries. The certificate is designed to meet the needs of people currently working in finance, accounting, system networking, computer programming, or related fields who will benefit professionally by developing skills in data analytics. The curriculum offers students an opportunity to obtain a basic understanding of data literacy; data structure; and management, statistical literacy, and analytical thinking. Credits earned toward the certificate may be used to satisfy the requirements of a bachelor's degree in the College of Professional Studies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
MTH 1100	College Algebra	3
MTH 2400	Technology and Applications of Discrete Mathematics	3
or PHL 2310	Symbolic Logic	
ALY 2010	Probability Theory and Introductory Statistics	3
ALY 2100	Introduction to Programming for Data Analytics	3
ALY 3015	Intermediate Statistics for Data Analytics	3
ALY 3070	Communication and Visualization for Data Analytics	3
ALY 4000	Analytics Using R	3
Complete one of the following:		3
ALY 3040	Data Mining	
ALY 3110	Big Data and Web Mining	
ALY 4020	Predictive Analytics Using R and Python	

Program Requirement

24 total semester hours required

Healthcare Administration, Undergraduate Certificate

The Certificate in Healthcare Administration is designed to assist learners looking to change careers and upskill the current workforce in the healthcare industry. Additionally, this certificate creates a formal way for learners in other bachelor's degree programs, such as management and analytics, to specialize in the healthcare field. The certificate is designed to meet the needs of people currently working in healthcare, finance, technology, management, policy, or related fields who will benefit professionally by developing skills in healthcare administration. The curriculum provides learners with a basic understanding of organizational communication, public health, health law and regulation, healthcare operations, and human resource management.

Credits earned in this certificate may be used to satisfy some of the degree requirements of the Bachelor of Science in Healthcare Administration. For further information, see Seeking More Than One Certificate or Degree (p. 9).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 1100	Organizational Communication	3
HMG 1100	Foundations of Healthcare Management	3
HMG 2100	Healthcare Operations	3
HMG 2110	Health Law and Regulation	3
HRM 2320	Human Resources Management	3
HMG 3225	Public Health	3

Program requirement

18 total semester hours required

Premedical Studies, Postbaccalaureate Undergraduate Certificate

If you already hold an undergraduate degree in a science discipline and are interested in pursuing a career in medicine, the **Postbaccalaureate in Premedical Studies** certificate may be ideal for you. Enabling you to enhance your existing academic record by completing **premedical courses,** this innovative program prepares you to successfully apply to a medical, dental, osteopathic, nursing, or other program to prepare for a career in a health professional field.

Designed for students who require all or most of the basic premedical courses, this program offers one-on-one advising, tutoring, success coaching, and other academic support services.

Program Objectives

Designed to enhance and build on your previous academic record through additional premedical coursework, this postbaccalaureate certificate covers concepts in biology, chemistry, and physics. You will have the opportunity to tailor your learning experience by choosing from optional electives in human anatomy, microbiology, genetics, cell biology, immunology, endocrinology, biochemistry, statistics, emergency medical technician (EMT) basics, and calculus. As a result of your learning experience, you will be well equipped to apply to medical, dental, osteopathic, or a health professional school.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Students should check with the school(s) and programs of their choice to determine which courses they need to apply for admittance. Additional work in biology, the behavioral sciences, clinical experience, or research experience may be recommended by different schools.

Required Courses

Code	Title	Hours
Complete at least eight of the following:		30-64
Mathematics		
MTH 2100	Calculus 1	
MTH 2105	Calculus 2	
MTH 2310	Statistics for the Behavioral and Social Sciences	
Biology		
BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	
BIO 1200 and BIO 1201	Principles of Biology 2 and Lab for BIO 1200	
BIO 2100 and BIO 2101	Microbiology and Lab for BIO 2100	
BIO 2300	Cell Biology	
BIO 2500 and BIO 2501	Genetics and Molecular Biology and Lab for BIO 2500	
BIO 3100 and BIO 3101	Biochemistry and Lab for BIO 3100	
BIO 1600 and BIO 1601	Human Anatomy and Physiology 1 and Lab for BIO 1600	
BIO 1700 and BIO 1701	Human Anatomy and Physiology 2 and Lab for BIO 1700	
Chemistry		
CHM 1100 and CHM 1101	General Chemistry 1 and Lab for CHM 1100	
CHM 1200 and CHM 1201	General Chemistry 2 and Lab for CHM 1200	
CHM 2110 and CHM 2111	Organic Chemistry 1 and Lab for CHM 2110	
CHM 2200 and CHM 2201	Organic Chemistry 2 and Lab for CHM 2200	
Physics		
PHY 1200 and PHY 1201	Physics 1 and Lab for PHY 1200	
PHY 2200 and PHY 2201	Physics 2 and Lab for PHY 2200	

Psychology	
PSY 1100	Foundations of Psychology

Program Requirement

30–64 total semester hours required

Principles of Manufacturing, Undergraduate Certificate

The Certificate in Manufacturing Principles offers students an opportunity to learn the fundamentals of manufacturing systems and seeks to prepare them to better succeed in entry-level positions with the potential for accelerated promotion within a company. The coursework has been developed in partnership with industry partners and is regularly reviewed and revised by an industry advisory board to ensure that the curriculum is current with industry standards, workplace needs, and incorporates real-world applications.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
MTH 2120	Technical Math 1	3
MTH 2500	Statistical Quality Control	3
GET 1100	Introduction to Engineering and Technology	3
GET 1150	Foundations of Engineering Graphics and Design	3
MET 2000	Engineering Computer-Aided Design and Tolerance Analysis	3
AVM 1150	Fundamentals of Manufacturing Systems	3
AVM 1200	Fundamentals of Safety, Health, and Environmental Issues	3
AVM 2200	Composite Materials and Applications	3

Program Requirement

24 total semester hours required

Project Management, Undergraduate Certificate

The certificate in project management seeks to prepare graduates to enter entry-level jobs in organizations as a project manager, associate project manager, PM assistant, project administrator, project coordinator, PMO specialist, and project controller. The program also provides working project manager professionals with an avenue to complete their educational goals through degree completion, with opportunities for specialization and advancement within their chosen field. In addition, the certificate in project management is designed to prepare students to enter the Bachelor of Science in Project Management degree with 24 required credits completed, allowing for accelerated program completion.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 1100	Project Management Fundamentals - Project Initiation and Close	3
PJM 1400	Project Planning	3
PJM 2000	Project Monitoring and Control	3
PJM 2100	Quality and Risk	3
CMN 1100	Organizational Communication	3
MGT 1100	Introduction to Business	3
MGT 2100	Principles of Management	3
MGT 2310	Organizational Behavior	3

Program Credit/GPA Requirements

24 total semester hours required

Undergraduate Minors

Eligibility Requirements for Bachelor's Degree Minors

An undergraduate minor requires a minimum of 15 but no more than 18 semester hours of undergraduate-level coursework. You may choose from the undergraduate minors below, and your completed minor will appear on your academic transcript.

If you do not declare a minor at the time of application for admission, you will need to complete the appropriate minor form in consultation with your designated academic and student support specialist.

Eligibility Requirements

- The student must be accepted or enrolled in a bachelor's degree program.
- The program of study for the student's major and minor cannot be the same where the requirements for the minor are a subset of requirements in the major, e.g., a BS student with a biology major cannot enroll in the biology minor; a BS student with a management major cannot enroll in the business minor.
- The student must fulfill all requirements for the minor and degree concurrently and may not extend their program of study to complete a minor. However, courses used to fulfill requirements for the minor may also be used to complete undergraduate degree requirements.
- The student may declare their intent to pursue a minor at time of application for admission or after acceptance as an enrolled student, up until the beginning of their last term of enrollment. It is strongly encouraged that a student who wishes to pursue an undergraduate minor begin planning early and to consult with their designated academic and student support specialist.
- The student may apply to pursue up to two undergraduate minors.
- The student must adhere to the curriculum of the undergraduate minor(s) for which they have been approved. If the student wishes to request a course substitution to fulfill requirements of an undergraduate minor, they must seek prior approval through their designated academic and student support specialist. If the student does not complete the courses as prescribed in the curriculum and did not seek prior approval for an exception, such actions could lead to the minor not appearing on the student's transcript.
- The student may apply up to 6 semester hours of transfer credits toward an undergraduate minor.

Minors

- Biology (p. 154)
- Business (p. 155)
- Creative Writing (p. 156)
- Environmental Science (p. 157)
- Healthcare Administration (p. 158)
- History (https://catalog.northeastern.edu/professional-studies/undergraduate-minors/history/)
- Information Technology (p. 159)
- Organizational Communication (p. 160)
- Psychology (p. 161)
- Sociology (p. 162)

Biology, Minor

Develop a basic understanding of the organization and the processes of life, from molecules and cells through organs and organ systems to populations, species, ecosystems, and evolution.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
BIO 1100 and BIO 1101	Principles of Biology 1 and Lab for BIO 1100	4
BIO 1200 and BIO 1201	Principles of Biology 2 and Lab for BIO 1200	4
BIO 2100 and BIO 2101	Microbiology and Lab for BIO 2100	4
BIO 2300	Cell Biology	3

Elective

Code	Title	Hours
Complete 3 semester hours in the following subject areas:		3
BIO, BTC		

Program Requirement

18 total semester hours required

Business, Minor

Introduces nonbusiness students to key functional areas in business, offering a broad overview of the business world. The minor is not available to management or finance and accounting management students.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
MGT 1100	Introduction to Business	3
or HMG 1100	Foundations of Healthcare Management	
ACC 2100	Financial Accounting	3
FIN 2105	Introduction to Corporate Finance	3
MGT 2310	Organizational Behavior	3

Elective

Code	Title	Hours
Complete 3 semester hours in the following subject areas:		3
ACC, FIN, MGT, MKT		

Program Requirement

15 total semester hours required

Creative Writing, Minor

The creative writing minor allows students an opportunity to gain experience in a variety of forms of writing to better understand the writing process and the relationship between forms and genres. Students may use one elective course to study literature, technical writing, or writing in the professions.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ENG 3220	Writing Poetry	3
ENG 3230	Writing Fiction	3
ENG 3240	Writing Nonfiction	3
ENG 3260	Writing to Inform and Persuade	3
Complete 3 semester hours from any of the following ranges:		3
ENG 1000–ENG 5999		
ITC 1000–ITC 5999		
TCC 1000–TCC 5999		

Program Requirement

15 total semester hours required

Environmental Science, Minor

The minor in environmental science introduces students to the science of the environment along with the social and political issues that impact environmental policy.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ESC 1100	The Geosphere: Physical and Historical Geology	3
ESC 1150	The Atmosphere	3
ESC 1200	The Hydrosphere: Oceanography, Ground and Surface Water	3

Electives

Code	Title	Hours
Complete 3 semester hours from the following ranges:		3
BIO 1000 to BIO 5999		
ESC 1000 to ESC 5999		
POL 1000 to POL 5999		
Complete 3 semester hours from the following range:		3
ESC 1000 to ESC 5999		

Program Requirement

15 total semester hours required

Healthcare Administration, Minor

The healthcare administration minor introduces students to the principles underlying operational, financial, and regulatory management in a healthcare setting.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
HMG 1100	Foundations of Healthcare Management	3
HMG 2100	Healthcare Operations	3

Electives

Code	Title	Hours
Complete 9 semester hours in the following subject area:		9
HMG		

Program Requirement

15 total semester hours required

Information Technology, Minor

Examine how systems are designed and evaluated and have the opportunity to engage in one programming language.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 1200	Operating Systems Concepts	3
ITC 2000	Principles of Systems Analysis and Design	3
ITC 2200	Networking Foundations	3

Electives

Code	Title	Hours
Complete one of the following:		3
ITC 2016	End-User Data Analysis Tools	
ITC 2300	Database Management Systems	
Complete one of the following:		3
ITC 2100	Introduction to Programming (Java)	
ITC 2400	Web and Mobile Development	
GET 2100	Computer Engineering Programming and Analysis	

Program Requirement

15 total semester hours required

Organizational Communication, Minor

Develop a broad perspective of organizational communication, including communications during negotiations, crisis, and communication across organizations.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 1100	Organizational Communication	3
CMN 2310	Professional Speaking	3
CMN 3220	Introduction to Public Relations	3
CMN 3350	Intercultural Communication	3
CMN 3360	Crisis Communication	3

Program Requirement

15 total semester hours required

Psychology, Minor

Examine the various aspects of psychology on an introductory level with an opportunity to focus on areas of interest.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Course

Code	Title	Hours
PSY 1100	Foundations of Psychology	3

Electives

Code	Title	Hours
Complete 12 semester hours in the following subject area:		12
PSY		

Program Requirement

15 total semester hours required

Sociology, Minor

The minor in sociology offers students an opportunity to explore human behavior and interaction on an individual and societal level.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Course

Code	Title	Hours
SOC 1100	Introduction to Sociology	3

Electives

Code	Title	Hours
Complete 12 semester hours in the following subject area:		12
SOC		

Program Requirement

15 total semester hours required

Accelerated Bachelor/Graduate Degree Programs

The College of Professional Studies offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

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Yasin Yazicioglu
Assistant Professor, Mechanical and Industrial Engineering; Georgia Institute of Technology, PhD

Lichuan Ye
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Edmund Yeh
Professor, Electrical and Computer Engineering; Massachusetts Institute of Technology, PhD

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Boris Yelin
Assistant Teaching Professor, World Languages Center; Purdue University, PhD

Benjamin Yelle
Associate Teaching Professor, Philosophy and Religion; University of Miami, PhD

Sheng-Che Yen
Associate Clinical Professor, Physical Therapy, Movement, and Rehabilitation Sciences; New York University, PhD

Ayce Yesilaltay
Assistant Teaching Professor, Biology; University of Massachusetts Medical School, PhD

Caglar Yildirim
Assistant Teaching Professor, Computer Sciences; Iowa State University, PhD

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Jared Young
Assistant Professor, Mills College; University of California, San Diego, PhD

Lydia Young
Associate Teaching Professor, College of Professional Studies; Boston College, PhD

Stephanie Young
Adjunct Professor, Mills College; Mills College, MFA

Sarah C. Young-Hong
Assistant Clinical Professor, Communication Sciences and Disorders; University of Pittsburgh, MA

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Shuishan Yu
Associate Professor, Architecture; University of Washington, PhD

Xubo Yue
Assistant Professor, Mechanical and Industrial Engineering; University of Michigan, Ann Arbor, PhD

Lua Kamál Yuille
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Michelle Zaff
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Victor Zappi
Assistant Professor, Music; Istituto Italiano di Tecnologia, Università degli studi di Genova (Italy), PhD

Alan J. Zaremba
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Juner Zhu
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Assistant Professor, Mathematics; Massachusetts Institute of Technology, PhD

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Emily Zimmerman
Associate Professor, Communication Sciences and Disorders; University of Kansas, PhD

Gregory Zimmerman
Associate Professor, Criminology and Criminal Justice; State University of New York at Albany, PhD

Steven Zoloth
Professor, Health Sciences; University of Pennsylvania, PhD

Rose Zoltek-Jick
Associate Teaching Professor, Law; York University (Canada), LLB

Ronald C. Zullo
Senior Lecturer, Accounting; Bentley University, MS

Günther K. H. Zupanc
Professor, Biology; University of California, San Diego, PhD; University of Tübingen (Germany), Dr. rer. nat. habil.

Alexander Zvonok
Assistant Research Professor, Center for Drug Discovery; Belarusian State University (Belarus), PhD

General Information

- Notifications and Disclosures (p. 249)
- Governing Boards and Officers of Northeastern (p. 251)
- University Leadership (p. 253)
- Accreditation (p. 254)
- Authorizations (p. 258)
- Major CIP Codes (p. 262)
- Resources (p. 282)

Notifications and Disclosures

The *Northeastern University Catalog* contains the university's primary statements about approved academic programs and degree requirements, as authorized by the president or the Board of Trustees.

The *Northeastern University Catalog* contains current information about the university calendar, admissions, degree requirements, fees, and certain procedures and regulations; however, such information is not intended and should not be regarded to be contractual. Course information was current as of July 31, 2023. For updated course information, students and advisors should consult the Banner course catalog (https://nubanner.neu.edu/StudentRegistrationSsb/ssb/term/termSelection/?mode=courseSearch).

Accreditation

Please visit the Accreditation (https://catalog.northeastern.edu/archive/2023-2024/graduate/appendix/statements-accreditation/) page of this catalog for details of Northeastern University's accreditation status.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

In accordance with the Family Educational Rights and Privacy Act of 1974, Northeastern University permits its students to inspect their records wherever appropriate and to challenge specific parts of them when they feel it is necessary to do so. Specific details of the law as it applies to Northeastern are discussed in this section of the catalog (https://catalog.northeastern.edu/archive/2023-2024/graduate/academic-policies-procedures/ferpa/).

PERSISTENCE RATES UNDER THE STUDENT RIGHT-TO-KNOW ACT

In the fall of 2022, the persistence rate for undergraduate students who entered in the fall 2021 cohort was 97.2%.

TUITION DEFAULT POLICY

In cases where the student defaults on their tuition, the student shall be liable for the outstanding tuition and all reasonable associated collection costs incurred by the university, including attorneys' fees.

NONDISCRIMINATION POLICIES

Northeastern University is committed to providing a living, learning, and working environment free from discrimination and harassment and does not discriminate on the basis of race, color, religion, genetic information, sex, gender, gender identity, sexual orientation, age, national origin, ancestry, disability, or veteran status in admission to, access to, treatment in, or employment in its programs and activities. The university will not tolerate any conduct that violates rights guaranteed by law, or any of the university policies that prohibit discrimination, including the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), Policy on Sexual and Gender-Based Harassment and Title IX (https://policies.northeastern.edu/policy104/#_ga=2139912052678023693168597 2406-9222403871666097079), and the Policy on Non-Fraternization (https://www.northeastern.edu/policies/pdfs/Policy_on_Non-Fraternization.pdf). Furthermore, university policy also includes prohibitions of retaliation for filing complaints of discrimination with the Office for University Equity and Compliance. Links to the university's nondiscrimination policies and its grievance procedures are available at the OUEC (https://www.northeastern.edu/ouec/). Inquiries regarding the university's nondiscrimination policies may be directed to:

Office for University Equity and Compliance (https://www.northeastern.edu/ouec/)
125 Richards Hall
Northeastern University
Boston, Massachusetts 02115
617.373.4644
ouec@northeastern.edu

The university strongly encourages any person to report information relating to alleged discrimination or harassment to the OUEC (https://www.northeastern.edu/ouec/) by completing the form available here (https://cm.maxient.com/reportingform.php?NortheasternUniv&layout_id=7) or through any of the contact options listed above. OUEC's policies, as well as other helpful information, can be found at the OUEC website (https://www.northeastern.edu/ouec/).

DISABILITY RESOURCE CENTER

The Disability Resource Center provides a variety of disability-related services and accommodations to Northeastern University's students with disabilities.

Northeastern University's compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 are coordinated by the senior director of the Disability Resource Center. Persons requiring information regarding the Disability Resource Center should contact the center at 617.373.2675 or drc@northeastern.edu.

CLERY ACT

Northeastern University is committed to assisting all members of the university community in providing for their own safety and security. Information regarding campus security and personal safety, including topics such as crime prevention, university police law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures, is available in the Annual Security & Fire Safety Reports, located on the NUPD website (https://nupd.northeastern.edu/annual-reports/).

EMERGENCY INFORMATION

The university is prepared to respond to emergencies and urgent situations that require immediate action with a trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals from a coordinated group that is able to manage a wide range of potential situations.

In case of emergency or crisis situations that require immediate notification, university officials will deploy the NU Alert system, which sends email, voice mail, and text messages to students, faculty, and staff. NU Alert is intended to communicate pertinent information and, when appropriate, provide directions to those in the affected area(s).

A record of past Timely Warning and NU Alert Emergency Notifications for our campus community can be found on the NUPD website (https://nupd.northeastern.edu/safety-notifications/).

Examples of crisis situations range from snowstorms to national emergencies that have a local impact.

Additional information on the university's emergency information systems can be found on the university's Emergency Information (https://www.northeastern.edu/emergency-information/) website.

MISSION STATEMENT

To educate students for a life of fulfillment and accomplishment.
To create and translate knowledge to meet global and societal needs.

Governing Boards and Officers of Northeastern

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Elizabeth Hudson, BA, MA, PhD, *Dean of the College of Arts, Media and Design*
Jared Auclair, BS, MA, PhD, *Interim Dean of the College of Professional Studies*
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Ron Sandler, PhD, *Interim Dean of the College of Social Sciences and Humanities*
Carmen L. Sceppa, BS, MD, PhD, *Dean of the Bouvé College of Health Sciences*

Accreditation

Accreditation

Northeastern University has maintained its status as a member in good standing of the New England Commission of Higher Education, Inc. (NECHE), previously New England Association of Schools and Colleges (NEASC), since it was awarded its initial accreditation in 1940. The university was last reviewed by NECHE in 2018 and will be reviewed again in fall 2028.

Northeastern University possesses degree-granting authority in Massachusetts, under the auspices of the Massachusetts Board of Higher Education.

BOUVÉ COLLEGE OF HEALTH SCIENCES

Program	Accrediting Agency
BA Public Health (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/public-health-ba/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BS Health Science (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/health-science-bs/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
MPH Public Health (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/public-health-mph/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[3]	North Carolina Board of Nursing (https://www.ncbon.com/)[3]
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Physician Assistant Studies (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/physician-assistant-studies-ms/)	Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) (http://www.arc-pa.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA) (https://caa.asha.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
CAGS Nursing (multiple concentrations) (https://nextcatalog.northeastern.edu/graduate/health-sciences/nursing/#programstext)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)[1]	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Council on Accreditation of Nurse Anesthesia Educational Programs (COA) (https://www.coacrna.org/)
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DNP Nursing Practice—Post-Master's (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-practice-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DPT Physical Therapy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/dpt-post-baccalaureate-entry/)	Commission on Accreditation in Physical Therapy Education (CAPTE) (https://www.capteonline.org/)
PharmD Pharmacy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/pharmacy/pharmd-direct-entry/)	Accreditation Council for Pharmacy Education (ACPE) (https://www.acpe-accredit.org/)
PhD Counseling Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/counseling-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

1 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.
2 The Massachusetts Board of Registration in Nursing approves (not accredits) programs.
3 The North Carolina Board of Nursing approves (not accredits) programs.

COLLEGE OF ARTS, MEDIA AND DESIGN

Program	Accrediting Agency
Master of Architecture (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/architecture/#text)	National Architectural Accreditation Board (NAAB) (https://www.naab.org/)

COLLEGE OF ENGINEERING

Program	Accrediting Agency
BSBioE Bioengineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/bioengineering/bioengineering-bsbioe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSChE Chemical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/chemical/chemical-engineering-bsche/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCE Civil Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/civil-engineering-bsce/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCmpE Computer Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/computer-engineering-bscompe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEE Electrical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/electrical-engineering-bsee/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEnvE Environmental Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/environmental-engineering-bsenve/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSIE Industrial Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsie/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

BSME Mechanical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsme/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

COLLEGE OF PROFESSIONAL STUDIES

Program	Accrediting Agency
BS Finance and Accounting Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/finance-accounting-management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BS Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BSET Computer Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Electrical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Mechanical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
MS Organizational Leadership (with concentration in Project Management) (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/organizational-leadership-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MS Project Management (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MSLD Sports Leadership (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/master-of-sports-leadership/)	Commission on Sport Management Accreditation (https://www.cosmaweb.org/)
Master of Arts in Teaching programs in: (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/teaching-secondary-licensure-mat/#text)	
Elementary Education, 1–6	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Sheltered English Immersion Administrator—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)
Sheltered English Immersion Teacher—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Biology, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Chemistry, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Earth and Space Science, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English as a Second Language (ESL), PreK–6, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of History, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Mathematics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Physics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Political Science/Political Philosophy, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

Teacher of Social Science, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Students with Moderate Disabilities, PreK–8, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

1 Accredited under the aegis of the "sponsoring" full-time college.
2 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.

COLLEGE OF SCIENCE

Program	Accrediting Agency
BS Biochemistry (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/science/biochemistry/biochemistry-bs/)	American Society for Biochemistry and Molecular Biology (ASBMB) (https://www.asbmb.org/)

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

Program	Accrediting Agency
BS American Sign Language—English Interpreting (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/social-sciences-humanities/cultures-societies-global-studies/american-sign-language-english-interpreting-bs/)	Commission on Collegiate Interpreter Education (http://www.ccie-accreditation.org/)
MPA Public Administration (https://catalog.northeastern.edu/archive/2023-2024/graduate/social-sciences-humanities/public-policy-urban-affairs/public-administration-mpa/)	Network of Schools of Public Policy, Affairs, and Administration (https://www.naspaa.org/)

D'AMORE-MCKIM SCHOOL OF BUSINESS

Program	Accrediting Agency
All programs offered in 2023–24	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)

SCHOOL OF LAW

Program	Accrediting Agency
JD Law (https://catalog.northeastern.edu/archive/2023-2024/graduate/law/law-jd/)	American Bar Association; Association of American Law Schools[1]

1 The Association of American Law Schools is an elected membership organization, not an accrediting body.

Authorizations

Campus Locations and Regulatory Agencies

In addition to accreditation by the New England Commission of Higher Education, Northeastern University is regulated by local authorities for its global campus network locations. These agencies are as follows:

- Arlington, Virginia
  - State Council of Higher Education for Virginia
- Charlotte, North Carolina
  - Board of Governors of the University of North Carolina
- Miami, Florida
  - Florida Commission for Independent Education
- Portland, Maine
  - Maine State Board of Education
- Oakland, California
  - Bureau for Private Postsecondary Education
- San Francisco, California
  - Bureau for Private Postsecondary Education
- San Jose, California
  - Bureau for Private Postsecondary Education
- Seattle, Washington
  - Washington Student Achievement Council
- Toronto, Ontario, Canada
  - Ministry of Colleges and Universities
- Vancouver, British Columbia, Canada
  - Ministry of Post-Secondary Education and Future Skills

Required Disclosures

VIRGINIA

Northeastern has processes in place to ensure that student grievances are treated with respect and addressed in a fair and professional manner. Students can report concerns to the Office of Student Conduct and Conflict Resolution (https://www.northeastern.edu/osccr/) or the University Ombuds (https://provost.northeastern.edu/ombuds/). At the Arlington campus, students can contact the on-site student support specialist or the campus principal.

If a student's problem has not been resolved in pursuance of the Northeastern grievance policy, they may contact the State Council of Higher Education for Virginia. SCHEV representatives can be reached via telephone at (804) 225-2600; via fax at (804) 225-2604; at this website (https://www.schev.edu/students/resources/student-complaints/); or by mail at 101 N. 14th Street, 10th Floor, James Monroe Building, Richmond, VA 23219.

The Virginia State Approving Agency (SAA) is the approving authority of education and training programs for Virginia. Our office investigates complaints of GI Bill® beneficiaries. While most complaints should initially follow the school grievance policy, if the situation cannot be resolved at the school, the beneficiary should contact our office via email saa@dvs.virginia.gov. *GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at* http://www.benefits.va.gov/gibill *(*http://www.benefits.va.gov/gibill/*).*

NORTH CAROLINA

Northeastern has been evaluated by the University of North Carolina and is licensed to conduct higher education degree activity in the state. The university's guaranty bond for unearned prepaid tuition is on file with the Board of Governors of the University of North Carolina and the Office of the General Counsel at Northeastern. North Carolina students may view a copy of the Tuition Guaranty Bond by contacting Northeastern's Risk Services at 716 Columbus Avenue (Columbus Place), Suite 301 CP, Boston, MA 02120.

If students are unable to resolve a complaint offered by the Northeastern grievance procedures, they can submit a complaint through the online student complaint form at https://studentcomplaints.northcarolina.edu/form (https://studentcomplaints.northcarolina.edu/form/), or by mail to North Carolina Post-Secondary Education Complaints, 140 Friday Center Drive, Chapel Hill, NC 27517. https://www.northcarolina.edu/post-secondary-education-complaints/.

FLORIDA

Northeastern University—Miami is accredited by the New England Commission of Higher Education (NECHE) and is provisionally licensed in the state of Florida by the Commission on Independent Education (CIE). Additional information regarding the institution may be obtained by contacting the Commission for Independent Education, Department of Education, 325 West Gaines Street, Suite 1414, Tallahassee, Florida 32399-0400, toll-free telephone number (888) 224-6684.

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

CALIFORNIA

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education (http://www.bppe.ca.gov), 1747 N. Market Blvd., Ste. 225, Sacramento, CA 95834; P.O. Box 980818, West Sacramento, CA 95798-0818, (888) 370-7589, or by fax (916) 263-1897.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

The Office of Student Assistance and Relief is available to support prospective students, current students, or past students of private postsecondary educational institutions in making informed decisions, understanding their rights, and navigating available services and relief options. The office may be reached by calling (888) 370-7589 or by visiting https://osar.bppe.ca.gov/.

WASHINGTON

Northeastern is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Northeastern to offer specific degree programs. The council may be contacted for a list of currently authorized programs. Authorization by the council does not carry with it an endorsement by the council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the council at P.O. Box 43430, Olympia, WA 98504-3430 or by email at degreeauthorization@wsac.wa.gov.

The transferability of credits earned at Northeastern is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Northeastern will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Northeastern to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Northeastern will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned. The Washington Student Achievement Council has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit http://www.wsac.wa.gov/student-complaints (http://www.wsac.wa.gov/student-complaints/) for information regarding the WSAC complaint process.

ONTARIO

Master of Science in Project Management *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Regulatory Affairs *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/regulatory-affairs-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting June 25, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Informatics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/informatics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Biotechnology (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/chemistry-chemical-biology/biotechnology-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting September 14, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Cyber-Physical Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/cyber-physical-systems-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Bioinformatics (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/biology/bioinformatics-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

BRITISH COLUMBIA

Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Align—Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/#alignprogramrequirementstext)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Data Analytics Engineering (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/mechanical-industrial/data-analytics-engineering-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective November 29, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Design and Data Visualization (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/art-design/information-design-data-visualization-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF SCIENCE IN INFORMATION SYSTEMS (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective March 3, 2023, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF professional studies in digital media *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps/*) (including* connect *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps-connect/*))*

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective June 6, 2023 having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (for example, acceptable to potential employers, professional licensing bodies, or other educational institutions).

Distance Education/State Authorization Reciprocity Agreement Student Complaint Procedures (https://www.northeastern.edu/graduate/wp-content/uploads/2020/07/25.-Student-Complaint-Procedure-with-links.pdf)

Major CIP Codes

The following is a list of Northeastern University majors for programs accepting new students during the 2023-2024 catalog year, along with each major's corresponding CIP code. "CIP" refers to the Classification of Instructional Programs published by the U.S. Department of Education's National Center for Education Statistics (https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=56).

Academic Program	Major Transcript Title	Major Cip Code
P-CERTG-3DAN: 3D Animation, Graduate Certificate	3-D Animation	100304
CERTG-ACFD: Accounting and Financial Decision Making, Graduate Certificate	Accntng Fin Decision Making	520899
MSA-ACCT: Accounting, MSA	Accounting	520301
P-CERTU-ACCT: Accounting, Undergraduate Certificate	Accounting	520301
P-CERTU-AACT: Advanced Accounting, Undergraduate Certificate	Advanced Accounting	520301
MS-AIMF: Advanced and Intelligent Manufacturing, MS	Advanced and Intelligent Mfg	143601
P-BS-AVMS: Advanced Manufacturing Systems, BS	Advanced Manufacturing Systems	150613
BA-AFMS: Africana Studies and Media and Screen Studies, BA	Africana St/Media Screen St	050201
BA-AFHS: Africana Studies and Human Services, BA	Africana Stud/Human Services	050201
BA-AFCS: Africana Studies, BA	Africana Studies	050201
BS-AFCS: Africana Studies, BS	Africana Studies	050201
BA-AFEN: Africana Studies and English, BA	Africana Studies/English	050201
BA-AFPS: Africana Studies and Political Science, BA	Africana Studies/Political Sci	050201
P-CERTG-AGPM: Agile Project Management, Graduate Certificate	Agile Project Management	520211
P-BS-ANLY: Analytics, BS	Analytics	110802
P-CERTU-ANLY: Analytics, Undergraduate Certificate	Analytics	110802
P-MPS-ANLY: Analytics, MPS	Analytics	110802
MS-AQMS: Applied Quantitative Methods and Social Analysis, MS	Appl Quant Methods Soc Anlys	450102
P-CERTG-APAN: Applied Analytics, Graduate Certificate	Applied Analytics	307101
MS-ABA: Applied Behavior Analysis, MS	Applied Behavior Analysis	422814
MS-AEPP: Applied Educational Psychology, MS	Applied Educational Psychology	422805
P-MPS-APLG: Applied Logistics, MPS	Applied Logistics	520203
P-MPS-APMI: Applied Machine Intelligence, MPS	Applied Machine Intelligence	521301
CERTG-AMTH: Applied Mathematics, Graduate Certificate	Applied Mathematics	270301
MS-AMTH: Applied Mathematics, MS	Applied Mathematics	270301
MS-APNR: Applied Nursing Research, MS	Applied Nursing Research	513808
P-MS-APNU: Applied Nutrition, MS	Applied Nutrition	301901
BS-APHY: Applied Physics, BS	Applied Physics	400801
MS-APEN: Applied Physics and Engineering, MS	Applied Physics/Engineering	400801
MS-APPS: Applied Psychology, MS	Applied Psychology	422813
BS-ARCS: Architectural Studies, BS	Architectural Studies	040801
BS-ARSD: Architectural Studies and Design, BS	Architectural Studies/Design	040803
BS-ARCH: Architecture, BS	Architecture	040902

MARCH-ARCH1: Master of Architecture—One-Year Program	Architecture	040902
MARCH-ARCH2: Master of Architecture—Two-Year Program	Architecture	040902
MARCH-ARCH3: Master of Architecture—Three-Year Program	Architecture	040902
MARCH-ARCH3A: Master of Architecture—Three-Year Program—Advanced Degree Entrance	Architecture	040902
BS-AENG: Architecture and English, BS	Architecture/ English	040201
BA-ARTS: Art, BA	Art	500702
MS-ARIN: Artificial Intelligence	Artificial Intelligence	110102
MS-AMCE: Arts Administration and Cultural Entrepreneurship, MS	Arts Adm Cultural Entrepren	501099
CERTG-ARAD: Arts Administration, Graduate Certificate	Arts Administration	501099
BS-ASLI: American Sign Language—English Interpreting, BS	ASL - English Interpreting	161601
BS-ASHU: American Sign Language and Human Services, BS	ASL / Human Services	161601
BS-ASLN: American Sign Language and Linguistics, BS	ASL / Linguistics	161601
BS-ASPS: American Sign Language and Psychology, BS	ASL / Psychology	161601
BS-ASTH: American Sign Language and Theatre, BS	ASL / Theatre	161601
BS-BNPH: Behavioral Neuroscience and Philosophy, BS	Behav Neuroscience/Philosophy	261501
BS-BENS: Behavioral Neuroscience, BS	Behavioral Neuroscience	261501
BS-BNDS: Behavioral Neuroscience and Design, BS	Behavioral Neuroscience/Design	261501
BS-BIOC: Biochemistry, BS	Biochemistry	260202
CERTG-BDBS: Biodefense and Biosecurity, Graduate Certificate	Biodefense and Biosecurity	261201
BSBIOE-BION: Bioengineering, BSBioE	Bioengineering	149999
MSBIOE-BION: Bioengineering, MSBioE	Bioengineering	149999
PHD-BION: Bioengineering, PhD	Bioengineering	149999
PHD-BION-A: Bioengineering, PhD—Advanced Entry	Bioengineering	149999
BSBIOE-BEBC: Bioengineering and Biochemistry, BSBioE	Bioengineering/Biochemistry	149999
CERTG-BINF: Bioinformatics, Graduate Certificate	Bioinformatics	261103
MS-BINF: Bioinformatics, MS	Bioinformatics	261103
P-BS-BIOS: Biological Science, BS	Biological Science	260101
BS-BIOL: Biology, BS	Biology	260101
MS-BIOL: Biology, MS	Biology	260101
PHD-BIOL: Biology, PhD	Biology	260101
PHD-BIOL-A: Biology, PhD-Advanced Entry	Biology	260101
BS-BENG: Biology and English, BS	Biology/English	269999
BS-BIMA: Biology and Mathematics, BS	Biology/Mathematics	260101
BS-BIPO: Biology and Political Science, BS	Biology/Political Science	269999
BS-BIMP: Biomedical Physics, BS	Biomedical Physics	260203
MS-BIOM: Biomedical Science, MS	Biomedical Science	260102
PHD-BIOM: Biomedical Science, PhD	Biomedical Science	260102
PHD-BIOM-A: Biomedical Science, PhD—Advanced Entry	Biomedical Science	260102

P-CERTG-BPRA: Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biophamaceutical Reg Affairs	512099
CERTG-BIAS: Biopharmaceutical Analytical Sciences, Graduate Certificate	Biopharm Analytical Sci	400599
P-CERTG-BPQI: International Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biopharmacy Quality Intl	512099
CERTG-BIOT: Biotechnology, Graduate Certificate	Biotechnology	261201
MS-BIOT-SC: Biotechnology, MS	Biotechnology	261201
P-BS-BIOT: Biotechnology, BS	Biotechnology	261201
CERTG-BITE: Biotechnology Enterprise, Graduate Certificate	Biotechnology Enterprise	261201
CERTG-RESC: Biotechnology Regulatory Science, Graduate Certificate	Biotechnology Regulatory Sci	512004
CERTG-BLCE: Blockchain and Smart Contract Engineering, Graduate Certificate	Blockchain Smart Contr. Engr	140903
CERTG-BMGT: Brand Management, Graduate Certificate	Brand Management	521401
CERTG-TBWS: Broadband Wireless Systems, Graduate Certificate	Broadband Wireless Systems	110901
BS-BALW: Business Administration and Law, BS	Business Admin and Law	520101
BS-BACS: Business Administration and Communication Studies, BS	Business Admin/Comm Studies	520101
BS-BAPS: Business Administration and Psychology, BS	Business Admin/Psychology	520101
BS-BAPH: Business Administration and Public Health, BS	Business Admin/Public Health	520101
BSBA-BSAD: Bachelor of Science in Business Administration, BSBA	Business Administration	520101
CERTG-BSAD: Business Administration, Graduate Certificate	Business Administration	520101
CERTG-BSAD-O: Business Administration—Online Program, Graduate Certificate	Business Administration	520101
MBA-BSAD-E: Business Administration, MBA—Part-Time	Business Administration	520101
MBA-BSAD-F: Business Administration, MBA—Full-Time	Business Administration	520101
MBA-BSAD2-O: Business Administration, MBA—Online	Business Administration	520101
BS-BUDE: Business Administration and Design, BS	Business Administration/Design	520101
CERTG-BUSA: Business Analytics, Graduate Certificate	Business Analytics	521302
MS-BUSA: Business Analytics, MS	Business Analytics	521302
MS-BUSA-O: Business Analytics, MS—Online	Business Analytics	521302
CERTG-BLAW: Business Law, Graduate Certificate	Business Law	220205
CERTG-HECA: Business Management for Healthcare, Graduate Certificate	Business Mgmt for Healthcare	521099
MS-CGTH: Cell and Gene Therapies, MS	Cell and Gene Therapies	260806
BS-CMBI: Cell and Molecular Biology, BS	Cell and Molecular Biology	260406
BSCHE-CEBE: Chemical Engineering and Bioengineering, BSChE	Chem Engineer/Bioengineering	140701
BSCHE-CHOC: Chemical Engineering and Biochemistry, BSChE	Chem Engineering/ Biochemistry	140701
BSCHE-CHME: Chemical Engineering, BSChE	Chemical Engineering	140701
MSCHE-CHME: Chemical Engineering, MSChE	Chemical Engineering	140701
PHD-CHME: Chemical Engineering, PhD	Chemical Engineering	140701

PHD-CHME-A: Chemical Engineering, PhD—Advanced Entry	Chemical Engineering	140701
BSCHE-CHCS: Chemical Engineering and Computer Science, BSChE	Chemical Engineering/Comp Sci	140701
BSCHE-CEDS: Chemical Engineering and Data Science, BSChE	Chemical Engineering/Data Sci	140701
BSCHE-CEPH: Chemical Engineering and Physics, BSChE	Chemical Engineering/Physics	140701
BSCHE-CEEE: Chemical Engineering and Environmental Engineering, BSChE	Chemical Engr/Environ Engr	140701
BS-CHEM: Chemistry, BS	Chemistry	400501
MS-CHEM: Chemistry, MS	Chemistry	400501
PHD-CHEM: Chemistry, PhD	Chemistry	400501
PHD-CHEM-A: Chemistry, PhD-Advanced Entry	Chemistry	400501
PHD-CEEN: Civil and Environmental Engineering, PhD	Civil Environmental Engineer	140801
PHD-CEEN-A: Civil and Environmental Engineering, PhD—Advanced Entry	Civil Environmental Engineer	140801
BSCE-CEAS: Civil Engineering and Architectural Studies, BSCE	Civil Eng/Arch Studies	140801
BSCE-CIVE: Civil Engineering, BSCE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Construction Management, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Structures, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Transportation, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Data and Systems, MSCivE	Civil Engineering	140801
BSCE-CVCS: Civil Engineering and Computer Science, BSCE	Civil Engineering/Computer Sci	140801
CERTG-CLEN: Climate and Engineering, Graduate Certificate	Climate and Engineering	141401
MS-CLSE: Climate Science and Engineering, MS	Climate Sci and Engineering	141401
P-CERTG-CCAM: Cloud Computing Application and Management, Graduate Certificate	Cloud Computing App and Mgmt	110104
CERTG-CLSD: Cloud Software Development, Graduate Certificate	Cloud Software Development	110902
P-CERTG-CATH: Collegiate Athletics Administration, Graduate Certificate	Collegiate Athletics Admin	310504
BA-CMGR: Communication Studies and Graphic and Information Design, BA	Comm Stud/Graph Info Design	090101
BS-CMSL: Communication Studies and Speech-Language Pathology and Audiology	Comm Stud/Speech-Lang Path Aud	090101
BA-CMTH: Communication Studies and Theatre, BA	Comm Studies/Theatre	090199
P-MS-COED: Commerce and Economic Development, MS	Commerce Economic Developmnt	450603
BA-CMME: Communication and Media Studies, BA	Communication Media Studies	090199

BA-CMSO: Communication Studies and Sociology, BA	Communication Stud./Sociology	090199
BA-CMST: Communication Studies, BA	Communication Studies	090101
BS-CSBA: Computer Science and Business Administration, BS	Comp Sci/Business Admin	110101
BS-CSCP: Computer Science and Cognitive Psychology, BS	Comp Sci/Cognitive Psyc	110101
BS-CSES: Computer Science and Environmental and Sustainability Sciences, BS	Comp Sci/Environ and Sust Sci	110101
BS-CSMA: Computer Science and Mathematics, BS	Comp Sci/Mathematics	110101
BS-CSPP: Computer Science and Politics, Philosophy, and Economics, BS	Comp Sci/Politics, Phil Econ	110101
CERTG-COSS: Computational Social Science, Graduate Certificate	Computational Social Science	305202
BSCMPE-CMPE: Computer Engineering, BSCmpE	Computer Engineering	140901
PHD-CMPE: Computer Engineering, PhD	Computer Engineering	140901
PHD-CMPE-A: Computer Engineering, PhD-Advanced Entry	Computer Engineering	140901
BSCMPE-CMPH: Computer Engineering and Physics, BSCmpE	Computer Engineering/Physics	140901
BSCMPE-CECS: Computer Engineering and Computer Science, BSCmpE	Computer Engr/Computer Science	140901
BS-CSPO: Computer Science and Political Science, BS	Computer Sci./ Political Sci.	110101
BS-CSBN: Computer Science and Behavioral Neuroscience, BS	Computer Sci/Behavior Neurosci	110101
BS-CSCS: Computer Science and Communication Studies, BS	Computer Sci/Communication Stu	110101
BS-CSCJ: Computer Science and Criminal Justice, BS	Computer Sci/Criminal Justice	110101
BS-CGDV: Computer Science and Game Development, BS	Computer Sci/Game Development	110101
BS-CSMU-MUTE: Computer Science and Music with Concentration in Music Technology, BS	Computer Sci/Music	110101
BS-CSPL: Computer Science and Philosophy, BS	Computer Sci/Philosophy	110101
BS-CSPY: Computer Science and Physics, BS	Computer Sci/Physics	110101
BS-CSSO: Computer Science and Sociology, BS	Computer Sci/Sociology	110101
BACS-CSCI: Computer Science, BACS	Computer Science	110101
BSCS-CSCI: Computer Science, BSCS	Computer Science	110101
CERTG-CSCI: Computer Science, Graduate Certificate	Computer Science	110101
MSCS-CSCI: Computer Science, MSCS	Computer Science	110101
MSCS-CSCI-AL: Computer Science, MSCS—Align	Computer Science	110101
PHD-CSCI: Computer Science, PhD	Computer Science	110101
PHD-CSCI-A: Computer Science, PhD—Advanced Entry	Computer Science	110101
BS-CSBI: Computer Science and Biology, BS	Computer Science/Biology	110101
BS-CSDE: Computer Science and Design, BS	Computer Science/Design	110101
BS-CSEC: Computer Science and Economics, BS	Computer Science/Economics	110101
BS-CSEG: Computer Science and English, BS	Computer Science/English	110101
BS-CSHI: Computer Science and History, BS	Computer Science/History	110101
BS-CSJO: Computer Science and Journalism, BS	Computer Science/Journalism	110101
BS-CSLI: Computer Science and Linguistics, BS	Computer Science/Linguistics	110101
BS-CSME: Computer Science and Media Arts, BS	Computer Science/Media Arts	110101
BS-CSTH: Computer Science and Theatre, BS	Computer Science/Theatre	110101

BS-CPLW: Computing and Law, BS	Computing and Law	110101
P-CERTG-CONM: Construction Management, Graduate Certificate	Construction Management	460412
P-MS-CORC: Corporate and Organizational Communication, MS	Corporate Org Communication	090101
CERTG-COFN: Corporate Finance, Graduate Certificate	Corporate Finance	520801
CERTG-COIN: Corporate Innovation, Graduate Certificate	Corporate Innovation	520210
CERTG-CPRN: Corporate Renewal, Graduate Certificate	Corporate Renewal	520799
MSCP-COPS: Counseling Psychology, MSCP	Counseling Psychology	422803
PHD-COPS-MSE: Counseling Psychology, PhD	Counseling Psychology	422803
MS-CCMD: Creative Collaboration and Multidisciplinary Design, MS	Creatv Collab Multidisc Dsgn	501099
BS-CRJO: Criminal Justice and Journalism, BS	Criminal Justice/Journalism	430104
BS-CJPH: Criminal Justice and Philosophy, BS	Criminal Justice/Philosophy	430104
BS-CRPO: Criminal Justice and Political Science, BS	Criminal Justice/Political Sci	430104
BS-CJPS: Criminal Justice and Psychology, BS	Criminal Justice/Psychology	430199
BS-CRSO: Criminal Justice and Sociology, BS	Criminal Justice/Sociology	430104
BS-CRCJ: Criminology and Criminal Justice, BS	Criminology Criminal Justice	430104
MS-CRCJ: Criminology and Criminal Justice, MS	Criminology Criminal Justice	430104
PHD-CRJP: Criminology and Justice Policy, PhD	Criminology and Justice Policy	430104
PHD-CRJP-A: Criminology and Justice Policy, PhD—Advanced Entry	Criminology and Justice Policy	430104
P-CERTG-CCCM: Cross-Cultural Communication, Graduate Certificate	Cross-Cultural Communication	090100
BA-CAPH: Cultural Anthropology and Philosophy, BA	Cultural Anthro/Philosophy	450204
BA-CARS: Cultural Anthropology and Religious Studies, BA	Cultural Anthro/Religious Stud	450204
BA-CUAN: Cultural Anthropology, BA	Cultural Anthropology	451101
BS-CUAN: Cultural Anthropology, BS	Cultural Anthropology	451101
BA-CUTH: Cultural Anthropology and Theatre, BA	Cultural Anthropology/Theatre	451101
CERTG-CUEN: Cultural Entrepreneurship, Graduate Certificate	Cultural Entrepreneurship	501099
MS-CYPS: Cyber-Physical Systems, MS	Cyber-Physical Systems	140903
BS-CYBS: Cybersecurity, BS	Cybersecurity	111003
CERTG-CYBS: Cybersecurity, Graduate Certificate	Cybersecurity	111003
MS-CYBS: Cybersecurity, MS	Cybersecurity	111003
MS-CYBS-AL: Cybersecurity, MS—Align Program	Cybersecurity	111003
PHD-CYBS: Cybersecurity, PhD	Cybersecurity	111003
PHD-CYBS-A: Cybersecurity, PhD—Advanced Entry	Cybersecurity	111003
BS-CYBB: Cybersecurity and Business Administration, BS	Cybersecurity/Business Admin	111003
BS-CYCJ: Cybersecurity and Criminal Justice, BS	Cybersecurity/Criminal Justice	111003
BS-CYEC: Cybersecurity and Economics, BS	Cybersecurity/Economics	111003
CERTG-DAAN: Data Analytics, Graduate Certificate	Data Analytics	110802
CERTG-DAAE: Data Analytics Engineering, Graduate Certificate	Data Analytics Engineering	149999
MS-DAAE: Data Analytics Engineering, MS	Data Analytics Engineering	149999
MS-DAMG: Data Architecture and Management, MS	Data Architecture Management	110802

BS-DSBA: Data Science and Business Administration, BS	Data Sci/Business Admin	110802
BS-DSEE: Data Science and Ecology and Evolutionary Biology, BS	Data Sci/Ecology Evol Bio	110802
BS-DSES: Data Science and Environmental and Sustainability Sciences, BS	Data Sci/Environ and Sust Sci	110802
BS-DASC: Data Science, BS	Data Science	110802
MS-DASC: Data Science, MS	Data Science	110802
MS-DASC-AL: Data Science, MS—Align Program	Data Science	110802
BS-DSBN: Data Science and Behavioral Neuroscience, BS	Data Science/Behavioral Neuro	110802
BS-DSBC: Data Science and Biochemistry, BS	Data Science/Biochemistry	110802
BS-DSBL: Data Science and Biology, BS	Data Science/Biology	110802
BS-DSCH: Data Science and Chemistry, BS	Data Science/Chemistry	110802
BS-DSCJ: Data Science and Criminal Justice, BS	Data Science/Criminal Justice	110802
BS-DSEC: Data Science and Economics, BS	Data Science/Economics	110802
BS-DSHS: Data Science and Health Science, BS	Data Science/Health Science	110802
BS-DSIA: Data Science and International Affairs, BS	Data Science/Intl Affairs	110802
BS-DSJO: Data Science and Journalism, BS	Data Science/Journalism	110802
BS-DSLI: Data Science and Linguistics, BS	Data Science/Linguistics	110802
BS-DSMA: Data Science and Mathematics, BS	Data Science/Mathematics	110802
BS-DSPL: Data Science and Philosophy, BS	Data Science/Philosophy	110802
BS-DSPH: Data Science and Physics, BS	Data Science/Physics	110802
BS-DSPS: Data Science and Psychology, BS	Data Science/Psychology	110802
BFA-DESN: Design, BFA	Design	500409
P-BS-DIME: Digital Communication and Media, BS	Digital Communication Media	090702
CERTG-DHUM: Digital Humanities, Graduate Certificate	Digital Humanities	240103
P-MPS-DGM-AL: Digital Media, MPS—Connect	Digital Media	090702
P-MPS-DGME: Digital Media, MPS	Digital Media	090702
P-CERTG-DGMM: Digital Media Management, Graduate Certificate	Digital Media Management	100105
P-CERTG-DGVD: Digital Video, Graduate Certificate	Digital Video	500602
CERTG-EINT: Early Intervention, Graduate Certificate	Early Intervention	131099
BS-EEBI: Ecology and Evolutionary Biology, BS	Ecology Evolutionary Biology	261310
BA-ECON: Economics, BA	Economics	450603
BS-ECON: Economics, BS	Economics	450603
MS-ECON: Economics, MS	Economics	450603
PHD-ECON: Economics, PhD	Economics	450603
PHD-ECON-A: Economics, PhD—Advanced Entry	Economics	450603
BS-ECBA: Economics and Business Administration, BS	Economics/Business Admin	450603
BS-ECHS: Economics and Human Services, BS	Economics/Human Services	450603
BS-ECIB: Economics and International Business, BS	Economics/Intl Business	450603
BS-ECJO: Economics and Journalism, BS	Economics/Journalism	450603
BS-ECMA: Economics and Mathematics, BS	Economics/Mathematics	450603
BS-ECPH: Economics and Philosophy, BS	Economics/Philosophy	450603
BS-ECPS: Economics and Psychology, BS	Economics/Psychology	450603
P-EDD-EDUC: Education, EdD	Education	130101
P-MED-EDUC: Education, MEd	Education	130101

P-CAGS-EDLM: Education Leadership Management, CAGS	Education Leadership Mgmt	130401
MSECEL-ECEL: Electrical and Computer Engineering Leadership, MSECEL	Elec and Comp Engr Leadership	141001
BSEE-ELCE: Electrical and Computer Engineering, BSEE or BSCmpE	Electrical and Computer Engr	141001
BSEE-ELEE: Electrical Engineering, BSEE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Power Systems, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE	Electrical Engineering	141001
PHD-ELEE: Electrical Engineering, PhD	Electrical Engineering	141001
PHD-ELEE-A: Electrical Engineering, PhD—Advanced Entry	Electrical Engineering	141001
BSEE-EEMU: Electrical Engineering and Music with Concentration in Music Technology, BSEE	Electrical Engineering/Music	141001
BSEE-EEPH: Electrical Engineering and Physics, BSEE	Electrical Engineering/Physics	141001
P-MAT-ELED: Elementary Education, MAT	Elementary Education	131202
CERTG-ENES: Energy Systems, Graduate Certificate	Energy Systems	142701
MSENES-AL: Energy Systems, MSEneS—Academic Link Program	Energy Systems	142701
MSENES-ENES: Energy Systems, MSEneS	Energy Systems	142701
CERTG-ENSY: Energy Systems Management, Graduate Certificate	Energy Systems Management	142701
MS-CEPP: Engineering and Public Policy, MS	Engineering and Public Policy	140899
CERTG-ENBU: Engineering Business, Graduate Certificate	Engineering Business	140101
CERTG-EEDM: Engineering Economic Decision Making, Graduate Certificate	Engineering Economic Decision	140101
CERTG-ENLR: Engineering Leadership, Graduate Certificate	Engineering Leadership	141001
CERTG-ENGM: Engineering Management, Graduate Certificate	Engineering Management	140101
MSEM-ENGM: Engineering Management, MSEM	Engineering Management	140101

CERTG-ETSM: Technology Systems Management, Graduate Certificate	Engineering Tech Systems Mgmt	140101
BA-ENGL: English, BA	English	230101
MA-ENGL: English, MA	English	230101
PHD-ENGL: English, PhD	English	230101
PHD-ENGL-A: English, PhD—Advanced Entry	English	230101
BA-ENTH: English and Theatre, BA	English/ Theatre	230101
BA-ENCO: English and Communication Studies, BA	English/Communication Studies	230101
BA-ENCJ: English and Criminal Justice, BA	English/Criminal Justice	230101
BA-ENCA: English and Cultural Anthropology, BA	English/Cultural Anthropology	230101
BA-ENGD: English and Graphic and Information Design, BA	English/Graphic Info Design	230101
BA-EPHI: English and Philosophy, BA	English/Philosophy	230101
BA-ENPS: English and Political Science, BA	English/Political Science	230101
CERTG-ENTR: Entrepreneurship, Graduate Certificate	Entrepreneurship	520701
BS-ESJO: Environmental and Sustainability Sciences and Journalism, BS	Environ Sust Sci/Journalism	030104
BS-ESCH: Environmental and Sustainability Sciences and Chemistry, BS	Environ and Sust Sci/Chemistry	030104
BS-ESEC: Environmental and Sustainability Sciences and Economics, BS	Environ and Sust Sci/Economics	030104
BS-ESLA: Environmental and Sustainability Sciences and Landscape Architecture, BS	Environ and Sust Sci/Land Arch	030104
BSENVE-ENHS: Environmental Engineering and Health Science, BSEnvE	Environmental Eng/Health Sci	140801
BSENVE-ENVI: Environmental Engineering, BSEnvE	Environmental Engineering	140801
MSENVE-ENVI: Environmental Engineering, MSEnvE	Environmental Engineering	140801
MS-ENPP. Environmental Science and Policy, MS	Environmental Science Policy	030103
BA-ENVS: Environmental Studies, BA	Environmental Studies	030103
BS-ENSS: Environmental and Sustainability Sciences, BS	Environmtl Sustain Sciences	030104
BSENVE-EELA: Environmental Engineering and Landscape Architecture, BSEnvE	Environmtl Eng/Landscape Arch	140801
BA-ENHI: Environmental Studies and History, BA	Environmtl Studies/History	030103
BA-ENIA: Environmental Studies and International Affairs, BA	Environmtl Studies/Intl Affair	030103
BA-ENPH: Environmental Studies and Philosophy, BA	Environmtl Studies/Philosophy	030103
BA-ENPO: Environmental Studies and Political Science, BA	Environmtl Studies/Politic Sci	030103
P-CERTG-ESPT: eSports, Graduate Certificate	eSports	310504
MS-EXSC-O: Exercise Science, MS—Online	Exercise Science, MS	310505
CERTG-EXPD: Experience Design, Graduate Certificate	Experience Design	500499
MFA-EXPD: Experience Design, MFA	Experience Design	500499
MS-EXPD: Experience Design, MS	Experience Design	500499
CERTG-EPHD: Experiential PhD Leadership, Graduate Certificate	Experiential PhD Leadership	520210
P-CERTG-EXTL: Experiential Teaching and Learning, Graduate Certificate	Experiential Teach and Learn	130301
CERTG-EBIO: Experimental Biotechnology, Graduate Certificate	Experimental Biotechnology	261201
MS-EXRL: Extended Realities, MS	Extended Realities	500411

CERTG-EXMD: Extreme Medicine, Graduate Certificate	Extreme Medicine	519999
MSF-FINA: Finance, MSF	Finance	520801
P-BS-FIAM: Finance and Accounting Management, BS	Finance and Accounting Mgmt	520801
MSFMBA-E: Finance and Business Administration, MSFMBA—Part-Time	Finance/Business Admin	520801
MSFMBA-FIBA: Finance and Business Administration, MSFMBA	Finance/Business Admin	520801
MSFMBA-O: Finance and Business Administration, MSFMBA—Online	Finance/Business Admin	520801
P-CERTG-FIMI: Financial Markets and Institutions, Graduate Certificate	Financial Mkts and Inst	520899
P-CERTG-FACC: Forensic Accounting, Graduate Certificate	Forensic Accounting	430406
P-CERTG-FDDV: Fundraising and Development, Graduate Certificate	Fundraising and Development	520206
BFA-GAAN: Game Art and Animation, BFA	Game Art and Animation	500605
BFA-GAME: Game Design, BFA	Game Design	100304
P-CERTG-GMDS: Game Design, Graduate Certificate	Game Design	100304
BS-GDMT: Game Design and Music with Concentration in Music Technology, BS	Game Design/Music	100304
CERTG-GMED: Game Experience Design, Graduate Certificate	Game Experience Design	100304
CERTG-GMSC: Game Science, Graduate Certificate	Game Science	100304
MS-GSAD: Game Science and Design, MS	Game Science and Design	100304
P-CERTG-GINT: Geographic Information Systems, Graduate Certificate	Geographic Information Tech	110103
P-MPS-GSPS: Geospatial Services, MPS	Geospatial Services	110103
BA-GLAS: Global Asian Studies, BA	Global Asian Studies	050103
P-CERTG-GSIR: Global Studies and International Relations, Graduate Certificate	Global Stu and Intl Relations	302001
P-MS-GSIR: Global Studies and International Relations, MS	Global Stu and Intl Relations	302001
BS-GIDM: Graphic and Information Design and Mathematics, BS	Graphic and Info. Design/Math	500499
CERTG-HIME: Health Informatics Management and Exchange, Graduate Certificate	Health Info Mgmt Exchange	512706
CERTG-HISP. Health Informatics Privacy and Security, Graduate Certificate	Health Info Privacy Secu	512706
CERTG-HISE: Health Informatics Software Engineering, Graduate Certificate	Health Info Software Eng	512706
MS-HEIN: Health Informatics, MS	Health Informatics	512706
CERTG-HLAW: Health Law, Graduate Certificate	Health Law	220208
CERTG-HLAP. Health Law and Policy, Graduate Certificate	Health Law and Policy	220208
P-CERTG-HLMG: Health Management, Graduate Certificate	Health Management	510799
BS-HLSC: Health Science, BS	Health Science	510799
P-BS-HLSC: Health Science, BS	Health Science	510799
BS-HSBA: Health Science and Business Administration, BS	Health Science/Business Admin	510799
BS-HLCM: Health Science and Communication Studies, BS	Health Science/Comm Studies	510799
BS-HSPS: Health Science and Psychology, BS	Health Science/Psychology	510799

BS-HSSO: Health Science and Sociology, BS	Health Science/Sociology	510799
P-BS-HCAD: Healthcare Administration, BS	Healthcare Administration	510701
P-CERTU-HCAD: Healthcare Administration, Undergraduate Certificate	Healthcare Administration	510701
CERTG-CLAW: Healthcare Compliance, Graduate Certificate	Healthcare Compliance	220208
DMSC-HCLD: Healthcare Leadership, DMSc	Healthcare Leadership, DMSc	510701
P-CERTG-HEDA: Higher Education Administration, Graduate Certificate	Higher Education Admin	130406
P-MED-HEDA: Higher Education Administration, MEd	Higher Education Admin	130406
BA-HIST: History, BA	History	540101
BS-HIST: History, BS	History	540101
MA-HIST: History, MA	History	540101
PHD-HIST: History, PhD	History	540101
PHD-HIST-A: History, PhD—Advanced Entry	History	540101
BA-HICL: History, Culture, and Law, BA	History, Culture, and Law	220000
BA-HIAS: History and Asian Studies, BA	History/Asian Studies	540101
BA-HICJ: History and Criminal Justice, BA	History/Criminal Justice	540101
BA-HICA: History and Cultural Anthropology, BA	History/Cultural Anthrop	540101
BA-HIEC: History and Economics, BA	History/Economics	540101
BS-HIEC: History and Economics, BS	History/Economics	540101
BA-HIEN: History and English, BA	History/English	540101
BA-HIPH: History and Philosophy, BA	History/Philosophy	540101
BA-HIPS: History and Political Science, BA	History/Political Science	540101
BA-HIRS: History and Religious Studies, BA	History/Religious Studies	540101
BS-HHHS: Health Humanities and Health Science, BS	Hlth Humanities/Hlth Science	513204
BA-HHPH: Health Humanities and Public Health, BA	Hlth Humanities/Public Hlth	513204
PHD-HBSS: Human Behavior and Sustainability Sciences, PhD	Human Behavior and Sustain Sci	300601
P-CERTG-HUIN: Human-Centered Informatics, Graduate Certificate	Human Centered Informatics	110104
MS-HUFA: Human Factors, MS	Human Factors	142701
MS-HMRS: Human Movement and Rehabilitation Sciences, MS	Human Movement Rehab Science	512314
PHD-HMRS: Human Movement and Rehabilitation Sciences, PhD	Human Movement Rehab Science	512314
PHD-HMRS-A: Human Movement and Rehabilitation Sciences, PhD—Advanced Entry	Human Movement Rehab Science	512314
CERTG-HURL: Human Resources Law, Graduate Certificate	Human Resources Law	220299
P-CERTG-HRMG: Human Resources Management, Graduate Certificate	Human Resources Management	521001
P-MS-HRMG: Human Resources Management, MS	Human Resources Management	521001
CERTG-HMRL: Human Rights Law, Graduate Certificate	Human Rights Law	220209
BA-HSVC: Human Services, BA	Human Services	440000
BS-HSVC: Human Services, BS	Human Services	440000
BA-HUSO: Human Services and Sociology, BA	Human Services / Sociology	449999
BS-HUSO: Human Services and Sociology, BS	Human Services / Sociology	449999
BA-HSCM: Human Services and Communication Studies, BA	Human Services/Comm. Studies	440000

BS-HSCJ: Human Services and Criminal Justice, BS	Human Services/Crim Justice	430199
BA-HSIA: Human Services and International Affairs, BA	Human Services/Intl Affairs	440000
BS-HUPS: Human Services and Psychology, BS	Human Services/Psychology	440000
CERTG-ICSE: Inclusive Computer Science Education, Graduate Certificate	Inclusive Computer Sci Educ	131321
BSIE-INDE: Industrial Engineering, BSIE	Industrial Engineering	143501
MSIE-INDE: Industrial Engineering, MSIE	Industrial Engineering	143501
PHD-INDE: Industrial Engineering, PhD	Industrial Engineering	143501
PHD-INDE-A: Industrial Engineering, PhD—Advanced Entry	Industrial Engineering	143501
CERTG-IDEV: Information Design and Visualization, Graduate Certificate	Info Design and Visualization	500401
MFA-IDDV: Information Design and Data Visualization, MFA	Info Dsgn Data Visualization	303101
MS-IDDV: Information Design and Data Visualization, MS	Info Dsgn Data Visualization	303101
P-CERTG-INSM: Information Security Management, Graduate Certificate	Info Security Management	439999
P-MPS-INFM: Informatics, MPS	Informatics	110104
CERTG-INET: Information Ethics, Graduate Certificate	Information Ethics	380104
MSIS-INSY: Information Systems, MSIS	Information Systems	140903
MSIS-INSY-B: Information Systems, MSIS—Bridge	Information Systems	140903
P-BS-INFT: Information Technology, BS	Information Technology	110103
P-CERTG-IAMG: Insurance Analytics and Management, Graduate Certificate	Insurance Analytics and Mgmt	521701
P-MPS-IAMG: Insurance Analytics and Management, MPS	Insurance Analytics and Mgmt	521701
P-CERTG-INHW: Integrative Health and Wellness, Graduate Certificate	Integrative Health Wellness	510001
CERTG-PLAW: Intellectual Property Law, Graduate Certificate	Intellectual Property Law	220212
P-CERTG-INDS: Interactive Design, Graduate Certificate	Interactive Design	110801
PHD-INTY: Interdisciplinary, PhD	Interdisciplinary	300000
PHD-INTY-A: Interdisciplinary, PhD—Advanced Entry	Interdisciplinary	300000
PHD-IDSM: Interdisciplinary Design and Media, PhD	Interdisciplinary Dsgn Media	500401
PHD-IDSM-A: Interdisciplinary Design and Media, PhD—Advanced Entry	Interdisciplinary Dsgn Media	500401
PHD-INTE: Interdisciplinary Engineering, PhD	Interdisciplinary Engineering	140101
PHD-INTE-A: Interdisciplinary Engineering, PhD—Advanced Entry	Interdisciplinary Engineering	140101
P-BS-INST: Interdisciplinary Studies, BS	Interdisciplinary Studies	240101
BA-INAF: International Affairs, BA	International Affairs	450901
MA-INAF: International Affairs, MA	International Affairs	450901
BA-IAHI: International Affairs and History, BA	International Affairs/History	450901
BSIB-INBU-NX: International Business, BSIB	International Business	521101
BSIB-INBU-X: International Business, BSIB	International Business	521101
CERTG-INBU: International Business, Graduate Certificate	International Business	521101
MS-INMA: International Management, MS	International Management	520101
MS-INOT: Internet of Things, MS	Internet of Things	140999

BA-IARS: International Affairs and Religious Studies, BA	Interntl Affairs/Religious Stu	450901
BA-IACJ: International Affairs and Criminal Justice, BA	Intl Affairs/Criminal Justice	450901
BA-IACA: International Affairs and Cultural Anthropology, BA	Intl Affairs/Cultural Anthro	450901
BA-IAEC: International Affairs and Economics, BA	Intl Affairs/Economics	450604
BS-IAIB: International Affairs and International Business, BS	Intl Affairs/Intl Business	450901
CERTG-INVS: Investments, Graduate Certificate	Investments	520807
CERTG-TIPS: IP Telephony Systems, Graduate Certificate	IP/Telephony Systems	110901
BA-JESR: Jewish Studies and Religion, BA	Jewish Studies/Religion	380206
BA-JOUR: Journalism, BA	Journalism	090401
MA-JOUR: Journalism, MA	Journalism	090401
BA-JOEN: Journalism and English, BA	Journalism/ English	090401
BA-JOCM: Journalism and Communication Studies, BA	Journalism/Comm Studies	090401
BS-JLID: Journalism and Interaction Design, BS	Journalism/Interaction Design	090401
BA-JOIA: Journalism and International Affairs, BA	Journalism/Intl Affairs	090401
BA-JOPO: Journalism and Political Science, BA	Journalism/Political Science	090401
BLA-LARC: Landscape Architecture, BLA	Landscape Architecture	040601
JD-LAW: Law, JD	Law	220101
JD-LAW-P: Law, JD—Part-Time Program	Law	220101
LLM-LAW: Law, LLM—Experiential	Law	220101
LLM-LAW-O: Law, LLM—Online	Law	220101
LLM-LAW-T: Law, LLM	Law	220101
P-DLP-LAPO: Law And Policy, DLP	Law and Policy	229999
P-CERTG-LEAD: Leadership, Graduate Certificate	Leadership	520213
CERTG-LEPO: Leading People and Organizations, Graduate Certificate	Leading People Organizations	521099
P-CERTG-PMTE: Leading and Managing Technical Projects, Graduate Certificate	Leadng Managng Tech Projects	520211
CERTG-LEAN: Lean Six Sigma, Graduate Certificate	Lean Six Sigma	140101
P-CERTG-LXDT: Learning Experience Design and Technology, Graduate Certificate	Learning Exp Design Tech	130501
P-MPS-LXDT: Learning Experience Design and Technology, MPS	Learning Exp Design Tech	130501
CERTG-LEDS: Legal Design, Graduate Certificate	Legal Design	220299
MLS-LEGS: Legal Studies, MLS—Online	Legal Studies	229999
BS-LING: Linguistics, BS	Linguistics	160102
BS-LICA: Linguistics and Cultural Anthropology, BS	Linguistics / Cultural Anthro	450204
BA-LIEN: Linguistics and English, BA	Linguistics / English	160102
BS-LIPS: Linguistics and Psychology, BS	Linguistics / Psychology	160102
BA-LICS: Linguistics and Communication Studies, BA	Linguistics/Comm Studies	160102
BS-LISL: Linguistics and Speech-Language Pathology and Audiology, BS	Linguistics/Speech-Lng Pth Aud	160102
MS-MGMT: Management, MS	Management	520201
P-BS-MGMT: Management, BS	Management	520201
CERTG-MQOB: Manufacturing and Quality Operations in Biotechnology, Graduate Certificate	Manuf Qual Oper in Biotech	512010
MS-MRES: Marine and Environmental Sciences, MS	Marine Environment Sciences	030104

PHD-MRES: Marine and Environmental Sciences, PhD	Marine Environment Sciences	030104
PHD-MRES-A: Marine and Environmental Sciences, PhD—Advanced Entry	Marine Environment Sciences	030104
BS-MARB: Marine Biology, BS	Marine Biology	261302
MS-MARB: Marine Biology, MS	Marine Biology	261302
CERTG-MKTG: Marketing, Graduate Certificate	Marketing	521401
CERTG-MKAN: Marketing Analytics, Graduate Certificate	Marketing Analytics	521402
BA-MATH: Mathematics, BA	Mathematics	270101
BS-MATH: Mathematics, BS	Mathematics	270101
MS-MATH: Mathematics, MS	Mathematics	270101
PHD-MATH: Mathematics, PhD	Mathematics	270101
PHD-MATH-A: Mathematics, PhD—Advanced Entry	Mathematics	270101
BS-MABA: Mathematics and Business Administration, BS	Mathematics/Business Admin	270101
BS-MAPL: Mathematics and Philosophy, BS	Mathematics/Philosophy	270101
BS-MAPH: Mathematics and Physics, BS	Mathematics/Physics	270101
BS-MAPO: Mathematics and Political Science, BS	Mathematics/Political Science	270101
BS-MAPY: Mathematics and Psychology, BS	Mathematics/Psychology	270101
BS-MASO: Mathematics and Sociology, BS	Mathematics/Sociology	270101
BSME-MECE: Mechanical Engineering, BSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in General Mechanical Engineering, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Materials Science, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechanics and Design, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechatronics, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Thermofluids, MSME	Mechanical Engineering	141901
PHD-MECE: Mechanical Engineering, PhD	Mechanical Engineering	141901
PHD-MECE-A: Mechanical Engineering, PhD—Advanced Entry	Mechanical Engineering	141901
BSME-MEDS: Mechanical Engineering and Design, BSME	Mechanical Engineering/Design	141901
BSME-MEHI: Mechanical Engineering and History, BSME	Mechanical Engineering/History	141901
BSME-MEPH: Mechanical Engineering and Physics, BSME	Mechanical Engineering/Physics	141901
BSME-MEBE: Mechanical Engineering and Bioengineering, BSME	Mechanical Engr/Bioengineering	141901
P-BS-MTRO: Mechatronics, BS	Mechatronics	144201
BA-MSPH: Media and Screen Studies and Philosophy, BA	Media Screen Stud/Philosophy	090199
BA-MSHI: Media and Screen Studies and History, BA	Media Screen Studies/History	090199
MS-MEDA: Media Advocacy, MS	Media Advocacy	099999
BA-MSST: Media and Screen Studies, BA	Media and Screen Studies	090199
BFA-MART: Media Arts, BFA	Media Arts	500102
BA-MACM: Media Arts and Communication Studies, BA	Media Arts/Communication Stud.	500102
MS-MIDC: Media Innovation and Data Communication, MS	Media Innovation and Data Comm	090702

BA-MSJO: Media and Screen Studies and Journalism, BA	Media Screen Stu/Journalism	090199
BA-MSPO: Media and Screen Studies and Political Science, BA	Media Screen Stu/Political Sci	090199
BA-MSSO: Media and Screen Studies and Sociology, BA	Media Screen Stu/Sociology	090199
BA-MSTH: Media and Screen Studies and Theatre, BA	Media Screen Stu/Theatre	090199
BS-MSTH: Media and Screen Studies and Theatre, BS	Media Screen Stu/Theatre	090199
BA-MSMA: Media and Screen Studies and Media Arts, BA	Media Screen Stud./Media Arts	090199
BA-MSEN: Media and Screen Studies and English, BA	Media Screen Studies/English	090199
P-CERTG-MDRA: Medical Device Regulatory Affairs, Graduate Certificate	Medical Device Regulatory Aff.	512799
MS-MCDD: Medicinal Chemistry Drug Discovery, MS	Medicinal Chem Drug Discov	512004
PHD-MCDD: Medicinal Chemistry and Drug Discovery, PhD	Medicinal Chem Drug Discov	512004
PHD-MCDD-A: Medicinal Chemistry and Drug Discovery, PhD—Advanced Entry	Medicinal Chem Drug Discov	512004
CERTG-MOBI: Molecular Biotechnology, Graduate Certificate	Molecular Biotechnology	261201
BA-MUSI: Music, BA	Music	500901
BS-MUSI-MUID: Music with Concentration in Music Industry, BS	Music	500901
BS-MUSI-MUTE: Music with Concentration in Music Technology, BS	Music	500901
BS-MUCM: Music and Communication Studies with Concentration in Music Industry, BS	Music/Communication Studies	500901
CERTG-MFMG: Mutual Fund Management, Graduate Certificate	Mutual Fund Management	520807
CERTG-NNMD: Nanomedicine, Graduate Certificate	Nanomedicine	300101
MS-NNMD: Nanomedicine, MS	Nanomedicine	300101
MS-NETS: Network Science, MS	Network Science	300601
PHD-NETS: Network Science, PhD (BV, CS, SC, SH)	Network Science	300601
P-CERTG-NCBR: Nonclinical Biomedical Product Regulation, Graduate Certificate	Nonclinical Biomed Product Reg	512002
CERTG-NPSC: Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate	Nonprof-Philanth-Social Change	520206
P-CERTG-NPMG: Nonprofit Management, Graduate Certificate	Nonprofit Management	520206
P-MS-NPMG: Nonprofit Management, MS	Nonprofit Management	520206
DNP-NUAN: Nurse Anesthesia, DNP	Nurse Anesthesia	513804
BSN-NURS: Nursing, BSN	Nursing	513801
BSN-NURS-2: Nursing, BSN—Accelerated Program for Second-Degree Students	Nursing	513801
BSN-NURS-T: Nursing, BSN—Transfer Track	Nursing	513801
CAGS-CCAC: Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-CCNN: Nursing—Neonatal Nurse Practitioner, CAGS	Nursing	513801
CAGS-PCAN: Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS	Nursing	513801

CAGS-PEAC: Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-PEPA: Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS	Nursing	513801
CAGS-PEPC: Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS	Nursing	513801
CAGS-PSMH: Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS	Nursing	513801
DNP-NURS: Nursing, DNP (Post-Master's)	Nursing	513801
MS-NURS: Nursing, MS	Nursing	513801
MS-NURS-DE: Nursing, MS—Direct Entry	Nursing	513801
PHD-NURS: Nursing, PhD	Nursing	513801
PHD-NURS-MSE: Nursing, PhD—Advanced Entry (Post-MSN)	Nursing	513801
CERTG-OMIC: Omics, Graduate Certificate	Omics	261103
MSOR-OPRE: Operations Research, MSOR	Operations Research	143701
MSOR-OPRE-AS: Operations Research, MSOR	Operations Research	143701
P-CERTG-ORGC: Organizational Communication, Graduate Certificate	Organizational Communication	090101
P-MS-ORLD: Organizational Leadership, MS	Organizational Leadership	520213
CERTG-PTSF: Patient Safety, Graduate Certificate	Patient Safety	512213
CERTG-PEAC: Pediatric Nurse Practitioner, Acute Care, Graduate Certificate	Pediatric Acute Care PNP	513814
PHD-PHEI: Personal Health Informatics, PhD	Personal Health Informatics	512706
MS-PHEN: Pharmaceutical Engineering, MS	Pharmaceutical Engineering	140702
BS-PHSC: Pharmaceutical Sciences, BS	Pharmaceutical Sciences	512010
CERTG-PHTE: Pharmaceutical Technologies, Graduate Certificate	Pharmaceutical Technologies	261201
MS-PHDD: Pharmaceutics and Drug Delivery, MS	Pharmaceutics Drug Delivery	512010
PHD-PHDD: Pharmaceutics and Drug Delivery, PhD	Pharmaceutics Drug Delivery	512010
PHD-PHDD-A: Pharmaceutics and Drug Delivery, PhD—Advanced Entry	Pharmaceutics Drug Delivery	512010
MS-PHAC: Pharmacology, MS	Pharmacology	261001
PHD-PHAC: Pharmacology, PhD	Pharmacology	261001
PHD-PHAC-A: Pharmacology, PhD—Advanced Entry	Pharmacology	261001
PHARMD-G: Pharmacy, PharmD	Pharmacy	512001
PHARMD-G-DE: Pharmacy, PharmD—Direct Entry	Pharmacy	512001
PHARMD-U: Pharmacy, PharmD	Pharmacy	512001
BS-PHST: Pharmacy Studies, BS	Pharmacy Studies	512001
BA-PHIL: Philosophy, BA	Philosophy	380101
BS-PHIL: Philosophy, BS	Philosophy	380101
DPT-PHTH-DE: Physical Therapy, DPT—Postbaccalaureate Entry	Physical Therapy	512308
DPT-PHTH-G: Physical Therapy, DPT—Graduate	Physical Therapy	512308
MS-PHAS: Physician Assistant, MS	Physician Assistant	510912
BS-PHYS: Physics, BS	Physics	400801
MS-PHYS: Physics, MS	Physics	400801
PHD-PHYS: Physics, PhD	Physics	400801
PHD-PHYS-A: Physics, PhD—Advanced Entry	Physics	400801
BS-PHMU: Physics and Music with Concentration in Music Technology, BS	Physics/Music	400801
BS-PHPH: Physics and Philosophy, BS	Physics/Philosophy	400801
BA-POLI: Political Science, BA	Political Science	451001
BS-POLI: Political Science, BS	Political Science	451001

MA-POLI: Political Science, MA	Political Science	451001
PHD-POLI: Political Science, PhD	Political Science	451001
PHD-POLI-A: Political Science, PhD—Advanced Entry	Political Science	451001
BS-POBA: Political Science and Business Administration, BS	Political Science/Business Adm	451001
BA-POCM: Political Science and Communication Studies, BA	Political Science/Comm Studies	451001
BS-POCM: Political Science and Communication Studies, BS	Political Science/Comm Studies	451001
BA-POEC: Political Science and Economics, BA	Political Science/Economics	451001
BS-POEC: Political Science and Economics, BS	Political Science/Economics	450603
BA-POHS: Political Science and Human Services, BA	Political Science/HumanService	451001
BS-POHS: Political Science and Human Services, BS	Political Science/HumanService	451001
BA-POIA: Political Science and International Affairs, BA	Political Science/Intl Affairs	451001
BA-POPL: Political Science and Philosophy, BA	Political Science/Philosophy	451001
BS-POPL: Political Science and Philosophy, BS	Political Science/Philosophy	451001
BS-PPBA: Politics, Philosophy, and Economics and Business Administration, BS	Politics, Phil Econ/Bus Adm	451099
BS-PSPE: Politics, Philosophy, and Economics, BS	Politics, Philosophy, and Econ	451099
MS-POHE: Population Health, MS	Population Health	512299
PHD-POHE: Population Health, PhD	Population Health	512299
PHD-POHE-A: Population Health, PhD—Advanced Entry	Population Health	512299
CERTG-PSTE: Postsecondary Teaching, Graduate Certificate	Postsecondary Teaching	131214
CERTG-PLEJ: Poverty Law and Economic Justice, Graduate Certificate	Poverty Law Economic Justice	220299
P-CERTU-PMED: Premedical Studies, Postbaccalaureate Undergraduate Certificate	Pre-Medical Studies	511102
P-CERTU-PRMA: Principles of Manufacturing, Undergraduate Certificate	Principles of Manufacturing	150613
CERTG-PRVL: Privacy Law, Graduate Certificate	Privacy Law	220299
CERTG-PSEN: Process Safety Engineering, Graduate Certificate	Process Safety Engineering	140799
CERTG-PRSC: Process Science, Graduate Certificate	Process Science	261201
MS-PRDV: Product Development, MS	Product Development	142701
MSAMBA-PRAC: Accounting and Business Administration, MSAMBA	Professional Accounting	520301
P-CERTG-PSAD: Professional Sports Administration, Graduate Certificate	Professional Sports Administra	310504
P-CERTG-PBUA: Project Business Analysis, Graduate Certificate	Project Business Analysis	521302
P-BS-PMGT: Project Management, BS	Project Management	521301
P-CERTG-PMGT: Project Management, Graduate Certificate	Project Management	521301
P-CERTU-PMGT: Project Management, Undergraduate Certificate	Project Management	521301
P-MS-PMGT: Project Management, MS	Project Management	521301
BS-PSYC: Psychology, BS	Psychology	422799
MS-PSYC: Psychology, MS	Psychology	422799
P-BS-PSYC: Psychology, BS	Psychology	422799

PHD-PSYC: Psychology, PhD	Psychology	422799
PHD-PSYC-A: Psychology, PhD—Advanced Entry	Psychology	422799
BS-PSMU: Psychology and Music, BS	Psychology/Music	422799
BS-PSTH: Psychology and Theatre, BS	Psychology/Theatre	422799
MPA-PUAD: Public Administration, MPA	Public Administration	440401
P-CERTG-PUMR: Public and Media Relations, Graduate Certificate	Public and Media Relations	090102
BA-PUHE: Public Health, BA	Public Health	512201
MPH-PUHE: Public Health, MPH	Public Health	512201
MPH-PUHE-EX: Public Health, MPH—Accelerated	Public Health	512201
BA-PHCM: Public Health and Communication Studies, BA	Public Health/Comm Studies	512201
BA-PHCA: Public Health and Cultural Anthropology, BA	Public Health/Cultural Anthro	512201
BA-PHJO: Public Health and Journalism, BA	Public Health/Journalism	512201
BA-PHSO: Public Health and Sociology, BA	Public Health/Sociology	512201
CERTG-PUHI: Public History, Graduate Certificate	Public History	540105
MPP-PUPL: Public Policy, MPP	Public Policy	440401
PHD-PUPL: Public Policy, PhD	Public Policy	440401
PHD-PUPL-A: Public Policy, PhD—Advanced Entry	Public Policy	440401
CERTG-PUPA: Public Policy Analysis, Graduate Certificate	Public Policy Analysis	440501
BA-PUBR: Public Relations, BA	Public Relations	090902
P-CERTG-QASC: Quality Assurance Compliance, Graduate Certificate	Quality Assurance Compliance	510720
MSFMBA-QFBA: Quantitative Finance and Business Administration, MSFMBA	Quant Finance/Business Admin	270305
MSF-QFIN: Quantitative Finance, MSF	Quantitative Finance	270305
P-MS-REAF: Regulatory Affairs, MS	Regulatory Affairs	512009
BA-REST: Religious Studies, BA	Religious Studies	380201
BA-RSAS: Religious Studies and Africana Studies, BA	Religious Studies/Africana St.	380201
P-CERTG-RESE: Remote Sensing, Graduate Certificate	Remote Sensing	450799
CERTG-ERES: Renewable Energy, Graduate Certificate	Renewable Energy Systems	142701
MS-ROBO: Robotics, MS	Robotics	144201
MS-RWEH: Real-World Evidence in Healthcare and Life Sciences, MS	RWE in Healthcare and Life Sci	300601
P-CERTG-SMGT: Sales Management, Graduate Certificate	Sales Management	521804
CAGS-SCPS: School Psychology, CAGS	School Psychology	422805
PHD-SCPS-BSE: School Psychology, PhD	School Psychology	422805
PHD-SCPS-MSE: School Psychology, PhD—Advanced Entry	School Psychology	422805
P-MAT-SCED: Secondary Education, MAT	Secondary Education	131205
CERTG-SERE: Security and Resilience Studies, Graduate Certificate	Security Resilience Studies	450999
MS-SERE: Security and Resilience Studies, MS	Security Resilience Studies	450999
P-MA-SCIS: Security and Intelligence Studies, MA	Security and Intelligence Stud	430399
P-CERTG-SMOP. Social Media for Organizational Performance, Graduate Certificate	Social Media for Org Perform	090101
BA-SOCI: Sociology, BA	Sociology	451101
BS-SOCI: Sociology, BS	Sociology	451101
MA-SOCI: Sociology, MA	Sociology	451101
PHD-SOCI: Sociology, PhD	Sociology	451101

PHD-SOCI-A: Sociology, PhD—Advanced Entry	Sociology	451101
BA-SOCA: Sociology and Cultural Anthropology, BA	Sociology/Cultural Anthrop	451101
BS-SOCA: Sociology and Cultural Anthropology, BS	Sociology/Cultural Anthrop	451101
BA-SOES: Sociology and Environmental Studies, BA	Sociology/Envr. Studies	451101
BA-SOIA: Sociology and International Affairs, BA	Sociology/Int'l Affairs	451101
BA-SOPH: Sociology and Philosophy, BA	Sociology/Philosophy	451101
BA-SOPO: Sociology and Political Science, BA	Sociology/Political Science	459999
BA-SORL: Sociology and Religious Studies, BA	Sociology/Religious Studies	451101
CERTG-SWES: Software Engineering Systems, Graduate Certificate	Software Engineering Systems	140903
MS-SWES: Software Engineering Systems, MS	Software Engineering Systems	140903
BA-SPAN: Spanish, BA	Spanish	160905
BA-SPIA: Spanish and International Affairs, BA	Spanish/ Interntional Affairs	160905
BA-SPLI: Spanish and Linguistics, BA	Spanish/Linguistics	160905
BS-SLPA: Speech-Language Pathology and Audiology, BS	Speech-Lang Pathol/Audiology	510204
MS-SLPT: Speech-Language Pathology, MS	Speech-Language Pathology	510204
P-MSLD-SPLE: Sports Leadership, MSLD	Sports Leadership	310504
BFA-STAR: Studio Art, BFA	Studio Art	500702
CERTG-SCEM: Supply Chain Engineering Management, Graduate Certificate	Supply Chain Engineering Mgmt	140101
CERTG-SUPC: Supply Chain Management, Graduate Certificate	Supply Chain Management	520203
CERTG-SUCP. Sustainability and Climate Change Policy, Graduate Certificate	Sustain Climate Chnge Policy	440501
CERTG-SUBE: Sustainability and Business, Graduate Certificate	Sustainability and Business	520704
CERTG-STEN: Sustainability Engineering, Graduate Certificate	Sustainability Engineering	144801
CERTG-SUSC: Sustainability Sciences, Graduate Certificate	Sustainability Sciences	030104
MSSBS-SUBS: Sustainable Building Systems, MSSBS	Sustainable Building Systems	149999
CERTG-SESY: Sustainable Energy Systems, Graduate Certificate	Sustainable Energy Systems	142701
MDES-SUEN: Sustainable Urban Environments, MDes—Two-Year Program	Sustainable Urban Environments	040401
MDES-SUEN1: Sustainable Urban Environments, MDes—One-Year Program	Sustainable Urban Environments	040401
CERTG-TELD: Technology Leadership, Graduate Certificate	Technology Leadership	520216
MS-TNET: Telecommunication Networks, MS	Telecommunication Networks	110901
BA-THEA: Theatre, BA	Theatre	500501
BS-THEA: Theatre, BS	Theatre	500501
BA-THID: Theatre and Interaction Design, BA	Theatre/Interaction Design	500501
BS-THID: Theatre and Interaction Design, BS	Theatre/Interaction Design	500501
BA-THJO: Theatre and Journalism, BA	Theatre/Journalism	500501
CERTG-USLW: United States Law, Graduate Certificate	United States Law	220203
CERTG-URBA: Urban Analytics, Graduate Certificate	Urban Analytics	451201
MS-URBI: Urban Informatics, MS	Urban Informatics	111099
MS-URPP. Urban Planning and Policy, MS	Urban Planning and Policy	451201

CERTG-URBN: Urban Studies, Graduate Certificate	Urban Studies	451201
P-CERTG-USAB: Usability, Graduate Certificate	Usability	111004
CERTG-VCDV: Vaccine Development, Graduate Certificate	Vaccine Development	512006
MS-WNEN: Wireless and Network Engineering, MS	Wireless Network Engineering	141004
CERTG-WOST: Women's, Gender, and Sexuality Studies, Graduate Certificate	Women's Gender Sexuality Stu	050207
CERTG-WGSL: Women, Gender, Sexuality, and the Law, Graduate Certificate	Women, Gender, Sexuality Law	220299

Resources

Online Resources

The following online resources supplement this catalog:

- Academic Calendars (http://www.northeastern.edu/registrar/calendars.html)
- Campus Maps (http://www.northeastern.edu/campusmap/)
- Class Schedules (https://registrar.northeastern.edu/article/schedule-of-classes/)
- University Events (http://calendar.northeastern.edu/)

Index

Academic and Research Integrity ... 63
Academic and Student Resources ... 12
Academic Appeals Policies and Procedures ... 64
Academic Calendar ... 16
Academic Honors ... 66
Academic Policies and Procedures ... 37
Academic Progression Standards ... 67
Accelerated Bachelor/Graduate Degree Programs ... 163
Accommodations for Students with Disabilities ... 38
Accounting, Undergraduate Certificate ... 145
Accreditation ... 254
Admission ... 6
Admission Requirements for Undergraduate Degrees and Certificates ... 8
Advanced Accounting, Undergraduate Certificate ... 146
Advanced Manufacturing Systems, BS ... 107
Analytics, BS ... 110
Analytics, Undergraduate Certificate ... 147
Appropriate Use of Computer and Network Resources Policy ... 68
Attendance Requirements ... 39
Attendance Verification ... 69
Authorizations ... 258

Bachelor of Science Programs, Business and Social Sciences ... 94
Bachelor's and Postbaccalaureate Programs, Lowell Institute School ... 106
Bill Payment ... 27
Biological Science, BS ... 114
Biology, Minor ... 154
Biotechnology, BS ... 117
Business, Minor ... 155

Campus Resources ... 17
Campus Transfer and Campus Location Change ... 40
Clearing an Academic Deficiency ... 41
Code of Student Conduct ... 42
College of Professional Studies Undergraduate ... 4
Completing Program Requirements ... 70
Cooperative Education ... 71
Course Credit Guidelines ... 43
Course Numbering System ... 44
Creative Writing, Minor ... 156

Degrees, Majors, and Minors ... 73
Delivery of Services ... 30
Digital Communication and Media, BS ... 120

Environmental Science, Minor ... 157

Faculty ... 164
Family Educational Rights and Privacy Act (FERPA) ... 45
Finance and Accounting Management, BS ... 95
Financial Aid Assistance ... 31
Financial Information ... 26
Full-Time Status ... 74

General Admission and Transfer Credit ... 5
General Financial Aid Policies and Procedures ... 33
General Information ... 248
Global Partnership Programs ... 75
Global Pathways ... 93
Governing Boards and Officers of Northeastern ... 251
Grade Change Policy ... 47
Grade Table and GPA ... 48
Graduation Requirements ... 76

Health Science, BS ... 123
Healthcare Administration, BS ... 126
Healthcare Administration, Minor ... 158
Healthcare Administration, Undergraduate Certificate ... 148

Information for Entering Students ... 11
Information for International Students ... 19
Information Technology, BS ... 129
Information Technology, Minor ... 159
Information Technology Services ... 20
Interdisciplinary Studies, BS ... 99

Learning Goals ... 89
Leaves of Absence and University Withdrawal ... 50

Major CIP Codes ... 262
Management, BS ... 102
Mechatronics, BS ... 133

New Admitted Students Site ... 21

New Student Orientation (On-Ground and Online) ... 22
Northeastern University Student Health Plan (NUSHP) ... 35
Notifications and Disclosures ... 249
NUpath ... 86

Office of the University Registrar ... 23
Organizational Communication, Minor ... 160

Personal Information ... 53
Premedical Studies, Postbaccalaureate Undergraduate Certificate ... 149
Principles of Manufacturing, Undergraduate Certificate ... 151
Project Management, BS ... 136
Project Management, Undergraduate Certificate ... 152
Psychology, BS ... 140
Psychology, Minor ... 161
Public Safety ... 24

Readmission to Program ... 77
Reentry to Program ... 78
Registration and Taking Courses ... 79
Reinstatement after Academic Dismissal ... 82
Requesting and Clearing An Incomplete Grade ... 54
Requirements ... 87
Resources ... 282
Retaking Courses ... 55

Seeking More Than One Certificate or Degree ... 9
Seeking More Than One Certificate or Degree ... 9
Sociology, Minor ... 162
Student Bill of Academic Rights and Responsibilities ... 56
Student Evaluation of Courses ... 84
Student Responsibility Statement ... 59
Student Right-to-Know Act ... 60
Substituting Courses ... 61

Transfer Credit Policy ... 10
Tuition and Fees ... 36

Undergraduate Certificate Programs ... 144
Undergraduate Minors ... 153
University Academics ... 85
University Leadership ... 253
University-Sponsored Travel ... 62

We Care 25
Writing-Intensive Courses 92

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Thursday, August 24, 2023	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half fall classes
Monday, August 28, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Tuesday, August 29, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Wednesday, August 30, 2023	School of Law (LW)	LW: First day of fall classes for first-year students
Thursday, August 31, 2023	Undergraduate (UG)	UG: First day of "I Am Here" for fall classes
Thursday, August 31, 2023	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half fall classes
Monday, September 4, 2023	Holidays, United States (USA)	USA: Labor Day, no classes
Monday, September 4, 2023	Holidays, Canada (CAN)	CAN: Labour Day, no classes
Tuesday, September 5, 2023	School of Law (LW)	LW: First day of full-semester and first-half fall classes
Tuesday, September 5, 2023	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: First day of fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Last day of "I Am Here" for fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Fall classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Wednesday, September 6, 2023	Graduate (GR)	GR: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half fall classes
Wednesday, September 13, 2023	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half fall classes will be dropped for students who do not complete "I Am Here"
Thursday, September 14, 2023	Undergraduate (UG)	UG: Last day of online class add for fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day of online class add for full-semester and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	Undergraduate (UG)	UG: Last day to elect pass/fail for fall classes (may be extended by instructor to October 27)
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day of online class add for full-semester and first-half fall classes
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester fall classes
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half fall class without a W grade
Wednesday, September 20, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class without a W grade (with administrative approval)
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half fall classes
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half fall classes
Monday, September 25, 2023	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half fall classes will be dropped for students who do not complete "I Am Here"
Monday, September 25, 2023	School of Law (LW)	LW: Yom Kippur observed by School of Law only, no classes
Tuesday, September 26, 2023	Undergraduate (UG)	UG: Last day to drop a fall class without a W grade
Tuesday, September 26, 2023	Graduate (GR)	GR: Last day to drop a full-semester fall class without a W grade
Tuesday, September 26, 2023	School of Law (LW)	LW: Last day to drop a full-semester fall class without a W grade
Friday, September 29, 2023	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for fall classes
Saturday, September 30, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation, no classes (Vancouver only)
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter fall classes
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half fall class without a W grade
Monday, October 2, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation observed, no classes (Vancouver only)
Monday, October 9, 2023	Holidays, United States (USA)	USA: Indigenous Peoples Day, no classes
Monday, October 9, 2023	Holidays, Canada (CAN)	CAN: Thanksgiving Day, no classes
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Friday, October 13, 2023	Graduate (GR)	GR: Optional makeup day
Sunday, October 15, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class with a W grade
Sunday, October 15, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class with a W grade
Monday, October 16, 2023	Graduate (GR)	GR: First day of final exams for first-half fall classes
Tuesday, October 17, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Tuesday, October 17, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half fall class with a W grade
Wednesday, October 18, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Wednesday, October 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half fall classes
Thursday, October 19, 2023	Graduate (GR)	GR: First day of "I Am Here" for second-half fall classes
Thursday, October 19, 2023	School of Law (LW)	LW: First day of "I Am Here" for second-half fall classes
Saturday, October 21, 2023	Graduate (GR)	GR: Last day of first-half fall classes/final exams
Saturday, October 21, 2023	School of Law (LW)	LW: Last day of first-half fall classes
Sunday, October 22, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half fall class with a W grade
Monday, October 23, 2023	Undergraduate (UG)	UG: Spring class offerings posted on web
Monday, October 23, 2023	Graduate (GR)	GR: First day of second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Last day of "I Am Here" for second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Undergraduate (UC)	UC: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half fall classes
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: Winter class offerings posted on web
Monday, October 23, 2023	School of Law (LW)	LW: First day of second-half fall classes
Monday, October 23, 2023	School of Law (LW)	LW: Last day of "I Am Here" for second-half fall classes

Date	Calendar	Event
Monday, October 23, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 24, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half fall classes/final exams
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of second-half fall classes
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half fall classes
Thursday, October 26, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Saturday, October 28, 2023	College of Professional Studies Graduate (GP)	GP: Last day of first-half fall classes/final exams
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half fall classes
Wednesday, November 1, 2023	College of Professional Studies Undergraduate (UC)	UC: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Sunday, November 5, 2023	Graduate (GR)	GR: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	Graduate (GR)	GR: Last day to drop a second-half fall class without a W grade
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half fall classes
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day to drop a second-half fall class without a W grade
Monday, November 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of registration for spring classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: First day of registration for winter classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Tuesday, November 7, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half fall class without a W grade
Friday, November 10, 2023	Graduate (GR)	GR: First day of spring class registration
Saturday, November 11, 2023	Holidays, United States (USA)	USA: Veterans Day, no classes
Saturday, November 11, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day, no classes (Vancouver only)
Sunday, November 12, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half fall class without a W grade
Monday, November 13, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day observed, no classes (Vancouver only)
Monday, November 13, 2023	Undergraduate (UG)	UG: First day of spring class registration for continuing students
Monday, November 13, 2023	School of Law (LW)	LW: First day of spring registration
Monday, November 20, 2023	College of Professional Studies Graduate (GP)	GP: First day of fall break
Wednesday, November 22, 2023	Undergraduate (UG)	UG: First day of fall break
Wednesday, November 22, 2023	Graduate (GR)	GR: First day of fall break
Wednesday, November 22, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break for first-year students
Monday, November 27, 2023	Undergraduate (UG)	UG: Classes resume
Monday, November 27, 2023	Graduate (GR)	GR: Classes resume
Monday, November 27, 2023	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, November 27, 2023	College of Professional Studies Graduate (GP)	GP: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume for first-year students
Wednesday, December 6, 2023	Undergraduate (UG)	UG: Last day of fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Reading day for fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Last day to drop a fall class with a W grade
Friday, December 8, 2023	Undergraduate (UG)	UG: First day of final exams for fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of full-semester fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of fall classes for first-year students
Sunday, December 10, 2023	Graduate (GR)	GR: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class with a W grade (with administrative approval)
Monday, December 11, 2023	Graduate (GR)	GR: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of final exams for full-semester fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of reading period/final exams for fall classes for first-year students
Friday, December 15, 2023	Undergraduate (UG)	UG: Last day of final exams for fall classes
Saturday, December 16, 2023	Undergraduate (UG)	UG: Final exam makeup day for fall classes if needed
Saturday, December 16, 2023	Undergraduate (UG)	UG: Fall degree conferral date
Saturday, December 16, 2023	Graduate (GR)	GR: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	Graduate (GR)	GR: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Fall degree conferral date
Saturday, December 16, 2023	School of Law (LW)	LW: Last day of second-half fall classes
Monday, December 18, 2023	Undergraduate (UG)	UG: First day of winter break
Monday, December 18, 2023	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for fall classes
Monday, December 18, 2023	Graduate (GR)	GR: First day of winter break

Date	Calendar	Event
Monday, December 18, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of winter break
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of winter break
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half fall classes
Monday, December 18, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for full-semester fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Fall degree conferral date
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for fall classes for first-year students
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes if needed
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes for first-year students if needed
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break for first-year students
Thursday, January 4, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for spring classes
Thursday, January 4, 2024	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half spring classes
Thursday, January 4, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	Undergraduate (UG)	UG: First day of spring classes
Monday, January 8, 2024	Graduate (GR)	GR: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half winter classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half winter classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of spring classes for first-year students
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for spring classes
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Spring classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Tuesday, January 9, 2024	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half winter classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half winter classes
Monday, January 15, 2024	Holidays, United States (USA)	USA: Martin Luther King, Jr. Day, no classes
Tuesday, January 16, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, January 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, January 17, 2024	Undergraduate (UG)	UG: Last day of online class add for spring classes
Friday, January 19, 2024	Graduate (GR)	GR: Optional makeup day
Monday, January 22, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for spring classes (may be extended by instructor to March 1)
Monday, January 22, 2024	Graduate (GR)	GR: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester spring classes
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer class offerings posted on web
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter winter classes
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half winter class without a W grade
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Spring class offerings posted on web
Monday, January 22, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester fall classes
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline for fall classes for first-year students
Monday, January 29, 2024	Undergraduate (UG)	UG: Last day to drop a spring class without a W grade
Monday, January 29, 2024	Undergraduate (UG)	UG: Summer class offerings posted on web
Monday, January 29, 2024	Graduate (GR)	GR: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	Graduate (GR)	GR: Summer class offerings posted on web
Monday, January 29, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class without a W grade (with administrative approval)
Thursday, February 1, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for spring classes
Monday, February 5, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for summer classes
Monday, February 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for spring classes
Friday, February 9, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, February 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half winter class with a W grade
Monday, February 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half winter classes
Friday, February 16, 2024	Graduate (GR)	GR: First day of summer class registration
Friday, February 16, 2024	Graduate (GR)	GR: Optional makeup day
Saturday, February 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half winter classes/final exams
Monday, February 19, 2024	Holidays, United States (USA)	USA: Presidents Day, no classes
Monday, February 19, 2024	Holidays, Canada (CAN)	CAN: Family Day, no classes
Monday, February 19, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class with a W grade
Monday, February 19, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	Undergraduate (UG)	UG: First day of summer class registration for continuing students

Date	Calendar	Event
Tuesday, February 20, 2024	Graduate (GR)	GR: First day of final exams for first-half spring classes
Tuesday, February 20, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half winter classes
Wednesday, February 21, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half spring classes
Thursday, February 22, 2024	Graduate (GR)	GR: First day of "I Am Here" for second-half spring classes
Thursday, February 22, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half spring classes
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Saturday, February 24, 2024	Graduate (GR)	GR: Last day of first-half spring classes/final exams
Saturday, February 24, 2024	School of Law (LW)	LW: Last day of first-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: First day of second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half winter classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half winter classes
Monday, February 26, 2024	School of Law (LW)	LW: First day of second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Tuesday, February 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half spring classes/final exams
Tuesday, February 27, 2024	College of Professional Studies Graduate (GP)	GP: Second-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half spring classes
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half spring classes
Thursday, February 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, March 4, 2024	Undergraduate (UG)	UG: First day of spring break
Monday, March 4, 2024	Graduate (GR)	GR: First day of spring break
Monday, March 4, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of spring break
Monday, March 4, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half winter class without a W grade
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break for first-year students
Friday, March 8, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Monday, March 11, 2024	Undergraduate (UG)	UG: Classes resume
Monday, March 11, 2024	Graduate (GR)	GR: Classes resume
Monday, March 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume for first-year students
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half spring classes
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half spring classes
Wednesday, March 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Sunday, March 17, 2024	Graduate (GR)	GR: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	Graduate (GR)	GR: Last day to drop a second-half spring class without a W grade
Sunday, March 17, 2024	School of Law (LW)	LW: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class without a W grade
Monday, March 18, 2024	Undergraduate (UG)	UG: Fall class offerings posted on web
Monday, March 18, 2024	Graduate (GR)	GR: Fall class offerings posted on web
Tuesday, March 19, 2024	Undergraduate (UG)	UG: Experiential Trek Day (Oakland only)
Tuesday, March 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half spring class without a W grade
Friday, March 22, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, March 24, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half winter class with a W grade
Monday, March 25, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half winter classes
Friday, March 29, 2024	Holidays, United States (USA)	USA: Good Friday, no classes (Charlotte only)
Friday, March 29, 2024	Holidays, Canada (CAN)	CAN: Good Friday, no classes
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half winter classes/final exams
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Winter degree conferral date
Sunday, March 31, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day observed, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of spring break
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half winter classes
Monday, April 1, 2024	School of Law (LW)	LW: First day of summer registration
Friday, April 5, 2024	Graduate (GR)	GR: First day of fall class registration for continuing students
Monday, April 8, 2024	Undergraduate (UG)	UG: First day of fall class registration for continuing students
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: Summer class offerings posted on web
Friday, April 12, 2024	School of Law (LW)	LW: Last day of full-semester spring classes
Friday, April 12, 2024	School of Law (LW)	LW: Last day of spring classes for first-year students
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half spring classes
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half spring classes
Monday, April 15, 2024	Holidays, United States (USA)	USA: Patriots Day, no classes (Boston & Portland only)

Date	Calendar	Event
Monday, April 15, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class with a W grade
Monday, April 15, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class with a W grade (with administrative approval)
Tuesday, April 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of final exams for full-semester spring classes
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of reading period/final exams for spring classes for first-year students
Wednesday, April 17, 2024	Undergraduate (UG)	UG: Last day of spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Reading day for spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Last day to drop a spring class with a W grade
Friday, April 19, 2024	Undergraduate (UG)	UG: First day of final exams for spring classes
Friday, April 19, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, April 21, 2024	Graduate (GR)	GR: Last day to drop a full-semester or second-half spring class with a W grade
Sunday, April 21, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester and second-half spring class with a W grade
Sunday, April 21, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class with a W grade
Monday, April 22, 2024	Graduate (GR)	GR: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for summer classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half spring class without a W grade
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for full-semester spring classes
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for spring classes for first-year students
Friday, April 26, 2024	Undergraduate (UG)	UG: Last day of final exams for spring classes
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes if needed
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes for first-year students if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Final exam makeup day for spring classes if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Spring degree conferral date
Saturday, April 27, 2024	Graduate (GR)	GR: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	Graduate (GR)	GR: Spring degree conferral date
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Spring degree conferral date
Saturday, April 27, 2024	School of Law (LW)	LW: Last day of second-half spring classes
Saturday, April 27, 2024	School of Law (LW)	LW: Spring degree conferral date
Monday, April 29, 2024	Undergraduate (UG)	UG: First day of summer break
Monday, April 29, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for spring classes
Monday, April 29, 2024	Graduate (GR)	GR: First day of summer break
Monday, April 29, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of summer break
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	School of Law (LW)	LW: First day of summer break
Monday, April 29, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half spring classes
Thursday, May 2, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: First day of summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Summer 1 and full summer classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, May 6, 2024	Graduate (GR)	GR: First day of summer 1 and full summer classes
Monday, May 6, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: First day of full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half summer classes
Wednesday, May 8, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 1 classes
Wednesday, May 8, 2024	Graduate (GR)	GR: First day of fall class registration for new students
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half spring class with a W grade
Monday, May 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half summer classes will be dropped for students who do not complete "I Am Here"
Monday, May 13, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half spring classes
Tuesday, May 14, 2024	Undergraduate (UG)	UG: Last day of online class add for full summer classes
Saturday, May 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half spring classes/final exams
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 1 classes (may be extended by instructor to June 7)
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for full summer classes (may be extended by instructor to June 28)
Sunday, May 19, 2024	Graduate (GR)	GR: Last day of online class add for summer 1 and full summer classes
Sunday, May 19, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester summer classes
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half summer class without a W grade
Sunday, May 19, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half summer classes
Sunday, May 19, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class without a W grade
Monday, May 20, 2024	Holidays, Canada (CAN)	CAN: Victoria Day, no classes

Date	Calendar	Event
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Thursday, May 23, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 1 classes
Sunday, May 26, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	Graduate (GR)	GR: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half spring classes
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half spring classes
Sunday, May 26, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class without a W grade
Monday, May 27, 2024	Holidays, United States (USA)	USA: Memorial Day, no classes
Tuesday, May 28, 2024	College of Professional Studies Graduate (GP)	GP: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester spring classes
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline for spring classes for first-year students
Wednesday, May 29, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for full summer classes
Friday, May 31, 2024	Graduate (GR)	GR: Optional makeup day
Monday, June 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Fall class offerings posted on web
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half spring class without a W grade
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Fall class offerings posted on web
Monday, June 17, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for fall classes
Monday, June 17, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for fall classes
Wednesday, June 19, 2024	Holidays, United States (USA)	USA: Juneteenth, no classes
Wednesday, June 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half summer class with a W grade
Thursday, June 20, 2024	Undergraduate (UG)	UG: Last day of summer 1 classes
Thursday, June 20, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half summer classes
Friday, June 21, 2024	Undergraduate (UG)	UG: Reading day for summer 1 classes
Friday, June 21, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, June 23, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half spring class with a W grade
Sunday, June 23, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class with a W grade
Monday, June 24, 2024	Undergraduate (UG)	UG: First day of final exams for summer 1 classes
Monday, June 24, 2024	Graduate (GR)	GR: First day of final exams for summer 1 classes
Monday, June 24, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half spring classes
Tuesday, June 25, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 1 classes
Tuesday, June 25, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half summer classes/final exams
Wednesday, June 26, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 1 classes if needed
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half summer classes
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half summer classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Thursday, June 27, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Thursday, June 27, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half summer classes
Saturday, June 29, 2024	Graduate (GR)	GR: Last day of summer 1 classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half spring classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Spring degree conferral date
Saturday, June 29, 2024	School of Law (LW)	LW: Last day of first-half summer classes
Monday, July 1, 2024	Holidays, Canada (CAN)	CAN: Canada Day, no classes
Monday, July 1, 2024	Undergraduate (UG)	UG: First day of summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Summer 2 classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, July 1, 2024	Graduate (GR)	GR: First day of summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of summer break
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half spring classes
Monday, July 1, 2024	School of Law (LW)	LW: First day of second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half summer classes
Wednesday, July 3, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 2 classes
Wednesday, July 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, July 4, 2024	Holidays, United States (USA)	USA: Independence Day, no classes
Friday, July 5, 2024	Graduate (GR)	GR: Optional makeup day
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter, first-half, and six-week summer classes
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter, first-half, and six-week summer classes
Tuesday, July 9, 2024	School of Law (LW)	LW: Classes will follow a Thursday schedule
Wednesday, July 10, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half summer class without a W grade
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter, first-half, and six-week summer classes

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half and six-week summer classes
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 2 classes (may be extended by instructor to August 2)
Monday, July 15, 2024	Graduate (GR)	GR: Last day of online class add for summer 2 classes
Monday, July 15, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter, first-half, and six-week summer classes will be dropped for students who do not complete "I Am Here"
Monday, July 15, 2024	School of Law (LW)	LW: Last day of online class add for second-half summer classes
Monday, July 15, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class without a W grade
Thursday, July 18, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 2 classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter summer classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter, first-half, or six-week summer class without a W grade
Sunday, July 28, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half summer class with a W grade
Monday, July 29, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half summer classes
Monday, July 29, 2024	School of Law (LW)	LW: First day of fall registration
Saturday, August 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half summer classes/final exams
Monday, August 5, 2024	Holidays, Canada (CAN)	CAN: Civic Holiday, no classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day of full-semester summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class with a W grade
Thursday, August 8, 2024	Undergraduate (UG)	UG: Last day of full summer classes
Thursday, August 8, 2024	School of Law (LW)	LW: First day of final exams for full-semester summer classes
Friday, August 9, 2024	Undergraduate (UG)	UG: Reading day for full summer classes
Sunday, August 11, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	Graduate (GR)	GR: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a six-week summer class with a W grade
Monday, August 12, 2024	Undergraduate (UG)	UG: First day of final exams for full summer classes
Monday, August 12, 2024	Graduate (GR)	GR: First day of final exams for full summer classes
Monday, August 12, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for six-week summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of final exams for full summer classes
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of summer 2 classes
Friday, August 16, 2024	Undergraduate (UG)	UG: Final exam makeup day for full summer classes if needed
Friday, August 16, 2024	Undergraduate (UG)	UG: Reading day for summer 2 classes
Saturday, August 17, 2024	Graduate (GR)	GR: Last day of full summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of six-week summer classes/final exams
Sunday, August 18, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half summer class without a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for six-week summer classes
Sunday, August 18, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class with a W grade
Monday, August 19, 2024	Undergraduate (UG)	UG: First day of final exams for summer 2 classes
Monday, August 19, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	Graduate (GR)	GR: First day of final exams for summer 2 classes
Monday, August 19, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half summer classes
Tuesday, August 20, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 2 classes
Tuesday, August 20, 2024	School of Law (LW)	LW: Last day of final exams for full-semester summer classes
Wednesday, August 21, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 2 classes if needed
Wednesday, August 21, 2024	School of Law (LW)	LW: Final exam makeup day for summer classes if needed
Thursday, August 22, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Saturday, August 24, 2024	Undergraduate (UG)	UG: Summer degree conferral date
Saturday, August 24, 2024	Graduate (GR)	GR: Last day of summer 2 classes/final exams
Saturday, August 24, 2024	Graduate (GR)	GR: Summer degree conferral date
Saturday, August 24, 2024	School of Law (LW)	LW: Last day of second-half summer classes
Saturday, August 24, 2024	School of Law (LW)	LW: Summer degree conferral date
Sunday, August 25, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half summer class with a W grade
Monday, August 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Monday, August 26, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half summer classes
Monday, August 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half summer classes
Saturday, August 31, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer degree conferral date
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half summer classes/final exams
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Summer degree conferral date
Tuesday, September 3, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half summer classes

Date	Calendar	Event
Thursday, September 19, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester summer classes

Northeastern University

Matthew Modoono for Northeastern University

Graduate Catalog

2023-2024

Table of Contents

Graduate Catalog 16
- Information for Entering Students 17
  - Academic Resources 18
    - Libraries 19
  - Office of the University Registrar 20
  - Campus Resources 21
    - Center for Advancing Teaching and Learning Through Research 22
    - Disability Resource Center 23
    - Employer Engagement and Career Design 24
    - Public Safety 25
    - Health and Counseling 26
    - We Care 27
  - Information for International Students 28
  - Information Technology Services 29
  - Off Campus Engagement and Support 30
  - Office of the University Registrar 20
- Financial Information 31
  - Bill Payment 32
  - Delivery of Services 35
  - Financial Aid Assistance 36
  - Student Refunds 39
  - Tuition and Fees 40
- Academic Policies and Procedures 44
  - Accommodations for Students with Disabilities 45
  - Attendance Requirements 46
  - Campus Transfer and Campus Location Change 47
  - Clearing an Academic Deficiency 48
  - Code of Student Conduct 49
  - Course Credit Guidelines 50
  - Course Numbering System 51
  - Family Educational Rights and Privacy Act (FERPA) 52
  - Grade Change Policy 54
  - Grade Table and GPA 55
  - Leaves of Absence and University Withdrawal 57
  - Personal Information 60
  - Requesting and Clearing An Incomplete Grade 61
  - Retaking Courses 62
  - Student Bill of Academic Rights and Responsibilities 63
  - Student Responsibility Statement 66
  - Student Right-to-Know Act 67

Substituting Courses ... 68
University-Sponsored Travel ... 69
Academic Appeals Policies and Procedures ... 70
Academic Calendars ... 73
Academic Integrity Policy ... 74
Audit Policy ... 75
Cooperative Education ... 76
Departmental Jurisdiction ... 78
Dismissal from Class ... 79
Dropping a Class ... 80
Final Examinations and Related Policies on Other Exams ... 81
Full-Time Status ... 82
General Regulations ... 83
Graduation Requirements ... 87
Minimum Cumulative GPA ... 88
Overload Conditions for Graduate Assistants ... 89
Pass/Fail (Satisfactory/Unsatisfactory) Grading ... 90
Regulations and Requirements for All Graduate Degree Programs ... 91
Regulations and Requirements for Graduate Certificate Programs ... 93
Regulations and Requirements for the Master's Degree ... 94
Regulations and Requirements for PlusOne Degree Combinations ... 95
Regulations and Requirements for Professional Doctorate Degree Programs ... 96
Regulations and Requirements for the Certificate of Advanced Graduate Study ... 98
Regulations and Requirements for Doctor of Philosophy (PhD) Programs ... 99
Regulations and Requirements for Interdisciplinary Graduate Degrees ... 101
Definitions ... 102
PhD Programs ... 103
Experiential PhD ... 107
College of Arts, Media and Design ... 109
Academic Policies and Procedures ... 110
General Information ... 111
Master's Degree Policies ... 112
Graduate Student Classification ... 113
School of Architecture ... 114
Master of Architecture—One-Year Program ... 115
Master of Architecture—Two-Year Program ... 116
Master of Architecture—Three-Year Program ... 118
Master of Architecture—Three-Year Program—Advanced Degree Entrance ... 120
Sustainable Urban Environments, MDes—One-Year Program ... 122
Sustainable Urban Environments, MDes—Two-Year Program ... 123
Art + Design ... 125
Experience Design, MFA ... 126
Information Design and Data Visualization, MFA ... 128

Experience Design, MS ... 131
Game Science and Design, MS ... 133
Information Design and Data Visualization, MS ... 135
Experience Design, Graduate Certificate ... 137
Game Experience Design, Graduate Certificate ... 138
Game Science, Graduate Certificate ... 139
Information Design and Visualization, Graduate Certificate ... 140
School of Journalism ... 141
Journalism, MA ... 142
Media Advocacy, MS ... 143
Media Innovation and Data Communication, MS ... 144
Interdisciplinary Programs ... 146
Interdisciplinary Design and Media, PhD ... 147
Arts Administration and Cultural Entrepreneurship, MS ... 152
Creative Collaboration and Multidisciplinary Design, MS ... 154
Creative Practice Leadership, MS ... 156
Extended Realities, MS ... 158
Urban Planning and Policy, MS ... 163
Arts Administration, Graduate Certificate ... 167
Cultural Entrepreneurship, Graduate Certificate ... 168
D'Amore-McKim School of Business ... 169
Master of Science ... 170
Business Analytics, MS ... 171
Business Analytics, MS—Online ... 172
International Management, MS ... 173
Management, MS ... 174
Accounting, MSA ... 185
Finance, MSF ... 187
Quantitative Finance, MSF ... 188
Master of Business Administration ... 190
Business Administration, MBA—Full-Time ... 191
Business Administration, MBA—Online ... 200
Business Administration, MBA—Part-Time ... 202
Combined Degrees ... 208
Accounting and Business Administration, MSAMBA ... 209
Finance and Business Administration, MSFMBA ... 211
Finance and Business Administration, MSFMBA—Online ... 220
Finance and Business Administration, MSFMBA—Part-Time ... 221
Quantitative Finance and Business Administration, MSFMBA ... 227
Dual Degrees ... 231
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Business Administration, MBA—Full-Time ... 233
Law, LLM / Business Administration, MBA—Full-Time ... 234

Graduate Certificates ... 235
Accounting and Financial Decision Making, Graduate Certificate ... 236
Brand Management, Graduate Certificate ... 237
Business Administration, Graduate Certificate ... 238
Business Administration, Graduate Certificate—Online ... 240
Business Analytics, Graduate Certificate ... 242
Business Management for Healthcare, Graduate Certificate ... 243
Corporate Finance, Graduate Certificate ... 244
Corporate Innovation, Graduate Certificate ... 245
Corporate Renewal, Graduate Certificate ... 246
Entrepreneurship, Graduate Certificate ... 247
International Business, Graduate Certificate ... 248
Investments, Graduate Certificate ... 249
Leading People and Organizations, Graduate Certificate ... 250
Marketing, Graduate Certificate ... 251
Marketing Analytics, Graduate Certificate ... 252
Mutual Fund Management, Graduate Certificate ... 253
Supply Chain Management, Graduate Certificate ... 254
Sustainability and Business, Graduate Certificate ... 255
Khoury College of Computer Sciences ... 256
Academic Policies and Procedures ... 257
Absenteeism ... 258
Academic Integrity ... 259
Academic Probation and Dismissal ... 260
Certificates ... 261
Pass / Fail Policy ... 262
Transfer of Credit ... 263
Computer Science ... 264
Computer Science, PhD ... 267
Network Science, PhD ... 273
Artificial Intelligence, MS ... 277
Data Science, MS ... 279
Data Science, MS—Align ... 281
Game Science and Design, MS ... 133
Internet of Things, MS ... 286
Robotics, MS ... 290
Computer Science, MSCS ... 293
Computer Science, MSCS—Align ... 295
Cloud Software Development, Graduate Certificate ... 297
Computer Science, Graduate Certificate ... 298
Data Analytics, Graduate Certificate ... 299
Inclusive Computer Science Education, Graduate Certificate ... 300
Cybersecurity ... 301

Cybersecurity, PhD ... 302
Cybersecurity, MS ... 308
Cybersecurity, MS—Align ... 310
Cybersecurity, Graduate Certificate ... 313
Health Informatics ... 314
Personal Health Informatics, PhD ... 314
Health Informatics, MS ... 314
Interdisciplinary Programs ... 317
Network Science, PhD ... 273
Personal Health Informatics, PhD ... 322
Data Science, MS ... 279
Game Science and Design, MS ... 133
Robotics, MS ... 290
Data Analytics, Graduate Certificate ... 299
College of Engineering ... 334
Academic Policies ... 335
Academic Dismissal Policy ... 336
Academic Integrity Policy ... 337
Academic Standing Policy ... 338
Appeals Policy ... 339
Attendance Policy ... 340
Course Registration ... 341
Course Selection ... 342
Dissertation Committee ... 343
Graduate Student Grievance Policy ... 344
PhD Student Progress and Review ... 345
Program Completion ... 346
Reenrollment Policy for Full-time Students ... 347
Bioengineering ... 348
Bioengineering, PhD ... 349
Interdisciplinary Engineering, PhD ... 357
Bioengineering, MSBioE ... 360
Chemical Engineering ... 364
Chemical Engineering, PhD ... 366
Interdisciplinary Engineering, PhD ... 357
Pharmaceutical Engineering, MS ... 374
Chemical Engineering, MSChE ... 376
Process Safety Engineering, Graduate Certificate ... 379
Civil and Environmental Engineering ... 380
Civil and Environmental Engineering, PhD ... 382
Climate Science and Engineering, MS ... 385
Engineering and Public Policy, MS ... 387
Civil Engineering with Concentration in Data and Systems, MSCivE ... 390

Civil Engineering with Concentration in Construction Management, MSCivE ... 393
Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE ... 395
Civil Engineering with Concentration in Structures, MSCivE ... 397
Civil Engineering with Concentration in Transportation, MSCivE ... 399
Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE ... 401
Environmental Engineering, MSEnvE ... 403
Sustainable Building Systems, MSSBS ... 405
Climate and Engineering, Graduate Certificate ... 407
Sustainability Engineering, Graduate Certificate ... 408
Electrical and Computer Engineering ... 409
Computer Engineering, PhD ... 411
Cybersecurity, PhD ... 302
Electrical Engineering, PhD ... 419
Applied Physics and Engineering, MS ... 421
Data Science, MS ... 279
Internet of Things, MS ... 286
Robotics, MS ... 290
Wireless and Network Engineering, MS ... 432
Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE ... 434
Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE ... 439
Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE ... 444
Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE ... 448
Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE ... 453
Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE ... 458
Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE ... 463
Electrical and Computer Engineering with Concentration in Power Systems, MSECE ... 467
Electrical and Computer Engineering Leadership, MSECEL ... 472
Mechanical and Industrial Engineering ... 473
Industrial Engineering, PhD ... 475
Mechanical Engineering, PhD ... 478
Advanced and Intelligent Manufacturing, MS ... 481
Data Analytics Engineering, MS ... 485
Human Factors, MS ... 490
Industrial Engineering, MSIE ... 493
Engineering Management, MSEM ... 497
Energy Systems, MSEneS ... 504
Energy Systems, MSEneS—Academic Link Program ... 507
Mechanical Engineering with Concentration in General Mechanical Engineering, MSME ... 509
Mechanical Engineering with Concentration in Materials Science, MSME ... 512
Mechanical Engineering with Concentration in Mechanics and Design, MSME ... 514
Mechanical Engineering with Concentration in Mechatronics, MSME ... 517
Mechanical Engineering with Concentration in Thermofluids, MSME ... 520
Operations Research, MSOR ... 523

Data Analytics Engineering, Graduate Certificate ... 526
Energy Systems, Graduate Certificate ... 527
Energy Systems Management, Graduate Certificate ... 528
Engineering Business, Graduate Certificate ... 529
Engineering Economic Decision Making, Graduate Certificate ... 531
Engineering Management, Graduate Certificate ... 532
Lean Six Sigma, Graduate Certificate ... 533
Renewable Energy, Graduate Certificate ... 534
Sustainable Energy Systems, Graduate Certificate ... 535
Supply Chain Engineering Management, Graduate Certificate ... 536
Technology Systems Management, Graduate Certificate ... 537
Multidisciplinary Programs ... 538
Information Systems, MSIS ... 539
Information Systems, MSIS—Bridge ... 541
Cyber-Physical Systems, MS ... 542
Data Architecture and Management, MS ... 544
Software Engineering Systems, MS ... 545
Telecommunication Networks, MS ... 547
Blockchain and Smart Contract Engineering, Graduate Certificate ... 549
Broadband Wireless Systems, Graduate Certificate ... 550
Engineering Leadership, Graduate Certificate ... 551
IP Telephony Systems, Graduate Certificate ... 553
Software Engineering Systems, Graduate Certificate ... 554
Interdisciplinary Graduate Programs ... 555
Cybersecurity, PhD ... 302
Interdisciplinary Engineering, PhD ... 357
Product Development, MS ... 565
Graduate Certificate Programs ... 567
Bouvé College of Health Sciences ... 568
Academic Policies and Procedures ... 569
Background Checks ... 570
Health Requirements ... 571
Liability Insurance ... 572
Requirements for Clinical, Internships, and Practicum Courses ... 573
Financial Awards ... 575
Advising ... 576
Course Substitution ... 577
Transfer of Credit ... 578
Academic Affairs Appeals Process ... 579
Academic Dismissal ... 581
Academic Probation Policy ... 582
Academic Progression ... 583
Academic Standing ... 584

Graduation Policies ... 585
Interdisciplinary Programs ... 586
Healthcare Leadership, DMSc ... 587
Network Science, PhD ... 273
Personal Health Informatics, PhD ... 314
Health Informatics, MS ... 314
Pharmaceutical Engineering, MS ... 374
Real-World Evidence in Healthcare and Life Sciences, MS ... 599
Health Informatics, MS / Physician Assistant, MS ... 601
Law, JD / Public Health, MPH ... 602
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Physician Assistant, MS / Public Health, MPH ... 604
Public Health, MPH / Health Informatics, MS ... 605
Early Intervention, Graduate Certificate ... 606
Health Informatics Management and Exchange, Graduate Certificate ... 607
Health Informatics Privacy and Security, Graduate Certificate ... 607
Health Informatics Software Engineering, Graduate Certificate ... 607
Patient Safety, Graduate Certificate ... 607
School of Clinical and Rehabilitation Sciences ... 608
Speech-Language Pathology, MS ... 611
Healthcare Leadership, DMSc ... 587
Physician Assistant, MS ... 616
Health Informatics, MS / Physician Assistant, MS ... 601
Physician Assistant, MS / Public Health, MPH ... 604
Human Movement and Rehabilitation Sciences, PhD ... 620
Physical Therapy, DPT—Postbaccalaureate Entry ... 623
Human Movement and Rehabilitation Sciences, MS ... 629
Extreme Medicine, Graduate Certificate ... 631
School of Community Health and Behavioral Sciences ... 632
Counseling Psychology, PhD ... 634
School Psychology, PhD ... 636
School Psychology, CAGS ... 638
Applied Behavior Analysis, MS ... 639
Applied Educational Psychology, MS ... 641
Applied Psychology, MS ... 642
Counseling Psychology, MSCP ... 643
Early Intervention, Graduate Certificate ... 606
Personal Health Informatics, PhD ... 314
Population Health, PhD ... 646
Public Health, MPH ... 650
Public Health, MPH—Accelerated ... 652
Exercise Science, MS—Online ... 654
Health Informatics, MS ... 314

Real-World Evidence in Healthcare and Life Sciences, MS ... 599
Law, JD / Public Health, MPH ... 602
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Physician Assistant, MS / Public Health, MPH ... 604
Public Health, MPH / Health Informatics, MS ... 605
Health Informatics Management and Exchange, Graduate Certificate ... 665
Health Informatics Privacy and Security, Graduate Certificate ... 666
Health Informatics Software Engineering, Graduate Certificate ... 667
School of Nursing ... 668
Nursing, PhD ... 669
Nurse Anesthesia, DNP ... 672
Nursing, DNP—Post-Master's ... 674
Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS ... 675
Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS ... 676
Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS ... 677
Nursing—Neonatal Nurse Practitioner, CAGS ... 678
Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS ... 679
Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS ... 680
Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS ... 681
Nursing, MS ... 682
Nursing, MS—Direct Entry ... 686
Patient Safety, Graduate Certificate ... 607
Pediatric Nurse Practitioner, Acute Care, Graduate Certificate ... 692
School of Pharmacy and Pharmaceutical Sciences ... 693
Biomedical Science, PhD ... 694
Medicinal Chemistry and Drug Discovery, PhD ... 701
Pharmaceutics and Drug Delivery, PhD ... 707
Pharmacology, PhD ... 713
Pharmacy, PharmD ... 719
Pharmacy, PharmD—Direct Entry ... 720
Biomedical Science, MS ... 726
Medicinal Chemistry and Drug Discovery, MS ... 729
Pharmaceutical Engineering, MS ... 374
Pharmaceutics and Drug Delivery, MS ... 734
Pharmacology, MS ... 738
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
School of Law ... 742
Academic Policies and Procedures ... 744
Grades ... 745
Law, JD ... 746
Law, LLM ... 749
Law, LLM—Online ... 754
Legal Studies, MLS—Online ... 755

Media Advocacy, MS ... 143
Graduate Certificates ... 758
Business Law, Graduate Certificate ... 759
Healthcare Compliance, Graduate Certificate ... 760
Health Law, Graduate Certificate ... 761
Health Law and Policy, Graduate Certificate ... 762
Human Resources Law, Graduate Certificate ... 764
Human Rights Law, Graduate Certificate ... 765
Intellectual Property Law, Graduate Certificate ... 766
Legal Design, Graduate Certificate ... 767
Poverty Law and Economic Justice, Graduate Certificate ... 769
Privacy Law, Graduate Certificate ... 771
United States Law, Graduate Certificate ... 772
Women, Gender, Sexuality, and the Law, Graduate Certificate ... 773
Accelerated Degrees ... 774
Dual Degrees ... 775
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Business Administration, MBA—Full-Time ... 233
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Criminology and Criminal Justice, MS ... 779
Law, JD / Public Health, MPH ... 602
Law, JD / Public Policy, MPP ... 781
Law, LLM / Business Administration, MBA—Full-Time ... 234
College of Professional Studies ... 783
Academic Policies and Procedures ... 784
Academic Progression Standards ... 785
Academic Resources ... 786
Active-Duty Military Personnel ... 787
Attendance Verification ... 788
Completing Degree Requirements ... 789
Degrees, Majors, and Concentrations ... 790
Full-Time Status ... 791
Global Partnership Programs ... 793
Graduate Campus ... 794
Graduation Requirements ... 795
Master's Degree Admission Requirements ... 796
New Student Orientation (On-Ground and Online) ... 797
Personal Professional Enrichment (PPE) ... 798
Readmission to Program ... 799
Reentry to Program ... 800
Registration and Taking Courses ... 801
Reinstatement after Academic Dismissal ... 803
Seeking More than One Certificate or Degree ... 804

Special Student Status ... 805
Student Evaluation of Courses ... 806
Transfer Credit Policies ... 807
Doctoral Degree Programs ... 808
Education, EdD ... 809
Law and Policy, DLP ... 813
Transitional Doctor of Physical Therapy, DPT ... 814
Master's Degree Programs ... 816
Security and Intelligence Studies, MA ... 817
Elementary Education, MAT ... 819
Secondary Education, MAT ... 821
Education, MEd ... 824
Higher Education Administration, MEd ... 826
Analytics, MPS ... 827
Applied Logistics, MPS ... 829
Applied Machine Intelligence, MPS ... 831
Digital Media, MPS ... 833
Digital Media, MPS—Connect ... 836
Geospatial Services, MPS ... 839
Informatics, MPS ... 841
Insurance Analytics and Management, MPS ... 844
Learning Experience Design and Technology, MPS ... 846
Applied Nutrition, MS ... 848
Commerce and Economic Development, MS ... 851
Corporate and Organizational Communication, MS ... 853
Human Resources Management, MS ... 857
Global Studies and International Relations, MS ... 861
Nonprofit Management, MS ... 864
Organizational Leadership, MS ... 868
Project Management, MS ... 871
Regulatory Affairs, MS ... 874
Sports Leadership, MSLD ... 877
Graduate Certificate Programs ... 879
3D Animation, Graduate Certificate ... 880
Agile Project Management, Graduate Certificate ... 881
Applied Analytics, Graduate Certificate ... 882
Biopharmaceutical Regulatory Affairs, Graduate Certificate ... 883
Cloud Computing Application and Management, Graduate Certificate ... 884
Collegiate Athletics Administration, Graduate Certificate ... 885
Construction Management, Graduate Certificate ... 886
Cross-Cultural Communication, Graduate Certificate ... 887
Digital Media Management, Graduate Certificate ... 888
Digital Video, Graduate Certificate ... 889

eSports, Graduate Certificate ... 889
Experiential Teaching and Learning, Graduate Certificate ... 890
Financial Markets and Institutions, Graduate Certificate ... 891
Forensic Accounting, Graduate Certificate ... 892
Fundraising and Development, Graduate Certificate ... 893
Game Design, Graduate Certificate ... 894
Geographic Information Systems, Graduate Certificate ... 895
Global Studies and International Relations, Graduate Certificate ... 896
Health Management, Graduate Certificate ... 897
Higher Education Administration, Graduate Certificate ... 898
Human-Centered Informatics, Graduate Certificate ... 899
Human Resources Management, Graduate Certificate ... 900
Information Security Management, Graduate Certificate ... 901
Insurance Analytics and Management, Graduate Certificate ... 902
Integrative Health and Wellness, Graduate Certificate ... 903
Interactive Design, Graduate Certificate ... 904
International Biopharmaceutical Regulatory Affairs, Graduate Certificate ... 905
Leadership, Graduate Certificate ... 906
Leading and Managing Technical Projects, Graduate Certificate ... 907
Learning Experience Design and Technology, Graduate Certificate ... 908
Medical Device Regulatory Affairs, Graduate Certificate ... 909
Nonclinical Biomedical Product Regulation, Graduate Certificate ... 910
Nonprofit Management, Graduate Certificate ... 911
Organizational Communication, Graduate Certificate ... 912
Professional Sports Administration, Graduate Certificate ... 913
Project Business Analysis, Graduate Certificate ... 914
Project Management, Graduate Certificate ... 915
Public and Media Relations, Graduate Certificate ... 916
Quality Assurance Compliance, Graduate Certificate ... 917
Remote Sensing, Graduate Certificate ... 918
Sales Management, Graduate Certificate ... 919
Social Media for Organizational Performance, Graduate Certificate ... 920
Usability, Graduate Certificate ... 921
College of Science ... 922
Academic Policies and Procedures ... 923
Academic Appeals Policies ... 924
Awards ... 927
Changes in Requirements ... 928
Cooperative Education Policies ... 929
Course Registration ... 931
The Doctor of Philosophy Degree (PhD) ... 932
Grading Policies ... 934
The Master's Degree Academic Requirements ... 935

Satisfactory Progress ... 936
Time Limitation ... 937
Transfer Credit ... 938
Biology ... 939
Biology, PhD ... 940
Bioinformatics, MS ... 942
Cell and Gene Therapies, MS ... 946
Bioinformatics, Graduate Certificate ... 948
Omics, Graduate Certificate ... 950
Chemistry and Chemical Biology ... 951
Chemistry, PhD ... 953
Biotechnology, MS ... 955
Biotechnology, MS—Experiential ... 961
Chemistry, MS ... 962
Biodefense and Biosecurity, Graduate Certificate ... 963
Biopharmaceutical Analytical Sciences, Graduate Certificate ... 964
Biotechnology, Graduate Certificate ... 965
Biotechnology Enterprise, Graduate Certificate ... 966
Biotechnology Regulatory Science, Graduate Certificate ... 967
Experimental Biotechnology, Graduate Certificate ... 968
Manufacturing and Quality Operations in Biotechnology, Graduate Certificate ... 969
Molecular Biotechnology, Graduate Certificate ... 970
Pharmaceutical Technologies, Graduate Certificate ... 971
Process Science, Graduate Certificate ... 972
Vaccine Development, Graduate Certificate ... 973
Marine and Environmental Sciences ... 974
Marine and Environmental Sciences, PhD ... 975
Human Behavior and Sustainability Sciences, PhD ... 980
Climate Science and Engineering, MS ... 385
Environmental Science and Policy, MS ... 985
Marine Biology, MS ... 987
Sustainability Sciences, Graduate Certificate ... 989
Mathematics ... 990
Mathematics, PhD ... 991
Applied Mathematics, MS ... 998
Mathematics, MS ... 1000
Operations Research, MSOR ... 1001
Applied Mathematics, Graduate Certificate ... 1003
Physics ... 1004
Physics, PhD ... 1005
Nanomedicine, MS ... 1012
Physics, MS ... 1016
Nanomedicine, Graduate Certificate ... 1019

Psychology ... 1020
Human Behavior and Sustainability Sciences, PhD ... 980
Psychology, PhD ... 1024
Interdisciplinary Programs ... 1028
Network Science, PhD ... 273
Applied Physics and Engineering, MS ... 421
Environmental Science and Policy, MS ... 985
Climate Science and Engineering, MS ... 385
Graduate Certificate Programs ... 1039
College of Social Sciences and Humanities ... 1040
General Regulations ... 1041
General Information ... 1042
Academic Appeals Procedures ... 1043
Regulations for All Students ... 1046
Doctor of Philosophy ... 1048
Master's Degrees ... 1050
School of Criminology and Criminal Justice ... 1051
Criminology and Justice Policy, PhD ... 1052
Criminology and Criminal Justice, MS ... 1055
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Criminology and Criminal Justice, MS ... 779
Economics ... 1059
Economics, PhD ... 1060
Economics, MS ... 1064
English ... 1066
English, PhD ... 1067
English, MA ... 1070
Digital Humanities, Graduate Certificate ... 1072
History ... 1074
History, PhD ... 1075
History, MA ... 1078
Public History, Graduate Certificate ... 1080
Political Science ... 1081
Political Science, PhD ... 1082
Political Science, MA ... 1085
Security and Resilience Studies, MS ... 1088
Security and Resilience Studies, Graduate Certificate ... 1091
School of Public Policy and Urban Affairs ... 1092
Public Policy, PhD ... 1093
International Affairs, MA ... 1098
Public Administration, MPA ... 1100
Public Policy, MPP ... 1103
Engineering and Public Policy, MS ... 387

Environmental Science and Policy, MS ... 985
Urban Informatics, MS ... 1111
Urban Planning and Policy, MS ... 163
Law, JD / Public Policy, MPP ... 781
Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate ... 1120
Public Policy Analysis, Graduate Certificate ... 1121
Sustainability and Climate Change Policy, Graduate Certificate ... 1122
Urban Analytics, Graduate Certificate ... 1123
Urban Studies, Graduate Certificate ... 1124
Sociology ... 1125
Sociology, PhD ... 1126
Interdisciplinary Programs ... 1131
Network Science, PhD ... 273
Applied Quantitative Methods and Social Analysis, MS ... 1136
Computational Social Science, Graduate Certificate ... 1139
Data Analytics, Graduate Certificate ... 299
Information Ethics, Graduate Certificate ... 1141
Women's, Gender, and Sexuality Studies, Graduate Certificate ... 1142
Mills College at Northeastern ... 1144
Gordon Institute of Engineering Leadership ... 1145
Engineering Leadership, Graduate Certificate ... 551
Technology Leadership, Graduate Certificate ... 1149
Additional Programs ... 1151
Postsecondary Teaching, Graduate Certificate ... 1152
University Faculty ... 1153
General Information ... 1237
Notifications and Disclosures ... 1238
Governing Boards and Officers of Northeastern ... 1240
University Leadership ... 1242
Accreditation ... 1243
Authorizations ... 1247
Major CIP Codes ... 1251
Resources ... 1271
Index ... 1272

Graduate Catalog

Matthew Modoono for Northeastern#University

Information for Entering Students

Graduate education at Northeastern University integrates the highest level of scholarship across disciplinary boundaries with significant research and experiential learning opportunities in Boston and around the world. Northeastern offers hundreds of graduate programs, ranging from doctoral and full-time master's programs to part-time programs and graduate certificates, including an array of innovative PhD and master's programs designed to prepare students for emerging new fields. Students are able to take courses on campus, online, or in hybrid formats. This multidimensional learning environment offers students the knowledge and experience to excel and the flexibility to create the educational experience that best meets their needs. Our graduates are well positioned to meet the diverse demands of careers in academia, industry, and the professions.

- Academic Resources (p. 18)
- Campus Resources (p. 21)
- Information for International Students (p. 28)
- Information Technology Services (p. 29)
- Off Campus Engagement and Support (p. 30)
- Office of the University Registrar (p. 20)

Academic Resources

- Libraries (p. 19)
- Office of the University Registrar (p. 20)

Libraries

Northeastern University Library

Website (https://library.northeastern.edu)
617.373.8778

The Northeastern University Library serves the entire Northeastern community—in Boston, Oakland, across the global campus network, and online. The Library provides collections and services supporting research and teaching across disciplines. Its collections are extensive, with a large proportion available digitally. The Library's collections include more than 1 million e-books; almost 500,000 print titles; more than 150,000 licensed e-journals; and more than 200,000 streaming audio and visual titles. Access to print and electronic materials is provided through Scholar OneSearch, the Library's discovery platform. The Library's Archives and Special Collections hold historical records and publications of Northeastern and unique materials preserving the history of Boston's social movements, public infrastructure, neighborhoods, and natural environments.

Services provided by the Library include both on-site and online research help, the latter including 24/7 live chat with a reference librarian; subject-specialist librarians who provide in-depth consultation and research support for each academic program at the university; and an interlibrary loan system for providing materials not readily available at Northeastern. The Library actively supports the unique needs of graduate students in research and publishing through services such as citation management workshops, research data support, and digital scholarship services.

The Snell Library building in Boston is open to all Northeastern students, faculty, and staff. Spaces in the building include areas for group work and quiet individual study, with more than 30 group study rooms with whiteboards and plug-in displays for collaborative group work. Individual study rooms are also available for graduate students. The Library supports a range of creative activities and includes studios for audio recording, video production, and 3D printing.

F. W. Olin Library in Oakland is open to all Northeastern students, faculty, and staff, as well as Mills College and Northeastern University alumni and community members. The Library offers a collection of 200,000 volumes and other media supporting the curricular needs of the programs on the Oakland campus. Spaces in the building include areas for quiet study and group work, including reservable study rooms, a seminar room, and the student lounge. F. W. Olin Library houses special collections in the Elinor Raas Heller Rare Book Room. Oakland special collections include early printed books, contemporary fine press and artists' books, and the Mills College Archive.

School of Law Library

Website (https://law.northeastern.edu/library/)
617.373.3332

The School of Law Library, located on four floors in the Knowles Law Center, includes a comprehensive collection of U.S. legal materials in print and in electronic format. Of particular note is the library's collection in the areas of public interest law; international human rights law; and public health, death penalty issues, and progressive lawyering. More information can be found at the School of Law Library webpage (https://law.northeastern.edu/library/).

Office of the University Registrar

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services, including class scheduling, registration, record functions, verification of enrollment, reporting, and transcript services.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu/) to provide students convenient access to information and services, including class schedules and registration, most recent grades, unofficial transcripts, and transcript and enrollment verification requests.

Office of the University Registrar website (https://registrar.northeastern.edu/)
registrar@northeastern.edu
617.373.2300
617.373.5351 (fax)

Maintenance of Student Records

The Office of the University Registrar is responsible for ensuring appropriate maintenance and safekeeping of student records. The transcript, which is stored electronically and maintained indefinitely, is the holistic record of student attendance and degree progress. In the event that the university discontinues operations, the archive of student records would be maintained by:

Massachusetts Department of Higher Education
One Ashburton Place
Room 1401
Boston, MA 02108

Campus Resources

- Center for Advancing Teaching and Learning Through Research (p. 22)
- Disability Resource Center (p. 23)
- Employer Engagement and Career Design (p. 24)
- Public Safety (p. 25)
- University Health and Counseling Services (p. 26)
- We Care (p. 27)

Center for Advancing Teaching and Learning Through Research

catlr@northeastern.edu
Website (https://learning.northeastern.edu/)

617.373.3157
617.373.7779 (fax)

The Center for Advancing Teaching and Learning Through Research provides professional development for all graduate students at Northeastern University in their roles as teaching assistants, instructors, and future faculty and professionals. We provide a range of opportunities for graduate students to develop effective teaching skills, including course design and communication. CATLR is committed to supporting your success at Northeastern and beyond, and we welcome you to:

- Participate in workshops and other events to learn about effective practices in teaching and course design and to adapt them for your own current or future use.
- Meet one-on-one with a CATLR consultant to discuss any aspect of teaching or preparing for the academic job market and postdoctoral careers, including developing course syllabi, teaching statements, teaching portfolios, and diversity statements.
- Invite a CATLR consultant to observe your class, recitation, lab, studio, or guest lecture and to meet with you afterward to share and discuss their observations in relation to your own goals and reflections.
- Learn more about our self-paced Future Faculty Program, designed for you to reflect on and prepare for the various dimensions of teaching in higher education.

All of CATLR's services are provided on a formative and confidential basis.

Disability Resource Center

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Employer Engagement and Career Design

Website (https://careers.northeastern.edu)

103 Stearns Center
617.373.2430
careers@northeastern.edu

Employer Engagement and Career Design serves a diverse and sustainable global network of learners, alumni, and employers, forming a powerful ecosystem that nurtures lifelong career design and partnerships by enabling learners to:

- Choose a major and explore career options that fit an individual's unique attributes
- Take advantage of experiential learning opportunities
- Make career decisions that will engage students and alumni in productive and fulfilling work
- Prepare for and conduct successful job searches
- Create meaningful and effective engagement with employers
- Contribute to meeting global and societal needs

We collaborate closely with the co-op community in all colleges and campuses across the global university while offering a dynamic framework of career design as lifelong learning with distinctive advising and programs to support learners at all stages of their journey. We are committed to supporting all learners and employer partners in eliminating biases and inequitable systems that stand in the way of achieving their goals and fostering an inclusive and just society.

Public Safety

Northeastern University Police Department

100 Columbus Place
617.373.3333 (EMERGENCY—police, fire, medical)
617.373.3934 (TTY emergency or nonemergency)
617.373.2121 (nonemergency regular business)

Website (https://nupd.northeastern.edu/)

Public Safety Division Administrative Offices
617.373.2696

Personal Safety
617.373.2121

The Public Safety Division is committed to working with Northeastern University faculty, students, staff, and neighbors to build relationships and keep our campus thriving. Our work extends far beyond Boston, as we support learners in their academic and experiential endeavors around the world. The Public Safety Division is comprised of three sections: Police Department, Emergency Management, and International Safety.

The Northeastern University Police Department (https://nupd.northeastern.edu/) is a full-service and accredited police agency that comprises patrol and investigative divisions providing 24-hour service. NUPD has developed robust crime-detection and prevention strategies centered on technology and campus community engagement. Our well-trained officers are ready and willing to assist all members of our community.

A personal safety escort (https://nupd.northeastern.edu/our-services/safety-escort-services/) can be provided from one on-campus location to another, any time of day, whenever personal safety is a concern. You'll need to provide your name, Northeastern ID number, and location. Safety escorts usually arrive in 10 to 15 minutes. A special, nighttime off-campus escort service, called the RedEye, runs from dusk to dawn to transport students to their residence within two miles from the center of campus. Every night from 7 p.m. until 6 a.m., the RedEye van will pick students up at the Snell Library. In order to use this escort, you must book a ride in advance using the RedEye app, or you can book a ride at the RedEye dispatch center located at the Northeast Security office in the Ruggles Substation.

SafeZone (https://nupd.northeastern.edu/safezone/) is a mobile safety app that is unique to Northeastern. SafeZone is a smartphone app that any student or staff member can download and use for free. This app will connect you directly to the NUPD should you need our assistance or emergency support while you are on campus.

NUPD encourages you to not only familiarize yourself with all of the services provided by NUPD but to also utilize the services and safety-related tips provided. If you see something that does not look or feel right, NUPD encourages you to say something by contacting NUPD at 617.373.2121 or utilizing the SafeZone app.

LOST AND FOUND (HTTPS://NUPD.NORTHEASTERN.EDU/OUR-SERVICES/LOST-AND-FOUND/)

If you have lost an item on Northeastern's Boston campus, call 617.373.3913. If your item has been turned in, we will contact you by telephone or email. If you have found an item on campus, return it to our headquarters located at 100 Columbus Place. If you suspect the item has been stolen, call the NUPD at 617.373.2121 to report the theft.

UNIVERSITY EMERGENCY INFORMATION (HTTP://WWW.NORTHEASTERN.EDU/EMERGENCY/)

617.373.2000 (snow emergencies)
617.373.3333 (police, medical, or fire emergencies)

Northeastern is committed to providing members of its community with a safe and secure place in which to live, work, and study.

The university is prepared to respond to emergencies and urgent situations that require immediate action. A trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals form a coordinated group that is able to manage a wide range of potential situations.

NU Alert, emergency broadcast communication messages, are sent to the email addresses and telephone numbers students, faculty, and staff have provided the university. For more information on NU Alert and Emergency Planning, visit the NUPD website (https://nupd.northeastern.edu/safety/emergency-planning/).

Health and Counseling

24-hour Mental Health Support

Mental health support is available at any time from any location through Find@Northeastern for all full-time degree-seeking students . Call 877.233.9477 (U.S.), 855.229.8797 (Canada), or +1.781.457.7777 (International) to connect with a mental health clinician who is there to listen, guide, and help. In addition, through Find@Northeastern, students have access to unlimited free counseling sessions with therapists in their local area, connection to specialized treatment providers, and free access to Headspace and SilverCloud. Learn more here (https://www.northeastern.edu/uhcs/find-at-northeastern/).

BOSTON

University Health and Counseling Services (https://www.northeastern.edu/uhcs/)
70 Forsyth Building, Suite 135, Boston MA 02115
617.373.2772
uhcs@northeastern.edu

University Health and Counseling Services provides medical and mental healthcare for students in Massachusetts. UHCS clinicians are board-certified and licensed practitioners who provide confidential assessment and treatment of medical and mental health concerns, as well as referrals to specialists in the local Boston area. VisitUHCS (https://www.northeastern.edu/uhcs/) for more information, including access to care, NUSHP, medical leave of absence, and timely health updates.

OAKLAND

Counseling and Psychological Services (https://oakland.northeastern.edu/student-resources/health-and-wellness/counseling-and-psychological-services/)
Cowell Building, Oakland, CA 94613
510.430.2111
oakland-counseling@northeastern.edu

Counseling and Psychological Services provides mental health support for students on the Oakland campus. Located in the Cowell Building, CAPS offers brief therapy, groups, outreach services, and referrals to supportive resources. Visit CAPS (https://oakland.northeastern.edu/student-resources/health-and-wellness/counseling-and-psychological-services/) for more information, including additional mental health resources available through Find@Northeastern.

Student Health Center (https://www.millscollege.clinic/)
CPM 117, Oakland, CA 94613
510.431.1108

The Student Health Center provides on-campus confidential healthcare to students enrolled at Mills at Northeastern University. Services offered include primary and preventive care, basic treatment for illnesses and injuries, laboratory and pharmacy services, and referrals to specialty care and imaging services. The Student Health Center is an outpatient clinic staffed by a board-certified and licensed nurse practitioner and supported by a team that includes a board-certified physician.

We Care

617.373.7591
wecare@northeastern.edu (we_care@northeastern.edu)

Website (http://www.northeastern.edu/wecare/)

We Care assists students who are experiencing unexpected challenges to maintain their academic progress. The staff works with students to coordinate among university offices, to offer appropriate referrals, and to help develop viable options to support their continued success at the university. We Care also provides guidance to faculty and staff in identifying Northeastern resources and policies to help students succeed.

Information for International Students

Office of Global Services

Website (http://www.northeastern.edu/ogs/)
617.373.2310
617.373.8788 (fax)

The Office of Global Services provides advice and support services to over 20,000 international students and scholars who represent approximately 147 nations.

OGS serves as a "home away from home" for all international students and offers a wide array of **programs and services** to assist international students with their cultural adjustment, academic success, and professional growth. Throughout the year, OGS hosts cocurricular events that celebrate culture and the rich diversity of the campus. These events are encouraged as a way to gain familiarity with Northeastern University in a cross-cultural context while also facilitating the formation of friendships across cultures. OGS promotes meaningful interaction and intercultural understanding among citizens of all countries and their local peers, providing educational and cultural enrichment opportunities for all members of Northeastern. All students in the Northeastern community are welcome to participate in our events.

OGS provides **comprehensive immigration advising services** to assist international students in understanding the benefits and restrictions of being an international student, as governed by the federal immigration regulations set forth by the country of the student's study location within the Northeastern University Global Network. OGS advises students on the complexities of immigration compliance and interfaces with various government agencies.

During **international student orientation**, international students will receive an overview of the immigration compliance requirements along with information and resources to support academic success, student life, campus safety, and cultural adjustment.

During every required academic term, international students must maintain **full-time status and appropriate on-ground presence** at Northeastern to comply with federal immigration regulations. Note that timely registration for courses is especially important so that international students may remain in compliance with Northeastern's reporting requirements to the federal government about where they are studying. Because understanding federal regulations is complex and often nuanced, international students should consult with OGS if they have questions about their individual status.

OGS—United States (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students and scholars attending Northeastern in the United States, including I-20 (F-1) or DS-2019 (J-1) issuance, visa processing, general guidelines, orientation, events and programs, and support services. F-1 and J-1 students are encouraged to regularly review the guidelines on maintaining status (https://international.northeastern.edu/ogs/current-students/understanding-visa-requirements/guidelines-on-maintaining-status/).

OGS—Canada (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students attending the Northeastern program in Canada, including study permit compliance and extension, work eligibility, co-op work permit application, Post-Graduation Work Permit application, general guidelines, and support services.

Visa Immigration Compliance Team (https://www.nulondon.ac.uk/study/international-students/visa/visasupport/)—United Kingdom

The visa compliance team in London is committed to providing comprehensive support to international students throughout their CAS (Certificate of Acceptance for Studies) and UK student visa application processes. Their role encompasses assisting students in both pre- and postenrollment visa compliance activities.

The team also offers full support for an in-person enrollment on the first day at Northeastern University, London—which is a crucial process where the university verifies the information provided by international students and ensures their right to study in the UK. It is the university's responsibility to ensure that every international student possesses the correct visa to study in the UK. Once enrollment is successfully completed and all requested information is submitted, the visa compliance team issues a student ID card as a confirmation of the student's enrollment with Northeastern University, London.

The visa compliance team remains available throughout the student's enrollment life cycle to provide advice, guidance, and comprehensive support for any issues related to student visas. This includes addressing changes in program or any other matters related to visas or immigration, until the international student graduates.

Information Technology Services

IT Services is the university's central group that provides technology services, solutions, and support to all Northeastern University students. Visit the Connect To Tech guide (https://connect-to-tech.northeastern.edu/students/) for information and key technology resources that are particularly helpful to students, including:

- Northeastern accounts
- Access to email
- Laptop recommendations and discounts
- Canvas learning management system
- Software such as Office 365 and Adobe Creative Cloud
- Frequently used websites and mobile apps

Technology Support and IT Service Desk

Technology support is available 24/7 online or by phone and email. Walk-up support is available at the Tech Bar on the Boston and Oakland campuses. G (https://service.northeastern.edu/tech/?id=its_contact_us)**et IT Support >**

service.northeastern.edu/tech (https://service.northeastern.edu/tech/)
617.373.HELP [4357]
help@northeastern.edu

Visit the Tech Service Portal (https://service.northeastern.edu/tech/) to search for how-tos and FAQs, borrow a laptop or other equipment, start a live chat, and search other resources.

Occasionally, interruptions to university systems, services, and tools can happen—when they do, get updates about them through Northeastern's IT status page (https://its.northeastern.edu/status/).

Off Campus Engagement and Support

617.373.8480
offcampus@northeastern.edu

Off Campus Engagement and Support and our Network Housing team at Northeastern University provide support and education related to off-campus housing, renters' rights information, and campus and community connection. We offer many resources, special programs, and events to help you find off-campus housing in Boston and across the Northeastern network; connect with roommates; stay involved on campus; and serve as a link to your peers, alumni, and community. For students on co-op, our Network Housing support offers leased housing options in popular co-op locations.

We also help you understand your rights and responsibilities as a renter, understand your lease, and how to navigate landlord issues. Peer Community Ambassadors plan programs and events for you, are here to answer all of your questions, and help you meet your neighbors.

Our extensive website offers a host of resources including an apartment search database (http://aptsearch.northeastern.edu/); information on neighborhoods and transportation; as well as Northeastern, City of Boston, and Network Housing resources and relocation services.

Off Campus Engagement and Support publishes an e-newsletter that provides valuable tips and information on upcoming programs and events both on campus and off campus. Individuals interested in receiving our newsletter can sign up here (http://offcampus.sites.northeastern.edu/newsletter/) or email us at offcampus@northeastern.edu.

For more information, visit Off Campus Engagement and Support (http://offcampus.sites.northeastern.edu/).

Office of the University Registrar

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services, including class scheduling, registration, record functions, verification of enrollment, reporting, and transcript services.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu/) to provide students convenient access to information and services, including class schedules and registration, most recent grades, unofficial transcripts, and transcript and enrollment verification requests.

Office of the University Registrar website (https://registrar.northeastern.edu/)
registrar@northeastern.edu
617.373.2300
617.373.5351 (fax)

Maintenance of Student Records

The Office of the University Registrar is responsible for ensuring appropriate maintenance and safekeeping of student records. The transcript, which is stored electronically and maintained indefinitely, is the holistic record of student attendance and degree progress. In the event that the university discontinues operations, the archive of student records would be maintained by:

Massachusetts Department of Higher Education
One Ashburton Place
Room 1401
Boston, MA 02108

Financial Information

- Bill Payment (p. 32)
- Delivery of Services (p. 35)
- Financial Aid Assistance (p. 36)
- Student Refunds (p. 39)
- Tuition and Fees (p. 40)

Bill Payment

Student Financial Services

617.373.2270
617.373.8735 (fax)
studentaccounts@northeastern.edu

Full payment of tuition and other related charges is due prior to the start of the term as specified on the original bill. For questions related to the billing process, late fees, payment methods, tuition payment plan, and refunds, contact us at the phone number and email address provided above.

E-Bill

Tuition bills are generated electronically and are available via the Student Hub. Once your billing statement is available, you will be notified via email.

Bills must be paid by the due date on the initial billing statement. If a bill has not been received by the first week of the semester, contact Student Accounts.

In adherence to university policy, transcripts and other academic records will typically be withheld until all financial obligations to the institution have been fulfilled. However, students enrolled in Washington, California, and Maine will receive their transcripts even if they have outstanding financial obligations, in accordance with state regulations.

Update: Starting May 3, 2024, the university will no longer withhold transcripts due to outstanding financial obligations for any student, regardless of their state of enrollment or campus affiliation.

Payment of Tuition

Full payment of tuition, fees, and other related charges are due prior to the start of each semester. Payments will be accepted for billable charges only. The university is not able to process payments for more than the balance due on the student's account.

Accepted methods of payment are:

- **Electronic check (e-check):** Payments can be made online via NUPay on the Student Hub and are processed the same day they are received by the university.
- **International payments using Flywire:** Northeastern University has partnered with Flywire to streamline the international wire payment process to the university. This service provides students and their families a safe, cost-effective, and convenient method of making payments to Northeastern in foreign currencies. To learn more about international payments through Flywire, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/payment-methods/).
- **Monthly payment plan:** The monthly payment plan, administered through Flywire, allows students to divide their educational costs into smaller, more manageable installments. For additional information, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).
- **Supplemental loans:** There are a number of educational loan programs available to assist students in financing their education. Review options at the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).

For additional information regarding available payment and financing options, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/).

Student Financial Responsibility Agreement

As compelled by federal law, all students who enroll in classes at Northeastern are required to complete and accept the Student Financial Responsibility Agreement (https://studentfinance.northeastern.edu/billing-payments/sfra/). This agreement must be completed once per academic year and is located on the Student Hub. Failure to complete the SFRA will result in a hold that prevents attendance.

VA Education Benefits

In accordance with Title 38 USC 3679 (e), covered individuals utilizing Chapter 31 or Chapter 33 education benefits at Northeastern University will not have any penalty imposed on their account nor will they be required to take out additional funding due to pending or late payments from the Department of Veterans Affairs as long as the Dolce Center for the Advancement of Veterans and Servicemembers has a current Certificate of Eligibility or VRE Authorization on file AND a Request for VA Benefit Certification is submitted through the Student Hub (https://me.northeastern.edu) portal.

COEs must be submitted before the start of the student's first term but do not need to be resubmitted unless entitlement information changes. Students are also required to complete the Request for VA Benefit Certification form through the Student Hub (https://me.northeastern.edu) portal before the start of each term they wish to use VA benefits. Students may have a hold placed on the account if there is an outstanding balance after payment from the VA is received by Northeastern.

Discrepancies in Your Bill

Discrepancies in your bill should be addressed in writing via email (studentaccounts@northeastern.edu) to Student Financial Services. Include your name, Northeastern ID, account number, dollar amount in question, date of invoice, and any other information you believe is relevant.

If there is a discrepancy in your bill, pay the undisputed part of the bill to avoid responsibility for any late fees or financial holds.

Late Fees

Late fees can be placed on accounts any time after the due date if the account remains fully or partially unpaid. The university reserves the right to assess late fees after the due date on the bill and monthly thereafter if any of the balance due remains unpaid. Late fees may be based on a percentage of the balance due.

If a student or payer wishes to dispute a late fee assessment, they must do so, in writing, to studentaccounts@northeastern.edu. Please be sure to include the student's name, Northeastern ID, and reason for the dispute in the email.

In cases where students default on financial obligations, the student is liable for the outstanding balance, collection costs, and any legal fees incurred by the university during the collection process.

Tuition Paid Directly by Employers

When a third party pays tuition directly to the university, the student must provide the Office of Student Accounts with a purchase order or a written statement of intent to pay by the third party prior to the first week of classes. If there are stipulations associated with the payment agreement, such as a minimum grade level, then the student must either pay the university directly or enroll in one of the payment options.

Documents pertaining to a third-party agreement can be emailed to thirdparty@northeastern.edu, faxed to 617.373.8735, or mailed to the address below:

Student Financial Services
Northeastern University
ATTN: Third-Party Billing
354 Richards Hall
360 Huntington Ave
Boston, MA 02115

Tuition Reimbursement

Many companies, embassies, and agencies directly reimburse students for their educational expenses upon successful completion of courses. In these situations, the student is responsible for paying the bill at the beginning of the semester or selecting another payment option. Tuition may not be left unpaid pending reimbursement by a third party. Check with your human resources department to see if you qualify.

If your company requires an official transcript to process the tuition reimbursement, you may request your transcript online (visit the Office of the University Registrar website (https://registrar.northeastern.edu/article/transcript-requests/) for additional information about the transcript request process). Transcripts should be requested prior to the due date on your initial billing statement. Should there be a balance due on your account after the due date, your account may be subject to holds and a transcript will not be available until the balance due is resolved.

Tuition and Fees and Default Policy

Tuition rates, all fees, rules and regulations, courses, and course content are subject to revision by the president and the Board of Trustees at any time. In cases where the student defaults on their tuition, the student shall be liable for the outstanding tuition and all reasonable associated collection costs incurred by the university, including attorneys' fees.

Northeastern University Student Health Plan (NUSHP)

GENERAL INFORMATION

Since September 1989, Massachusetts law (M.G.L. c.15A, § 18) has required every full-time and part-time student enrolled in a certificate, diploma, or degree-granting program in a Massachusetts institution of higher learning to participate in a Student Health Plan or in a health benefit plan with comparable coverage.

The Northeastern University Student Health Plan defines a full-time student as having full-time student status and enrolled in any amount of credits of a full-time curriculum.

NUSHP defines a part-time student as having part-time student status and enrolled in at least 75% of credits of the full-time curriculum (CPS undergraduate students—9 credits, CPS graduate students—6 credits).

The health fee is assessed each term on a student's account based on these definitions unless the student has previously waived the health plan fee in the current academic year.

Students on co-op or on study abroad are considered active students and will be enrolled in and billed for NUSHP each year.

Students enrolled in prematriculation and online programs are not eligible for NUSHP.

HEALTH INSURANCE WAIVER

Eligible students are automatically enrolled in NUSHP each academic year and may waive NUSHP via the Student Hub (https://me.northeastern.edu) once they have been billed for NUSHP. In addition, to be eligible to waive, comparable coverage must be effective from the beginning of the term the student meets Student Health Program requirements.

The burden of proof that the alternative insurance is adequate falls upon the student choosing to waive. By submitting the waiver form, the student will be accepting responsibility for all medical expenses incurred, and neither Northeastern University nor its Student Health Plan will be responsible for these expenses.

Northeastern reserves the right to verify that the student's insurance meets the criteria indicated. Disciplinary action may be taken if a student knowingly waives NUSHP without comparable coverage.

Visit the NUSHP website (https://www.northeastern.edu/nushp/) for waiver deadlines.

Delivery of Services

Northeastern University assumes no liability for delay or failure to provide educational or other services or facilities due to causes beyond its reasonable control. Causes include, without limitation, power failure, fire, strikes by university employees or others, damage by natural elements, and acts of public authorities. The university will, however, exert reasonable efforts, when it judges them to be appropriate, to provide comparable services, facilities, or performance; but its inability or failure to do so shall not subject the university to liability.

In the event that Northeastern determines it must suspend or alter its operations in whole or in part due to epidemic, pandemic, other public health emergency, extreme weather, natural disaster, acts or threatened acts of terrorism or war, or any single act or combination of events beyond the university's control, Northeastern may suspend, reduce, terminate and/or modify its operations in whole or in part, which may or may not include offering online or other alternative learning options, in its discretion. In any such event, Northeastern is under no obligation to refund or credit any portion of tuition, fees, or other charges paid or owed, but it may do so in its discretion.

Northeastern reserves the sole right to promulgate and change rules and regulations and to make changes of any nature in its program; calendar; admissions policies, procedures, and standards; degree requirements; fees; and academic schedule whenever necessary or desirable, including, without limitation, changes in course content and class schedule, the cancellation of scheduled classes and other academic activities, and the substitution of alternatives for scheduled classes and other academic activities. In any such case, the university will give whatever notice is reasonably practical.

Northeastern will endeavor to make available to its students a fine education and a stimulating and congenial environment. However, the quality and rate of progress of an individual's academic career and professional advancement upon completion of a degree or program are largely dependent on the individual's own abilities, commitment, and effort. In many professions and occupations, there are also requirements imposed by federal and state statutes and regulatory agencies for certification or entry into a particular field. These requirements may change while a student is enrolled in a program and may vary from state to state or country to country. Although the university stands ready to help its students find out about requirements and changes in them, it is the student's responsibility to initiate the inquiry.

Financial Aid Assistance

Student Financial Services

617.373.5899 (Graduate)

617.373.2897 (College of Professional Studies)

sfs@northeastern.edu
studentfinance.northeastern.edu (https://studentfinance.northeastern.edu/)

Northeastern University is available to assist students in developing a plan for financing a Northeastern education. Through a variety of options—including federal financial aid, Northeastern's monthly payment plan, supplemental loans, and your own resources—a plan can be designed that will make your education costs affordable. Visit the Student Financial Services website (https://studentfinance.northeastern.edu/) or contact the office directly for additional information.

How to Apply

To apply for federal financial aid programs, students must submit the Free Application for Federal Student Aid (https://studentaid.gov/h/apply-for-aid/fafsa/) and include Northeastern's FAFSA school code, 002199. Students are strongly encouraged to submit their FAFSA by the priority filing deadline of **March 1** to ensure they are considered for all available financial aid programs.

To electronically sign your FAFSA, you will need your FSA ID. If you do not have one or have forgotten your FSA ID, visit the Federal Student Aid website (https://studentaid.gov/) to obtain one before starting the FAFSA.

Federal Financial Aid Eligibility

Students in the graduate colleges must meet the following criteria to be eligible for federal financial aid:

- Be enrolled in at least 4 credits per term for federal financial aid, unless you are on a co-op, clinical rotation, residency, or are enrolled in a full-time or part-time stand-alone course
- Be a U.S. citizen or eligible noncitizen
- Be matriculated in a degree-granting program

  Please note that students enrolled in graduate certificate programs are not eligible for federal financial aid.
- Have received a high school diploma or GED
- Be registered with Selective Service (if required)
- Not be convicted of a drug-related crime in the last year
- Not be in default from previous student loans
- Maintain satisfactory academic progress (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/)

Awarding Timelines

New students are awarded on an ongoing basis throughout the spring after we have been notified that they have been accepted into their program.

Returning students are awarded throughout the summer.

For information regarding your financial aid application, log into the Student Hub.

Typical Graduate Financial Aid Award

Eligible students who file the FAFSA will be automatically considered for the Federal Direct Unsubsidized Loan, provided that all eligibility requirements have been met. The maximum amount that a student may borrow per academic year in the Federal Direct Unsubsidized Loan program is $20,500.

For more information about the Federal Direct Loan Program, visit the Student Financial Services website (https://studentfinance.northeastern.edu/applying-for-aid/graduate/types-of-aid/).

Graduate Assistantships and Scholarships

Graduate assistantships and awards are offered directly by the individual graduate schools or academic departments. Students seeking such assistance should contact their graduate school for eligibility criteria.

To review a description of available scholarships, visit the Student Financial Services website (https://studentfinance.northeastern.edu/applying-for-aid/graduate/types-of-aid/).

Health Professions Student Loans and Nursing Student Loans

These federal loan programs carry a 5% interest rate during repayment. You must demonstrate financial need and meet Northeastern's priority filing date for consideration, as funds are limited. Northeastern is the lender, and repayment is made directly to Northeastern.

To be eligible for the Federal Nursing Student Loan, students must be enrolled at least half-time in the Bouvé College of Health Sciences. These loans carry a nine-month grace period prior to repayment following graduation, withdrawal, or a drop below half-time status. Repayment on the loan is for a period of up to 10 years with a minimum $40 monthly payment. The loan may be prepaid at any time without penalty.

To be eligible for the Health Professions Loan Program, applicants must be enrolled full-time in the School of Pharmacy in the Bouvé College of Health Sciences. Additionally, students who would like to be considered for the Health Professions Loan Program must include parent income information when completing the FAFSA. These loans carry a 12-month grace period. Repayment on the loan is for a period of up to 10 years with a minimum $40 monthly payment. The loan may be prepaid at any time without penalty.

Physician Assistant Loan

The Physician Assistant Loan is awarded to full-time students in the graduate physician assistant program who demonstrate financial need after filing the FAFSA. The interest rate is fixed at 7%. Northeastern is the lender, and repayment is made directly to Northeastern. The loan amounts range from $1,000 to $3,000, depending upon the student's financial need. Repayment begins one month after the student ceases to be enrolled full-time at Northeastern.

Federal Direct Graduate PLUS Loan

Unlike Federal Direct Unsubsidized Loans, the Federal Direct Graduate PLUS Loan (https://studentfinance.northeastern.edu/billing-payments/financing-options/) requires credit approval by the direct loan servicer.

Students have up to 25 years to repay the Federal Direct Graduate PLUS Loan. The Federal Direct Graduate PLUS Loan can be consolidated with Federal Direct Unsubsidized and Perkins loans upon graduation.

Graduate PLUS loans do not have a grace period. Repayment begins after a student is no longer enrolled at least half-time. Students who drop below half-time status and then reenroll above half-time status will need to request their loans be deferred again through their assigned direct loan servicer.

Graduate students who wish to apply for a Federal Direct Graduate PLUS Loan can do so online at studentaid.gov (https://studentaid.gov/app/launchPLUS.action/?plusType=gradPlus). For assistance with financial planning or determining the amount to apply for, please reach out to Student Financial Services.

Supplemental Student Loans

There are a number of educational loan programs available to assist students in covering their expenses over and above any federal financial aid that may be awarded to them from Student Financial Services. Most private lenders have credit and income requirements that must be met before being approved for these programs. Additional information regarding private loans is available here (https://studentfinance.northeastern.edu/billing-payments/financing-options/). Student Financial Services recommends to students that, when researching the loan and lender that best meets their needs, they make sure they take into consideration the interest rate; quality of customer service; and origination, disbursement, and/or repayment fees.

General Financial Policies and Procedures

FINANCIAL AID POLICIES

Student Financial Services reserves the right to adjust a student's initial Offer of Financial Assistance based upon information brought to the office's attention subsequent to extension of the offer, including, but not limited to, increased or new institutional scholarships, outside scholarships, or revised family financial data.

APPEAL/CHANGE IN CIRCUMSTANCES

If the student feels that the aid process does not accurately reflect their situation, or if family circumstances change during the year, the student should notify Student Financial Services for further evaluation. We may request additional documentation from you that might indicate a change in financial circumstances.

CHANGE IN ENROLLMENT STATUS

Students must notify Student Financial Services about any change in planned period of enrollment, whether due to withdrawal from a class, a leave of absence, a change in co-op or academic division, or withdrawal from the university. Students should be aware that any change in enrollment status may result in a change in federal or institutional aid eligibility. It is the student's responsibility to notify Student Financial Services about any change in enrollment status and to ensure understanding of the ramifications of such changes. It is highly recommended that whenever possible, students discuss the impact of such changes with their financial aid counselor before making them.

OUTSIDE SOURCES OF AID

Students must notify Student Financial Services of any aid received from outside sources, such as scholarships. Receipt of these sources may require an adjustment to a student's financial aid award.

REAPPLICATION PROCESS

Students must reapply for financial aid each year by filing the FAFSA (https://studentaid.gov/h/apply-for-aid/fafsa/) online. To receive priority consideration for aid, the federal processor must receive the FAFSA by **April 1**.

SATISFACTORY ACADEMIC PROGRESS

To continue receiving financial aid, graduate students must maintain the academic requirements for satisfactory progress set forth by their college. Refer to the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/) for more information about how satisfactory progress impacts financial aid eligibility.

VERIFICATION

If a student is selected for verification (https://studentfinance.northeastern.edu/federal-verification-process/), Student Financial Services may be required to collect additional documents, including tax returns and other financial documents, to verify the information provided on the FAFSA. Aid cannot be disbursed until this process is completed.

RETURN OF TITLE IV FUNDS

Northeastern is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a term. Recalculation is based on the percentage of earned aid using the Federal Return of Title IV funds formula. Federal regulations require students to obtain at least one A, B, C, D, or S in at least one course for the term; students who receive all unsuccessful grades for a term (F, NE, W, I, U) may be considered unofficially withdrawn from the term and subject to an aid recalculation, including the possible loss of financial aid for that term.

Student Refunds

Refund Policies

Inquiries about credit balances should be directed to Student Accounts. Credit balances on a student's account will be automatically refunded.

Note the following exceptions:

- If the credit in your account is due to a Parent PLUS Loan, supplemental loan, and/or payment plan payment(s), the credit balance will be refunded to the bill payer on record unless a Refund Authorization form (https://studentfinance.northeastern.edu/forms/), stating that funds may be released directly to the student, is received from that borrower.
- If a credit card has been used to pay any portion of the amount due, the refund must be made first to that credit card. If the credit balance on the account exceeds the amount that was paid via credit card, these additional funds will be refunded by direct deposit or check.

For additional information regarding student refunds, including Frequently Asked Questions, visit the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/student-refund-requests/).

Official Withdrawal Adjustments

Students who officially withdraw, either from a course or from the university, during an academic term will receive a tuition refund based on the policy specified below. Institutional funds awarded by Northeastern University will be adjusted based on the actual charges incurred during the semester. Funds from federal Title IV programs will be returned to the government according to federal regulations. The federal government Return of Funds Policy dictates that a student's eligibility for federal financial aid is determined by the number of days enrolled during the semester. The refund will be calculated from the day the student submits an official notification of withdrawal to the Office of the University Registrar.

Tuition credits are granted through the first five weeks of a semester or first four weeks of a half semester, based on the date of the official withdrawal processed by the Office of the University Registrar. Nonattendance does not constitute official withdrawal. Credit policies vary according to the duration of the course. Typical tuition adjustments are made according to the following schedule. (The end of week three corresponds with the last day to drop a class without a W grade.)

DURING FULL SEMESTER

During weeks one through three—100% refund
During the fourth week—60% refund
During the fifth week—40% refund
After the fifth week—No refund

SUMMER HALF SEMESTERS AND COURSES OFFERED IN PART-OF-TERM FORMAT

During weeks one through two—100% refund
During the third week—50% refund
During the fourth week—25% refund
After the fourth week—No refund

Leave of Absence Tuition and Fee Adjustments

Please refer to Leaves of Absence and University Withdrawal (p. 57).

Disability Resource Center Tuition Adjustments

Students who are registered with Northeastern's Disability Resource Center (http://www.northeastern.edu/drc/) and who are approved for a disability-related reduced course load may be eligible to petition the DRC for tuition adjustments directly related to their documented disability. Further information is available from the DRC.

State-, Province-, and Country-Specific Refund Policies

For state-, province-, and country-specific refund information, visit the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/).

Tuition and Fees

Please note: Courses taken outside of the student's home college may be billed at the per-credit rate of the college offering the course.

Bouvé College of Health Sciences

Graduate Program	Cost per Credit Hour
All graduate programs, excepting specific programs listed below.	$1,815
• MS Applied Behavior Analysis	$1,340
• BSN Nursing—Accelerated Program for Second-Degree Students (ABSN)	$1,263
• DMSc Healthcare Leadership	$1,000
• DNP Nurse Anesthesia (Clinical)	$4,600 (in addition to tuition)
• DPT Physical Therapy—Postbaccalaureate Entry	$20,100 (per semester)
• Graduate Certificate in Extreme Medicine	$1,000
• MPH Public Health (Charlotte)	$1,143
• MS Exercise Science	$1,233
• MS Health Informatics	$1,400
• MS Nursing—Direct Entry	$21,750 (per semester)
• MS Nursing (Online)	$975
• MS Physician Assistant	$18,850 (per semester)
• MS Speech-Language Pathology	$1,795
• PharmD Pharmacy—Direct Entry	$31,000 (per semester)
• PharmD Pharmacy—Direct Entry, Clinical	$15,395 (per semester)
• PharmD Pharmacy, Sixth Year (effective summer term 2014)	$15,395 (per semester)

COLLEGE OF ARTS, MEDIA AND DESIGN

Graduate Program	Cost per Credit Hour
All graduate programs (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/)	$1,894

COLLEGE OF ENGINEERING

Graduate Program	Cost per Credit Hour
All graduate programs (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/)	$1,801

COLLEGE OF PROFESSIONAL STUDIES

Graduate Program	Cost per Credit Hour
All graduate programs, except specific programs listed below.	$850
• DLP Law and Policy (self-paced, 69 QH program; new students as of 7/1/20)	$1,058
• Executive DLP Law and Policy (students entering prior to 7/1/19)	$2,217

• Executive DLP Law and Policy (69 QH program; new students as of 7/1/20)	$1,541
• EdD Education	$1,008
• MEd Education; MAT Teaching (excluding MEd Higher Education Administration)	$698
• MPS Analytics; MS Commerce and Economic Development; MPS Applied Machine Intelligence	$960 (students entering before 7/1/20)
	$1,016 (students entering 7/1/20–6/30/21)
	$1,055 (students entering 7/1/21–6/30/22)
	$1,116 (students entering 7/1/22–6/30/23)
• MPS Informatics and MPS Digital Media	$933 (students entering before 7/1/20)
	$986 (students entering 7/1/20–6/30/21)
	$1,024 (students entering 7/1/21–6/30/22)
	$1,084 (students entering 7/1/22–6/30/23)
• MS Global Studies and International Relations; MS Regulatory Affairs	$874
• MSTC Technical Communication	$874
• MEd Higher Education Administration	$768
• Master's-level graduate courses for personal and professional enrichment (nondegree)	$850

COLLEGE OF SCIENCE

Graduate Program	Cost per Credit Hour
All graduate programs, except specific programs listed below.	$1,791
• MS Biotechnology—Experiential	$1,502
• MS Biotechnology—Toronto (Domestic)	$672
• MS Biotechnology—Toronto (International)	$1,021
• MS Bioinformatics—Toronto (Domestic)	$928
• MS Bioinformatics—Toronto (International)	$1,241
• MS Environmental Science and Policy	$1,760
• MS Marine Biology	$1,542

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

Graduate Program	Cost per Credit Hour
All graduate programs, excepting specific programs listed below.	$1,350
• MS Criminology and Criminal Justice	$1,011
• MS Economics	$1,483
• MPA Public Administration	$985
• MPP Public Policy	$946
• MS Security and Resilience Studies	$946

• MA English	$1,300
• MA History	$1,300

D'AMORE-MCKIM SCHOOL OF BUSINESS

Graduate Program	Cost per Credit Hour
All graduate programs except specific programs listed below. Please also see the second table below for fees billed in addition to tuition for some programs.	$1,755
• MBA Business Administration—Online	$900 (students entering after 7/1/2022)
	$1,640 (students entering before 6/30/2022)
• MS Management with concentrations in Digital Transformation in Healthcare or Healthcare Administration (online only)	$800
• MSAMBA Accounting and Business Administration	$72,150 (program rate)

Item	Fee
All campus-based, full-time graduate programs, except specific programs listed below.	$1,600 billed in year 1 in two installments ($800 each), fall and spring terms
• Business Administration, MBA—Full-Time	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• Finance and Business Administration, MSFMBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• Quantitative Finance and Business Administration, MSFMBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• Law, JD / Business Administration, MBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• LLM / Business Administration, MBA	$3,100 billed in year 1 in two installments ($1,550 each), fall and spring terms
• MS Management with concentration in Strategic Technology Leadership (hybrid only)	$3,000 billed in year 1 in two installments ($1,500 each), fall and spring terms
• MSA Accounting	$0

KHOURY COLLEGE OF COMPUTER SCIENCES

Graduate Program	Cost per Credit Hour
All graduate programs, excepting specific programs listed below.	$1,725
• MS Cybersecurity	$1,625
• MS Data Science	$1,793
• Graduate Certificate Data Analytics	$1,793

SCHOOL OF LAW

Graduate Program	Cost per Credit Hour
All programs, excepting specific programs listed below.	$60,408 (per academic year)
• JD Law, Part-Time Option (FlexJD)	$45,300 (per academic year)
• LLM Law (On Ground)	$60,408 (per academic year)
• LLM Law—Online	$1,449
• MLS Legal Studies—Online	$1,132

• MS Media Advocacy (interdisciplinary program with CAMD)	(Please see College of Arts, Media and Design above)
• Graduate certificates, Online	$1,132

DISSERTATION AND CONTINUATION

Graduate Program	Cost per Credit Hour
Master's or doctoral continuation fee (flat rate)	Equivalent to the college per-credit-hour rate listed above
Dissertation (flat rate)	Equivalent to 1.5 times the college per-credit-hour rate listed above

FEES

Visit Fee Descriptions (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/fee-descriptions/) for more details.

Item	Fee
Student Center Fee (per term, Boston campus only)	$72, full-time
	$10, part-time
College of Professional Studies Student Center Fee (per quarter, Boston campus only)	$8.25
Student Recreation Fee (per term)	$62, full-time
	$30, part-time
College of Professional Studies Student Recreation Fee (per quarter, Boston campus only)	$60
Student Activities Fee (per term, Boston campus only)	$17
Residential Student Fee (per term)	$35
Health and Counseling Fee	$225
Health Plan Fee (yearly, optional) (https://studenthealthplan.northeastern.edu)	
Parking (per semester, optional) (https://www.masparc.com/products/)	
International Student Fee	$375

Academic Policies and Procedures

Universitywide Academic Policies and Procedures

- Accommodations for Students with Disabilities (p. 45)
- Attendance Requirements (p. 46)
- Campus Transfer and Campus Location Change (p. 47)
- Clearing an Academic Deficiency (p. 48)
- Code of Student Conduct (p. 49)
- Course Credit Guidelines (p. 50)
- Course Numbering System (p. 51)
- Family Educational Rights and Privacy Act (FERPA) (p. 52)
- Grade Change Policy (p. 54)
- Grade Table and GPA (p. 55)
- Leaves of Absence and University Withdrawal (p. 57)
- Personal Information (p. 60)
- Requesting and Clearing An Incomplete Grade (p. 61)
- Retaking Courses (p. 62)
- Student Bill of Academic Rights and Responsibilities (p. 63)
- Student Responsibility Statement (p. 66)
- Student Right-to-Know Act (p. 67)
- Substituting Courses (p. 68)
- University-Sponsored Travel (p. 69)

GRADUATE ACADEMIC POLICIES AND PROCEDURES

- Academic Appeals Policies and Procedures (p. 70)
- Academic Calendars (p. 73)
- Academic Integrity Policy (p. 74)
- Audit Policy (p. 75)
- Cooperative Education (p. 76)
- Departmental Jurisdiction (p. 78)
- Dismissal from Class (p. 79)
- Dropping a Class (p. 80)
- Final Examinations and Related Policies on Other Exams (p. 81)
- Full-Time Status (p. 82)
- General Regulations (p. 83)
- Graduation Requirements (p. 87)
- Minimum Cumulative GPA (p. 88)
- Overload Conditions for Graduate Assistants (p. 89)
- Pass/Fail (Satisfactory/Unsatisfactory) Grading (p. 90)

GRADUATE PROGRAM REGULATIONS AND REQUIREMENTS

- All Graduate Degree Programs (p. 91)
- Graduate Certificate Programs (p. 93)
- The Master's Degree (p. 94)
- PlusOne Degree Combinations (p. 95)
- Professional Doctorate Degree Programs (p. 96)
- Certificates of Advanced Graduate Study (p. 98)
- Doctor of Philosophy (PhD) Programs (p. 99)
- Interdisciplinary Graduate Degrees (p. 101)
- Definitions (p. 102)

Accommodations for Students with Disabilities

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Attendance Requirements

Class participation is essential to success no matter the course format or its delivery. Individual instructors may have course-specific attendance policies. It is the student's responsibility to ascertain what each instructor requires. Failure to meet attendance requirements may force a student to drop the applicable courses. Students should not make conflicting commitments until the class schedules for each semester are final. Permission to make up work may be granted by instructors for reasonable cause. Requests must be made immediately upon a student's return to class. Laboratory work can be made up only during the hours of regularly scheduled instruction.

Absence Because of University-Sponsored Activities

Participation in university-sponsored activities, where the students are representing their university, college, or department, may cause absences from class that qualify as excused absences. Excused absences, with appropriate prior arrangement, are not subject to penalty, and missed work may be satisfied through agreement between the student and the instructor. University-sponsored activities that may justify excused absences include athletic competition, performing arts events, and research or other presentations.

Students must discuss absence(s) with instructors at least two weeks in advance of the university-sponsored activity, or as soon as possible if the activity is at the beginning of the term or is the result of an unforeseen circumstance. Instructors may require a written statement from the administrator in charge of the activity. Instructors are expected to make reasonable accommodations for these class absences, including administration of makeup assignments and exams whenever possible. It is expected that students seeking an excused absence will develop a plan and timetable to make up the missed coursework with their instructor(s). Note, however, that the requirements of some courses or programs may preclude such accommodations.

Absence Because of Religious Beliefs

Any student who is unable, because of their religious beliefs, to attend classes or to participate in any examination, study, or work requirement should be provided with an opportunity to make up such examination, study, or work requirement that they may have missed because of such absence on any particular day, provided that such makeup examination or work does not create an unreasonable burden upon the university. Students should make appropriate arrangements with the instructor in advance of the absence, preferably at least two weeks before the religious observance.

Absence Because of Jury Duty

Members of the university community are expected to fulfill their obligations to serve on a jury if called upon. A student selected for jury duty should inform their instructors. They will provide a reasonable substitute or compensatory opportunities for any required work missed. A student with such an absence will not be penalized in any way.

Absence Because of Military Deployment

See "Leave of Absence Due to Military Deployment (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#military)."

Other Absences

Unforeseen events or circumstances, including illness, may cause a student to be absent from class. Students must notify their instructors and academic advisor, as appropriate, as soon as possible to apprise them of the circumstances leading to their absence, as well as how much time will be missed. Students must work with their instructors to develop a plan, with a timetable, to make up missed coursework. Students cannot be required to provide medical documentation. (Faculty and students should note that the University Health and Counseling Services does not provide sick notes or medical excuses except for long-term illness.) Instructors are expected to make reasonable accommodations for warranted class absences, including administration of makeup assignments and exams, whenever possible.

Extended Absences

A student who is absent from school for an extended period of time must inform their academic advisor by letter, email, or telephone. The expected length of the absence may determine whether the student should apply for a medical or emergency leave of absence (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#medical). It is strongly recommended that the student contact their academic advisor to discuss potential next steps, which could include incomplete grades; withdrawal from classes; or, in the event of an extended absence due to a chronic medical condition or disability, consultation with the Disability Resource Center to explore potential accommodation.

Nonattendance

Nonattendance does not constitute official course dropping or withdrawal, which means the student is fully responsible for the academic and financial consequences. Like all grades for courses attempted and/or completed, a grade earned due to nonattendance impacts a student's academic progression, an international student's visa eligibility, and a federal financial aid recipient's aid eligibility and award.

Campus Transfer and Campus Location Change

Campus Transfer

Students may request an official campus transfer from their school/college to complete their program. The program has to be approved by the school/college academically AND meet regulatory requirements (state/provincial licensure). If the student is an international student, the program has to be offered in compliance with F-1/study permit requirements at the requested new home campus location. International students should seek advice from the Office of Global Services (https://international.northeastern.edu/ogs/) before the final decision to transfer to another campus.

Campus Location Change

Students may request a campus location change to a new campus (the host campus) for a period no longer than one academic year (two consecutive semesters or three consecutive quarter terms) and no more than 50% of a degree program. It must be approved by the school/college academically, and courses must be offered that allow the student to make normal academic progress in compliance with regulatory requirements. In order for international students to change a campus location, the academic program has to be offered in compliance with F-1/study permit requirements at the requested host campus location.

Clearing an Academic Deficiency

An academic deficiency occurs when a student fails to complete a course with a satisfactory grade. The deficiency may occur because the student has failed the course or because the student has passed the course but with a grade that does not meet the minimum required by the student's program.

Students who have academic deficiencies may be required to clear them before progressing within the curriculum, especially if a given course is a prerequisite for future coursework. Deficiencies may affect the student's expected year of graduation.

With the approval of the appropriate program faculty and/or academic advisor, students can clear deficiencies in the following ways:

1. Retake the same course at one of Northeastern University's colleges, which will result in a "retake" grade (see "Retaking Courses" in this section of the catalog).
2. Substitute a comparable course at one of Northeastern's colleges, which will result in a "retake" grade (see "Substituting Courses" in this section of the catalog).
3. Under special circumstances, if the course is not currently offered at Northeastern, a student may be advised to take a preapproved course at another institution outside Northeastern. The original grade will remain on the student's Northeastern transcript and will still be used in the calculation of the GPA.

Code of Student Conduct

The Code of Student Conduct can be found on the Office of Student Conduct and Conflict Resolution (https://osccr.sites.northeastern.edu/code-of-student-conduct/).

Course Credit Guidelines

Guidelines for Assigning Credit to Courses

The primary standard for establishing course credit at Northeastern University is the semester/quarter hour, or Carnegie Unit, the standard used by the federal government. One hour of credit is awarded for a lecture/seminar class meeting 50 minutes each week during a 15-week semester or 12-week quarter and also requiring a minimum of two hours of outside preparation each week by the student. An hour of contact time in the rest of the document is based on this 50-minute session.

- 2 semester/quarter hours (100 minutes per week of instruction plus 4–6 hours homework, or equivalent)
- 3 semester/quarter hours (150 minutes per week of instruction plus 6–9 hours homework, or equivalent)
- 4 semester/quarter hours (200 minutes per week of instruction plus 8–12 hours homework, or equivalent)

The Office of the University Registrar (https://registrar.northeastern.edu/) maintains the official record for all courses. In the event of error in any publication, the academic record will reflect the correct semester/quarter hours applicable to any degree requirement.

On occasion, course titles change, while the course number remains the same. Despite such title changes, the course is still considered to be the same course. Students who have taken the course under the old title and then take the course again under the new title are considered to have repeated the course.

NOTE ABOUT HOMEWORK AND STUDENT PREPARATION FOR CLASS

The credit hour assumes a set proportion of two hours of student preparation or homework for every hour spent in class. Northeastern wishes to emphasize that the federal government has established this as the minimum amount of work expected, and assigning more work does not in itself justify an increase in the credit value of the course. We also wish to note that there is great variation in the amount of time each student will need to devote to each course or to a specific form of study (e.g., reading, writing, completing problem sets), and, therefore, it is not possible to enforce any exact accounting of student work outside of class.

CREDIT ASSIGNMENT PROCESS

Northeastern uses the Carnegie Unit to determine class meeting time requirements. The actual amount of academic work that goes into a single credit hour is calculated as follows:

- One lecture (taught) or seminar (discussion) credit hour represents one hour per week (50 minutes) of scheduled class/seminar time and two hours of student preparation time.
- One laboratory or studio credit hour represents one hour per week of lecture or discussion time plus one to two hours per week of scheduled supervised or independent work, or a total of three hours in the lab or studio.

DEFINED INSTRUCTIONAL METHODS

- Traditional: meets fully on ground in a physical location with instructor present
- Hybrid: meets majority on ground in a physical location with instructor present with some online instructional component
- Live cast: meets fully on ground in a physical location with the instructor in a different location teaching synchronously and supported by an instructional assistant in the physical location
- Online: meets fully online

FULL-TIME AND HALF-TIME EXPERIENCES

Academic experiences integral to curriculum and requiring registration (but not credit bearing) have the following required hours of participation:

- Full-time experiences: 32–40 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days
- Half-time experiences: 16–31.99 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days (to achieve full-time status, graduate students must take 3 or more academic credits and undergraduate students must take 4 or more academic credits)
- Summer 1 or Summer 2 semester: minimum of 5 weeks or 25 workdays
- Summer quarter: 6 weeks or 30 workdays

International students must confer with the Office of Global Services to determine CPT requirements as appropriate.

Course Numbering System

0001–0999	**Orientation and basic**
	No degree credit

Undergraduate

1000–1999	**Introductory level (first year)**
	Survey, foundation, and introductory courses, normally with no prerequisites and designed primarily for students with no prior background
2000–2999	**Intermediate level (sophomore/junior year)**
	Normally designed for sophomores and above but in some cases open to freshman majors in the department
3000–3999	**Upper-intermediate level (junior year)**
	Designed primarily as courses for juniors; prerequisites are normally required, and these courses are prerequisites for advanced courses
4000–4999	**Advanced level (senior year)**
	Designed primarily for juniors and seniors; also includes specialized courses such as research, capstone, and thesis

Graduate

5000–5999	**First-level graduate**
	Courses primarily for graduate students and qualified undergraduate students with permission
6000–6999	**Second-level graduate**
	Generally for master's and clinical doctorate only
7000–7999	**Third-level graduate**
	Master's- and doctoral-level courses; includes master's thesis
8000–8999	**Clinical/research/readings**
	Includes comprehensive exam preparation
9000–9999	**Doctoral research and dissertation**

Family Educational Rights and Privacy Act (FERPA)

FERPA for Students—General Information

The Family Educational Rights and Privacy Act is a federal law that applies to educational institutions. Under FERPA, schools must allow students who are 18 years or over or attending a postsecondary institution:

- Access to their education records
- An opportunity to seek to have the records amended (see the *Student Handbook* for this procedure)
- Some control over the disclosure of information from the records

FERPA General Guidance for Parental Disclosure

When a student turns 18 years of age or attends a postsecondary institution, the student, and not the parent, may access, seek to amend, and consent to disclosures of their education records.

If you are an undergraduate day student and you choose not to share information with your parents, Northeastern will, if asked, indicate that you have restricted access to your records.

Release of Directory Information

The primary purpose of directory information is to allow Northeastern University to confirm attendance for employers, health insurance companies, and loan agencies. Northeastern may disclose appropriately designated "directory information" without written consent, unless you have advised the university to the contrary in accordance with the procedures below. If you choose not to release directory information, all communications with all third parties and agencies will need to be done through your written request to the university or in person.

As of June 30, 2016, Northeastern directory information includes:

- Student name
- Home address (city, state, country only)
- Major field of study
- College
- Class year
- Enrollment status (e.g., undergraduate or graduate, full-time or part-time)
- Dates of attendance
- Degrees, honors, and awards received
- Most recent educational agency or institution attended
- Sports activity participation, showing weight/height of members of athletic teams
- Participation in officially recognized activities

If Northeastern currently has permission to release data and you do not want the university to disclose directory information without your prior written consent, you must notify the university. Instructions are available at the Office of the University Registrar (https://registrar.northeastern.edu/article/family-educational-rights-privacy-act-ferpa/).

Notification of Rights under FERPA

FERPA affords students certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day the university receives a request for access. Students should submit to the registrar, dean, or head of the academic department (or appropriate official) written requests that identify the record(s) they wish to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education record that the student believes is inaccurate or misleading. Students may ask the university to amend a record that they believe is inaccurate or misleading. They should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interest. A school official is defined as a person employed by the university in an administrative, supervisory, academic, or support staff position (including law enforcement unit and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a person assisting another school official in performing their

tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill their professional responsibility.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the university to comply with the requirements of FERPA. At Northeastern, the Office of the University Registrar, 271 Huntington Avenue, administers FERPA.

Additional Information

Additional information can be obtained at the U.S. Department of Education's website (http://www.ed.gov/policy/gen/guid/fpco/ferpa/) or by writing to:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-5920

Grade Change Policy

If a student has not graduated, a grade can be changed by a course instructor within 12 months of the end of the semester in which the grade was given.

If a student has graduated, or if more than 12 months have elapsed, a grade can only be changed by request of a course instructor with the approval of the college that offers the course.

If more than 24 months have elapsed, grades can no longer be changed.

If a course instructor is not available, course change requests may be initiated by the department or college that offers the course.

Colleges may place additional restrictions on how grades can be changed.

The grade change policy explains when a course instructor may change a student's grade to correct errors. This policy does not apply to incomplete grades or to student-initiated appeals to change grades. In particular, the grade change policy should not be used to allow a student to submit work after the completion of a class.

Grade Table and GPA

Grade Table

Grades are officially recorded by letters, evaluated as follows:

Letter Grade	Numerical Equivalent	Explanation
A	4.000	Outstanding achievement
A–	3.667	
B+	3.333	
B	3.000	Good achievement
B–	2.667	
C+	2.333	
C	2.000	Satisfactory achievement
C–	1.667	
D+	1.333	Undergraduate only
D	1.000	Undergraduate only/Poor achievement
D–	0.667	Undergraduate only
F	0.000	Failure
I		Incomplete
IP		In progress
CR		Credit (School of Law only)
HH		High Honor (School of Law only)
H		Honor (School of Law only)
P		Pass (School of Law only)
MP		Marginal Pass (School of Law only)
NE		Not enrolled
NG		Grade not reported by faculty
S		Satisfactory (pass/fail basis; counts toward total degree requirements)
U		Unsatisfactory (pass/fail basis)
X		Incomplete (pass/fail basis)
L		Audit (no credit given)
T		Transfer
W		Course withdrawal

An I, IP, or X grade shows that the student has not completed the course requirements.

The IP grade is intended for courses that extend over several terms. The time restrictions on the incomplete grade do not apply to the IP grade. While the IP grade is left unchanged, it is not included in computing the grade-point average. If the IP grade is never changed, the course does not count toward graduation requirements.

Course Comments

The following notations may also appear on the student's transcript:

E	Course excluded from GPA
HON	Honors-level course
I	Course included in GPA

GPA

Numerical equivalents for scholastic averages are weighted according to the number of hours the course carries. For example, suppose a student receives a grade of B in a course carrying 4 semester hours and a grade of A in a course carrying 1 semester hour. The weightings for these example courses are as follows:

Grade	Numerical Equivalent	Semester Hours	Weight
B	3.000	4	12
A	4.000	1	4
Totals:		5	16

The GPA for both courses would then be the total weight (16) divided by the total semester hours (5), or 3.200. Grades of I, IP, S, U, and X are not included in the calculation of the GPA. See Grade Table (p. 55) for a complete list of grades and numerical equivalents.

Leaves of Absence and University Withdrawal

Students may request to take the following types of leaves of absence:

- Personal or Academic
- Medical or Emergency
- Military Deployment or Missionary Service

Students in Prematriculation and Pathway programs (including N.U.in, Foundation Year, NU Immerse, Global Scholars, London Scholars, Global Pathways) do not fall under the leave of absence policy below. Students in these programs with emergent, medical, or personal circumstances that require a conversation about their ability to continue with their program of study should reach out to We Care *(*https://we-care.studentlife.northeastern.edu/*) for further guidance.*

General Leave of Absence Policy

Students who wish to take a leave of absence should complete a request through the Student Hub (https://me.northeastern.edu) (or via University Health and Counseling Services for a medical leave of absence, as described below) before the last day to drop without a W in a term. Please consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/#_ga=2223181403151090330616212601 60-171526951816133256 28) for the last day to drop without a W in the term.

Students can request a leave until the last day to drop with a W in a term but should review the financial implications of withdrawing from courses on the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/withdrawalleave-of-absence/).

Students can take up to one year of leave.

Any leave of absence type, if approved, is subject to the following conditions:

- International students must make an appointment with the Office of Global Services (https://international.northeastern.edu/ogs/) to discuss leave of absence procedures in accordance with federal regulations.
- Students who do not return at the end of the leave will be withdrawn and must contact their college for reentry prior to the term start.
- Students must return to a university-sponsored activity that contributes toward the satisfaction of outstanding program requirements, such as registration for academic coursework.
- Students must be considered active in the period for which they are requesting a leave. Students are considered active when they are currently engaged in university-sponsored activity, such as academic coursework and co-op. If a student is withdrawn for personal reasons, the withdrawal can be reversed and a request for a leave of absence can only be processed if it is before the last day to drop without a W in a term. If the student has been administratively withdrawn, a request for leave of absence cannot be considered until the withdrawal is resolved.
- If a leave extends more than six months, students who have taken loans for education expenses may be required to begin repayment of those loans. Students who receive financial aid should meet with a financial aid counselor before going on a leave. Please see Return of Title IV Aid (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/expenses/financial-aid/) for the possible financial aid impact of a leave of absence.
- Students in university housing should refer to the Office of Housing and Residential Life for policy information.
- A student's enrollment status cannot include more than one academic year of consecutive nonclass enrollments. Students on leave for more than one year will be withdrawn from the university.
- If a student has taken multiple leaves, resulting in the postponement of expected graduation date of a calendar year, the next leave request will be processed as a withdrawal.
- While on leave, students are not allowed to take classes for credit toward their Northeastern University degree, either at Northeastern or at an outside institution.

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, the student should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

LEAVE OF ABSENCE FOR INTERNATIONAL STUDENTS

International students must discuss maintenance of U.S. immigration status with an advisor at OGS before requesting any type of leave of absence.

PERSONAL OR ACADEMIC LEAVE OF ABSENCE

Personal leaves of absence are general leaves of absence that do not meet the criteria of more specific leaves outlined in the catalog. Academic leaves are applied to a student record in the rare cases when a student has fulfilled the last remaining requirements abroad but final grades have been yet to be received at Northeastern; or are taking a leave of absence from Northeastern to pursue other academic work. A student interested in requesting a personal or academic leave of absence should speak with an academic advisor.

MEDICAL OR EMERGENCY LEAVE OF ABSENCE

Medical leave is an option available to those Northeastern students who develop a major medical condition that precludes class attendance, completion of requirements, and/or participation in co-op. Medical leave of absence requests must be initiated at UHCS (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

Students on a medical leave will no longer have Husky Card access to the Marino Center, libraries, dining services, residence halls, and UHCS. If a student is in treatment at UHCS, they will be provided with referral resources for care in the community where they will reside during their medical leave. Students are not to be participating in student groups while on medical leave.

Emergency leaves may be granted when a student cannot continue attending class after the start of the term due to life-changing situations beyond the student's control. Students interested in requesting emergency leave are encouraged to contact We Care (https://we-care.studentlife.northeastern.edu/). Students can request an Emergency Leave of Absence via the Student Hub (https://me.northeastern.edu).

Students who have been granted a medical or emergency leave of absence due to extenuating circumstances may submit a Leave of Absence Refund Appeal Form (https://service.northeastern.edu/sfs/?id=sc_cat_item&sys_id=50dc23cddb464150ebcdcafc13961951&sysparm_category=98921886db600d54ca10819b1396197e) for financial consideration. If the appeal is approved, please note that housing and other fees will not be included in the appeal decision; refer to the Residence Hall and Dining License Agreement (https://www.northeastern.edu/housing/license-agreement/). Please only complete the Leave of Absence Refund Appeal Form if you have been approved for a medical or emergency leave of absence.

Please note that any outstanding balance (including unpaid balances) for the academic term in which the leave is taken are still due to the university.

Financial aid recipients must contact their financial aid counselor to understand the effects on aid received.

If the leave extends more than six months, students who have taken loans for education expenses may be required to start repayment of those loans.

Students enrolled in the Northeastern University Student Health Plan will remain enrolled in the plan for the plan year, ending August 31.

LEAVE OF ABSENCE DUE TO MILITARY DEPLOYMENT OR MISSIONARY SERVICE

When a student is called to active duty or missionary service, they must request the leave by filling out the proper request form through the Student Hub (https://me.northeastern.edu). Proof of official deployment or call to service paperwork will be required as an attachment when filling out the leave of absence request.

When a student is called during the term, the university will:

- Excuse tuition for that term. Any payment made will be credited to the student's account.
- Post a leave of absence for the term to hold a place for the student when they return.

If a student is called near the end of the term, the student and faculty members may determine that incomplete (I) grades are more appropriate. In this case, tuition will not be waived.

When a student returns to the university after completion, they will notify the college academic student services office if the leave was longer than one year; that office will in turn notify the Office of the University Registrar. The college academic student services office will assist the student with reentry and registration. If the leave was less than one year, the student should register for classes for the upcoming term prior to returning to campus.

International students who must take a leave of absence to engage in military service in their home country must also complete a form for leave of absence with OGS.

RETURNING FROM A LEAVE OF ABSENCE

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, they should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

Students who are withdrawn and are applying for Commencement may be reentered on a leave of absence, pending the college's approval, prior to the term in which they will graduate. International students returning from a leave of absence should contact OGS regarding the Student and Exchange Visitor Information System procedures three to four months prior to anticipated return date.

Students who wish to reenter the university following a medical leave must contact UHCS. Reentry from a medical leave requires receipt of all documentation delivered to UHCS approximately one month prior to the start of the term they wish to return. Once all documentation is received by UHCS, it will be reviewed and the student will be notified of the decision Requests for reentry from medical leave must be completed no later than one week prior to the beginning of a term. Students must be enrolled in Northeastern classes for the term in which they wish to return from their medical leave of absence. More specific information about the reentry process can be found at the UHCS website (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

University Withdrawal

Students seeking to withdraw from the university for any reason should meet with their academic advisor before completing the university withdrawal form online. Students should review the financial implications of withdrawing from all classes on the Student Financial Services website.

Students may be withdrawn from the university for financial, disciplinary, or academic reasons. Students looking to withdraw for medical reasons should reach out to UHCS (mloa@northeastern.edu) to review medical leave of absence.

Personal Information

Change of Name

Report all name changes to the Office of the University Registrar immediately. Official documentation of the name change is required.

Change of Address

Report all address changes via the Student Hub (https://me.northeastern.edu). Both the permanent home address and the local address are required. International students must report any changes of local address or phone number via the Student Hub (https://me.northeastern.edu) within 10 days in order to ensure compliance with immigration regulations.

Requesting and Clearing An Incomplete Grade

An incomplete grade may be reported by the instructor when a student has failed to complete a major component of a required course, such as homework, a quiz or final examination, a term paper, or a laboratory project. Students may make up an incomplete grade by satisfying the requirements of the instructor or, if the instructor is absent, the chair of the department. Be aware that instructors' policies on the granting of incomplete grades may vary and that the final decision on an incomplete grade is up to the instructor. Instructors may deny requests for an incomplete grade.

To request an incomplete grade, the student must obtain and complete in consultation with the instructor an Incomplete-Grade Contract (https://registrar.northeastern.edu/article/incomplete-grade-contract/) on which the precise agreement for clearing an incomplete grade is specified. The contract is then signed by the student, the instructor, and the student's academic advisor. Copies of the form are kept by the student, the instructor, and uploaded to the student's advising notes. The maximum time period for clearing an incomplete grade is restricted to 30 days from the end of the term in which the course was offered. Instructors may require a shorter due date before approving incomplete grade requests.

International students should consult with the Office of Global Services before requesting an incomplete grade to ensure that they will remain in compliance.

If the missing assignment(s) have not been submitted to the instructor within 30 days from the end of the term in which the course was offered, or the agreed upon due date, the grade entered will reflect the student's grade in the course for the work completed and the missing assignments receiving no credit toward the final grade. Changes in the final grade will be applied to the term in which the student was enrolled in the course. Any exception to this policy or extension of the deadline must be recommended by the college in which the course was offered and must be forwarded in writing to the Office of the University Registrar for implementation.

Retaking Courses

When the appropriate course is available, students may retake a nonrepeatable course to earn a better grade. In all cases, the most recent grade earned in a course is the one used in calculating the overall grade-point average followed by the retake notation I, indicating the course grade is included in the overall GPA; however, previous grades remain on the transcript followed by the retake notation of E, signifying that that course grade has been excluded. Consult your academic advisor before retaking a course. Students are required to pay normal tuition for all retaken coursework.

When the course description for the student's registration term indicates that the course may be repeated up to a certain number of course completions, each completion of the course (up to the limit stated in the course description) will appear on the student's transcript, and the grade for each such completion will be used in the calculation of the student's overall GPA.

Student Bill of Academic Rights and Responsibilities

This bill was drafted by the Student Senate, the Vice President for Student Affairs, and members of the Faculty Senate. It was passed in the spring of 1992. It was then updated by the Student Body President, Vice President for Academic Affairs, and passed by the Student Senate in the Fall of 2017 and Faculty Senate in the Spring of 2018 for adoption in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*) for the 2018–2019 academic year.*

We, the students of Northeastern University, believe that a quality education is the paramount goal of all students. In order to fulfill this goal, the university recognizes certain rights and responsibilities, which follow below.[1] Northeastern University students recognize and accept that redress of complaints arising from these rights is limited to the procedures specified in "Student Academic Appeals Procedures".[2]

Course-Related Rights

ARTICLE 1

Students have the right to instructors who attend classes on time.

ARTICLE 2

Students have the right to receive grades and feedback in a timely manner, particularly in the case of sequentially related assignments. At least one summative assessment should be given and returned a week prior to the end of the withdrawal period. Students also have the right to view work they submit to satisfy course requirements after it is graded and receive their instructor's rationale for grades received on said work.

ARTICLE 3

Students have the right to adequate access to instructors. This includes instructors replying to communications from students in a timely manner, suggested to be within two business days, with the exception of during university recesses, as well as maintaining consistent office hours for in-person courses, occurring at the same time at least once a week. Instructors may change office hours by notifying students in a timely manner, suggested to be within two business days, baring extenuating circumstances.

ARTICLE 4

Students have the right to receive a course outline, which includes a fair and explicit grading policy, at the beginning of each course. Changes to the course outline that result in a deadline, assignment, major exam, or similar course event being introduced to or moved earlier in the schedule shall be communicated to students in a timely manner, suggested to be at least 10 business days prior to the new deadline.

ARTICLE 5

Students have the right to instructors who communicate the material pertaining to the course effectively in the English language except in the case of foreign language instruction.

ARTICLE 6

Students have the right to participate in and have access to Student Government Association teacher/course evaluations.

ARTICLE 7

Students have the right to have a list of all course materials that must be purchased. Possible substitutions for said course materials, (i.e., acceptable previous editions of textbooks, digital versions, library owned resources, etc.) should be made available to students at least a week prior to the start of the academic term.

ARTICLE 8

Students have the right to alternative grading arrangements if they are unable to attend a graded activity that takes place outside the scheduled class time.

Rights to University Academic Services

ARTICLE 9

Students have the right to adequate access to effective academic services, including academic and co-op advising, as described in the student handbook and other university publications, provided by the university.

ARTICLE 10

Students have the right[3] to an environment conducive to learning and to faculty who respect students' academic freedom[4] in the classroom. When exercising academic freedom, students are expected to comply with all applicable university ethics, anti-harassment, and nondiscrimination policies.

ARTICLE 11

Students have the right to access university health resources provided by University Health and Counseling Services (https://www.northeastern.edu/uhcs/) (UHCS), and in accordance to Massachusetts State Law, to have access to a medical plan that they can purchase (Northeastern University Student Health Plan (http://www.northeastern.edu/nushp/)).

ARTICLE 12

Students have the right to access university resources provided by the university's Disability Resource Center in accordance with the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf). Students have the right to pursue informal and formal grievances through the procedures outlined by the Disability Resource Center (https://drc.sites.northeastern.edu/).

Scheduling Rights

ARTICLE 13

Students have the right to final exam schedules in accordance with established university policy, including non-conflicting final exam schedules.

ARTICLE 14

Students have the right to attend any course session held prior to the end of the add/drop period so long as permission from the instructor is obtained in advance and all duly registered students have proper access to seating and other course resources.

ARTICLE 15

Students will not be penalized for excused absences, with the understanding that students may need to make up for the academic commitment from which they were excused. Reasons for an excused absence include religious, medical issues, jury duty, bereavement, and military service. See this catalog (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/attendance-requirements/) and other applicable policies (http://gonu.com/sports/2013/7/15/SASS_0715134535.aspx?path=sass) for the full attendance and excusal policy.

General Academic Rights

ARTICLE 16

Students have the right to be informed, in a timely fashion, of proposed action to be taken against them.

ARTICLE 17

Students have the right to the redress of academic grievances through the processes provided by the university.

ARTICLE 18

Students have the right to university support and resources, such as the Office of Global Services (https://www.northeastern.edu/ogs/), with regard to their visa status.

ARTICLE 19

In accordance with the Northeastern University's Nondiscrimination Policy (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), students have the right to a learning environment free of discrimination or harassment, including as provided for in Northeastern University's Title IX Policy (https://policies.northeastern.edu/policy104/).

ARTICLE 20

Northeastern University's policy on student produced intellectual property can be found under *Copyrightable Materials* in the *Undergraduate Student Handbook*.

ARTICLE 21

Students have the right of access to their academic and financial aid records and maintenance of the privacy of these records, as provided by the Family Educational Rights and Privacy Act.

Student Responsibilities

ARTICLE 1

Contribute to a climate of open inquiry and honesty in all aspects of the university's academic life. This includes reviewing, and becoming familiar with, the Academic Integrity Policy on the OSCCR website.

ARTICLE 2

Commit sufficient time and effort for study and for use of library, studio, laboratory, and computational facilities, as appropriate for each course.

ARTICLE 3

Contribute to the classroom/laboratory/studio learning environment through discussion and active participation.

ARTICLE 4

Acquire the necessary prerequisites for full participation in each academic course.

ARTICLE 5

Attend scheduled classes regularly and on time, and arrive to class prepared, having completed all the readings and other assignments.

ARTICLE 6

Seek out faculty and teaching assistants outside of class time, to obtain help with problems encountered in a given course.

ARTICLE 7

Respect the academic freedom[4] of each faculty member and student.

ARTICLE 8

Assist the university in its various self-evaluations (e.g., TRACE, surveys) by responding honestly and conscientiously.

ARTICLE 9

Maintain effective communication with the university by providing permanent and local address information to the university through a system designated by the university, and by reading university email on a frequent and consistent basis.

ARTICLE 10

Act as positive representatives and genuine ambassadors of the university when studying and working in domestic and international settings associated with Northeastern University.

ARTICLE 11

Complete an entry (including itinerary, accommodation information, and contact information) using 'My Travel Plans,' located via the Student Hub (https://me.northeastern.edu) or other system as required by the university, prior to all university-sponsored travel outside of Massachusetts, including but not limited to: Study Abroad, Dialogues of Civilization, Foreign Exchange Programs like BSIB, Alternative Spring Break, Engineers without Borders, Co-op Placements outside of Massachusetts, etc.

ARTICLE 12

Complete all required activities prior to attending classes for their entrance date (including alcohol education, violence prevention programming, required reading, etc.).

ARTICLE 13

Have in their possession at all times the officially approved and properly validated photo identification card.

Students who fail to comply with these responsibilities could lose certain student privileges as well as face possible disciplinary sanctions under the Code of Student Conduct.

1 The student rights, through their representatives in the Student Government Association (SGA), described in these sections arise from faculty and staff employment responsibilities and obligations to the university. Northeastern University students recognize and accept that it is the sole prerogative of the university to enforce these obligations and responsibilities and to determine whether and to what extent they are being carried out or violated in specific instances. Northeastern University students recognize and accept that their ability to effect redress of complaints arising from these rights is limited to the procedures specified in the current *Undergraduate Student Handbook*.

2 The articles shall be interpreted by the Office of the Provost in conjunction with the Office of the Vice President for Student Affairs, and shall be monitored by the Student Government Association. Further, should any student discover that they have been subject to any violation of the principles stated herein, the student should follow the appropriate complaint resolution procedure in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*).* The Student Government Association, if requested by the student, will monitor the progress of any student academic grievances.

3 Because the university operates on a twelve-month calendar in an urban environment, many construction, remodeling, renovation, and repair projects must take place while the university is in session, and other potential distractions from the learning process arise from the surrounding urban environment on which it is dependent but over which it exerts little or no control. Thus, though the university is committed to maintaining an appropriate learning environment for its students, Northeastern University students recognize and accept, as part of their relationship with the university, that the conditions described above may cause occasional disturbances to that environment.

4 For more on academic freedom, please refer to the AAUP's definition (https://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure/).

Student Responsibility Statement

By accepting responsibility for their education, students enhance the development of their academic, social, and career goals. As a condition of enrollment, students are responsible for reviewing, understanding, and abiding by the university's policies, regulations, procedures, requirements, and deadlines as described in all official publications, including the university's Academic Catalog, Northeastern and college websites, and official university email communications, as applicable.

Students are responsible for meeting the degree requirements of their academic programs in all respects, including completeness and correctness of course selection, compliance with prerequisite and corequisite requirements, completion of program and degree requirements through regular, comprehensive review and understanding of the degree audit, and observance of all academic regulations and deadlines.

Students are expected to seek guidance from appropriate university representatives, such as departmental program advisors, academic advisors, co-op coordinators, and the Office of the University Registrar (https://registrar.northeastern.edu/), to confirm their compliance with all applicable academic expectations and requirements.

Student Right-to-Know Act

For information about the Student Right-to-Know Act, visit the Office of the University Registrar's website. (https://registrar.northeastern.edu/article/student-right-to-know-act/)

Substituting Courses

In some cases, it may not be possible to retake a course if a student wishes to do so. In unusual circumstances, students may petition to substitute one course for another they have already taken, as long as the subject matter of both courses is substantially alike. With the approval of the student's academic advisor and the agreement of the department that offered the first course taken, a grade received in the new course will be labeled "Substitute" on the transcript and will be treated in the grade-point-average calculation as a "retake" grade, as described above. The original grade will remain on the student's Northeastern University transcript. Students should consult with their academic advisor before enrolling in any proposed substitute course. Students are required to pay normal tuition charges for all substitute coursework.

University-Sponsored Travel

Northeastern University is committed to the health, safety, and security of its students and all other members of the university community. As a global institution, our university members undertake university travel around the world in pursuit of teaching, research, consulting, service, cocurricular activities, and work intended to advance learning and the interests of the university. The university supports standards and expectations associated with travel that are designed to reduce personal and university risk.

To enhance the health and safety of our students, you are required to comply with the university travel policies and guidance when undertaking university travel. These include, but are not limited to:

- **Registering University Travel—**Students, faculty, and staff are required to enter their travel itineraries and other requested information into the travel registry. To access the registry, go to the Student Hub (https://me.northeastern.edu/) and navigate to My Travel Plans to register your travel.
- **Review Destination Risks and Take Steps to Reduce Risks Before and During Travel—**Review the country briefing for your destination found in the Travel Security portal (https://travelsecurity.garda.com/checkMail/) and travel health and safety advice issued by the U.S. Department of State, the U.S. Centers for Disease Control and Prevention, other government organizations, the host nation, international organizations, etc. Travelers will be reminded about these sources via an email following trip registration.
- **Connectivity—**All students traveling on university programs must carry a cell phone with international calling, SMS, and cellular data capabilities. Phones must be able to receive incoming and make outgoing phone calls without relying solely on data-calling or a Wi-Fi signal. Phone number must be updated in the Student Hub (https://me.northeastern.edu/) profile and My Travel Plans registry before travel.
- **Complete Travel Petitions or Waivers—**Visit the Travel Protocols page (https://globalsafety.northeastern.edu/travel-protocols/) to determine what forms travelers are required to complete before participating in off-campus programming. The page also explains how to obtain approval to travel to a destination designated as high risk by the university.
- **Reduce Your Travel Cyber-Risk and Exposure—**Review and comply with the Policy on Portable Devices for High Cybersecurity Risk Destinations (https://cpb-us-w2.wpmucdn.com/sites.northeastern.edu/dist/b/620/files/2020/09/Policy-on-Computers-and-Mobile-Devices-for-International-Travel.pdf).
- **Personal Health Insurance—**All travelers are required to have personal health insurance that provides coverage while participating on university trips. Insurance requirements and an explanation of the university-provided urgent and emergency program can be viewed on the insurance and global safety support network pages of the university's global safety (https://globalsafety.northeastern.edu/)website.
- **Attend Predeparture Orientation—**PDO provides travelers with information about resources, requirements, safety, and security while traveling. Contact your program office to enroll in an in-person or online training.
- **Register Side Trips—**Side trips are travel that takes place prior to, during the course of, and/or immediately following a scheduled program but is not part of the program. Travelers are required to notify the university and register side trips.

Students are responsible for familiarizing themselves with the university travel policies and are encouraged to visit the university's global safety (https://globalsafety.northeastern.edu/) website for guidance. If you have questions related to travel or travel support, please email mytravelplans@northeastern.edu. If you need assistance during university travel, please call the university's 24-hour travel assistance line at +1.857.214.5332.

Academic Appeals Policies and Procedures

Northeastern University affirms that it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated.

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, and that this constitutes a substantive basis for the appeal, the appeal shall first be pursued and investigated through the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/). In such cases, the appeal described in Step 2 below is submitted to the appropriate dean(s) and a copy provided to the OUEC. Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures described herein.

Note that these policies and procedures apply to graduate students only.

Individual college appeal procedures can be viewed within the college's section of this catalog.

Academic Appeals

It is the policy of the university that all students shall be treated fairly with respect to evaluations made of their academic performance, standing, and progress. The university presumes that academic judgments by its faculty are fair, consistent, and objective. Students must understand that the substitution of a different academic judgment for that of the original evaluator is a serious intrusion upon academic prerogatives entrusted to the faculty and others involved in academic evaluations. Nonetheless, the university believes it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated in an academic or cooperative education determination. This includes claims of misinterpretation or inequitable application of any academic provision of the *Graduate Catalog* or *Faculty Handbook*.

Decisions concerning admission or readmission into a program, including dismissals, and matters related to co-op employment (other than grades received) cannot be appealed beyond the college level. While program dismissals cannot be appealed beyond the college level, underlying academic judgments that led to a dismissal can be appealed.

Before invoking the appeals procedures, students are always encouraged to speak informally to their instructors or academic advisors about any determination or grade about which they have questions. If students choose to pursue an appeal, the process is described in the appeals section that follows.

A student may appeal an academic determination by submitting a written statement that details the action or judgment and the basis for the appeal. All parties shall cooperate and act expeditiously in processing the appeal to completion. Appeals shall be filed in a timely manner such that they can be considered during the academic year of the student's home unit.

All appeals should be initiated and resolved in a timely manner in accordance with the detailed time limits provided in this document.

Although students are entitled to seek the advice of outside legal counsel, students may not be represented by a lawyer in the informal or formal academic appeal procedures. A student may consult with the provost or their designee at any point in this procedure for advice or assistance.

It is strongly recommended that international students consult as soon as possible with the Office of Global Services to determine the possibility of any repercussion that the timing of an appeal may have on their immigration status.

Scientific or Research Misconduct

Scientific or research misconduct is defined as fabrication, falsification, plagiarism, or other practices that seriously deviate from those that are commonly accepted within the academic and scientific community for proposing, conducting, or reporting research and does not include honest error or honest differences in interpretation or judgments of data. (Further information can be obtained from the U.S. Office of Research Integrity, Department of Health and Human Services (https://ori.hhs.gov/).) Possible incidences of misconduct are to be reported immediately to the provost or their designee, who will initiate the appropriate procedures. Findings of scientific or research misconduct cannot be appealed through the process below.

Appeal of Final Grades and Outcomes of Other Academic Evaluative Processes

STEP 1. DISCUSS CONCERNS WITH INSTRUCTOR AND/OR ADMINISTRATOR

In many cases, students may choose to discuss their concerns with the faculty member who taught the course or a member of the qualifying exam committee. If after this conversation the student's concerns remain unresolved, or if the student is not comfortable discussing the issue with the instructor or other faculty member(s) involved, the student should request a meeting with the appropriate administrator (e.g., director, assistant or associate dean, chair, or group leader) to further discuss their concerns. If these initial attempts to address the issue fail to resolve the student's concerns, or the situation precludes a student from pursuing these steps, the student can initiate a formal appeal as follows. Note that this step should occur as soon as possible after the academic determination given the time frame for appeal statement submission described in Step 2.

STEP 2. PREPARE AN APPEAL STATEMENT

A student must initiate a formal appeal of an academic determination by submitting a written statement (the Statement) that specifies the details of the action or judgment that they seek to appeal. This Statement must start with a clear description of the basis for the appeal and should include: (1) basic facts about the situation leading to the appeal; (2) when the situation occurred; (3) who was involved; and (4) the resolution sought by the

student. All relevant supporting materials should be attached as addenda to the Statement. Appeals should avoid unsubstantiated, defamatory, or *ad hominem* accusations regarding the motivations of the faculty member or other persons involved in making the academic determination.

This Statement, and supporting materials, as submitted to and reviewed by the unit (i.e., college, school, department, or group responsible for reviewing the academic determination), will serve as the basis of the appeal throughout the appeals process, including at the university level.

Graduate students shall submit the Statement and all supporting materials to the college/school administrator specified in the college/school procedures.

The Statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student. If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of degree conferral date.

STEP 3. COLLEGE/SCHOOL-LEVEL APPEAL

A copy of this decision shall be sent to the college/school dean or their designee of the student's home college/school.

STEP 4. UNIVERSITY-LEVEL APPEAL

If the student is not satisfied with the college/school's disposition of the matter, or if the appeal is not resolved within 35 calendar days after originally submitted to the college/school pursuant to Step 3, the student may further pursue the matter by requesting in writing within 10 calendar days of the notification from the college/school in Step 3 that the university convene the Academic Appeals Resolution Committee to review the issue. Students may obtain information on this process from the provost or their designee. This committee has been designated as the final authority on these matters.

A. Academic Appeals Resolution Committee

The Academic Appeals Resolution Committee shall be a standing committee consisting of the following:

- The provost or their designee, who shall be the chair of the committee, and nonvoting member.
- Three faculty members and one alternate faculty member (with the alternate serving in instances where there is a conflict of interest or when a member has to be replaced) all from different colleges appointed by the Faculty Senate Agenda Committee. Members will serve a one-year term with no term limits.
- If the appeal had at any point involved a matter of harassment/discrimination, the committee shall include a representative of the OUEC, who shall be a nonvoting member.

B. Preliminary Matters

Upon receiving an appeal, the committee shall obtain copies of all documentation related to the appeal from Steps 1, 2, and 3, including the procedures of the relevant unit and college/school. If the Academic Appeals Resolution Committee determines, by a majority vote, that the appeal is patently without substance or merit, it may dismiss the appeal.

C. Investigation

The Academic Appeals Resolution Committee shall investigate the matter under appeal by studying the relevant documents (the Statement, supporting documents, and additional accumulated documentation), interviewing the parties (especially the student and the involved faculty member), and taking any other action it deems appropriate. A resolution shall be rendered within 35 calendar days of appeal submission. At no time shall the committee be bound by rules of evidence but shall at all times conduct itself in a manner that is not arbitrary or capricious. The Academic Appeals Resolution Committee may, but is not required to, hold a hearing prior to resolving the issues. However, in all instances, the student and the involved faculty member shall have the right to appear separately and privately before the Academic Appeals Resolution Committee. The student shall have the right to have an advocate from the university community present during their testimony to the Academic Appeals Resolution Committee.

D. Authority to Act

The Academic Appeals Resolution Committee has been designated as the final authority on academic matters. At the conclusion of its investigation, the Academic Appeals Resolution Committee shall resolve, by majority vote, the issue by either upholding the finding of the college/school, in which case no further appeal is available, or granting such relief to the student as the Academic Appeals Resolution Committee deems appropriate. The Academic Appeals Resolution Committee shall not render a resolution that contradicts the prior findings or actions of the OUEC.

E. Resolution

All direct parties to the appeal, including but not limited to the student, the faculty member (or others involved in academic evaluations), the dean of the involved college(s), the Faculty Senate, and the registrar, shall be promptly informed in writing of the decisions and actions taken during this academic appeals procedure.

F. Action

The dean(s) or their designee in the involved college(s) shall take whatever action is necessary to implement fully the resolution of the Academic Appeals Resolution Committee.

G. Appeal

Once adjudicated, the matter is considered closed, and no further appeal can be instituted by the student or the involved faculty member with respect to the issue(s) raised at any level of the formal appeals resolutions procedures.

Step 1: Discuss concerns with instructor or appropriate administrator	Time frame: As soon as possible after academic determination (see note 1 below)
Step 2: Student prepares/submits appeals statement to unit or college/school	Time frame: Within 28 calendar days of academic determination
Step 3: Unit/college/school-level appeal process	Time frame: Decision notification within 35 calendar days of student appeal statement submission
Step 4: University-level appeal process	Time frame: Student submits within 10 calendar days of college/school decision; resolution rendered within 35 calendar days of appeal submission

Note 1: Step 1 should occur as soon as possible after the academic determination given the time frame for appeal statement submission described in Step 2.

Academic Calendars

The graduate schools' programs are offered on a semester calendar consisting of 15 weeks. The College of Professional Studies graduate programs are offered on a quarter calendar consisting of 12 weeks.

Quarter Programs

For student records that include quarter hours, the approved semester-hour conversion rate is (quarter hours) x 0.750. For example, a 4-credit quarter course is equivalent to a 3-credit semester course.

Semester Programs

Traditional semester hours apply.

Academic Integrity Policy

The university's complete Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/)is available through the Office of Student Conduct and Conflict Resolution.

Audit Policy

Full-time Northeastern students may audit one class per term as an overload. In all colleges with the exception of the College of Professional Studies, there is no additional charge.

- Students are permitted to petition (https://registrar.northeastern.edu/article/audit-policy/) from the end of the course-add period to the end of the third week of classes.
- Permission is based on the availability of a seat in the class.
- Students must obtain advisor approval and meet the prerequisites and any other required approvals for the class.
- Instructor permission, as well as approval by the associate dean of the college offering the course, is required.
- The coursework required is at the discretion of the instructor.
- Once a student opts to audit a course, the audit status of the course cannot be changed.
- A signed Petition to Audit (https://registrar.northeastern.edu/article/audit-policy/) must be presented to the Office of the University Registrar during the designated audit-add period.
  - Students will not be registered for approved audited course(s) until after the add period is over for the intended term.
- Excluded courses are co-op, labs, language courses, any off-campus course, any online course, and any course required for the major or degree.
- Audits carry no academic credit.

Cooperative Education

Website (http://www.northeastern.edu/coop/)

Cooperative education is the cornerstone of Northeastern University's experiential learning approach, in which on-campus study is enhanced by real-world experience through full-time employment at locations all over the world. Through co-op, students alternate periods of academic courses with periods of employment in positions related to their academic or career interests. This combination provides an integrated learning experience that enhances both in-class studies and career development.

General Requirements

- Be a full-time student to participate in co-op.
- Complete all pre–co-op requirements as established by the college of the student.
- Make satisfactory progress toward degree completion, including grade-point average requirements as defined by the university, the colleges, and the major program curricula.
- Have accurate information about the co-op placement in the university's official co-op placement system, including specific start and end dates and meeting the minimum hour and day requirements.
- Not participate in co-op in the final term unless it is specified in the curriculum requirements of the program in the catalog.
- Resolve any previous disciplinary or academic probation issues, or have the cooperative education coordinator approve a plan to resolve these issues prior to applying for co-op jobs.
- Have any self-developed co-op approved by the cooperative education coordinator before accepting the position.
- Comply with any preemployment checks required by the employer, such as drug testing, credit checks, physical examinations, security clearance, and criminal record checks.
- Participate in Title IX training, as required.
- Complete any additional requirements (https://careers.northeastern.edu/students/student-co-op/global-co-op/) if participating in a global co-op.
- Work with the cooperative education coordinator if an Unsatisfactory (U) grade has been received for a past co-op to reestablish eligibility in accordance with the policies and requirements of the college.

TRANSFER AND INTERNATIONAL STUDENTS:

- Transfer students from other universities must have met the same requirements in their major's co-op program as nontransfers and must have completed at least one semester of classes before starting co-op.
- International students must attend one academic year, or its equivalent, and obtain proper authorization from the Office of Global Services before engaging in co-op.

Academic Requirements

1. **Be full-time while on co-op. Full-time status for co-op is defined as either:**
   a. One full-time co-op job; 32–40 hours per week
   b. Two simultaneous half-time co-op jobs; 16–31.99 hours each
   c. One half-time co-op job; 16–31.99 hours with graduate students taking 3 or more academic credits or undergraduate students taking 6 or more academic credits
      i. Undergraduate students on co-op in a summer 1 or summer 2 term may be registered for one half-time co-op without acquiring a second job or taking an accompanying class.
2. **Meet the minimum length requirements for an academic term:**
   a. Semester full-term: minimum of 11 weeks or 55 workdays
   b. Quarter full-term: minimum of 9 weeks or 45 workdays
   c. Summer 1 or summer 2 term: minimum of 5 weeks or 25 workdays
3. **Receive a grade of Satisfactory or Unsatisfactory for the co-op experience.**

Co-op Duration

Graduate Students Enrolled in Colleges Other than the College of Professional Studies:

- Students may be hired into co-op positions for periods of four to eight months in one of the following patterns:
  - Four months (spring, fall, or summer full terms)
  - Six months (spring term plus summer 1 term, or summer 2 term plus fall term)
  - Eight months (spring term plus summer full term, or summer full term plus fall term)
- In addition, students enrolled at a Canadian campus may be hired into co-op positions for periods of four to eight months, including continuous periods spanning the fall and spring semesters. In the case of such eight-month fall/spring term co-op assignments, students are required to enroll full-time in classes during the summer term immediately following the assignment. If a student only needs to take one additional

course to complete their program's requirements, they are only required to enroll in that one class in the summer term immediately following the assignment.

Graduate Students Enrolled in the College of Professional Studies:

- Students may be hired into co-op positions for periods of three months or six months.

Co-op Financial Planning

- No tuition is charged while a student is on co-op only (students will pay room and board if they stay in university housing).
- If a student takes a credit-bearing class while on co-op, tuition will be charged at the per-credit rate.
- Students who wish to register for more than 4 credits while on full-time co-op must complete the Petition Registration form (https://registrar.northeastern.edu/wp-content/uploads/sites/9/form-pet-reg-14.pdf).
- Financial aid will be distributed to match the student's tuition bill and other allowable expenses.
- Students on co-op are required to maintain the same health insurance coverage (either through a private provider or through the university program) as they would while attending classes.

Registration for Co-op

Students are registered for co-op based on a completed co-op record that meets the minimum hour and day requirements with accurate start and end dates in the university's official co-op database system. Students must be registered for the co-op work experience course by the end of the add period or alternately registered for classes if still searching for a job by this deadline. All co-op positions need to be approved by the university and entered as completed records in the official co-op database system by the last day to drop without a W for the respective semester.

Further Information

For more detailed information about co-op policies and procedures, see the *Cooperative Education Student Handbook* on the Cooperative Education website (https://www.northeastern.edu/coop/).

Departmental Jurisdiction

Certain departments of the university shall have the power to set down rules and regulations governing the operation of the departments' respective areas of responsibility. Such rules and regulations shall be in accord with the Student Bill of Academic Rights and Responsibilities (p. 63), as well as with the policies described in this document.

Dismissal from Class

Students dismissed from classes for insubordination or other disciplinary reasons may not return without the approval of the college and the senior vice chancellor for student affairs.

Dropping a Class

Not attending class does not constitute withdrawal. Students receiving a grade of W or NE in any course are responsible for the costs associated with that course. Students must drop courses using processes described below.

Note: College of Professional Studies graduate students should consult the CPS graduate section of this catalog *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/academic-policies-procedures/registration-and-taking-courses/*) for class drop timelines specific to CPS graduate terms.*

In Fall and Spring Semesters

- Through the third week of the semester, students may withdraw without any grade being posted to the transcript. Courses may be dropped via the Student Hub (https://me.northeastern.edu/).
- Between the fourth week and the last day of classes, course withdrawals are indicated by a W on the student's record. Courses may be dropped via the Student Hub. No financial adjustment is made for courses receiving a W grade.
- After the last day of classes, no withdrawals are accepted for any reason. A letter grade for the course will be posted on the transcript.
- Dropping below full-time enrollment may affect financial aid, health insurance eligibility, and the maintenance of proper nonimmigrant visa status.

In Summer Half Semesters

- Through the second week of the half semester, students may withdraw without any grade being posted to the transcript. Courses may be dropped via the Student Hub.
- Between the third week and the last day of classes, course withdrawals are indicated by a W on the student's record. Courses may be dropped via the Student Hub. No financial adjustment is made for courses receiving a W grade.
- After the last day of classes, no withdrawals are accepted for any reason. A letter grade for the course will be posted on the transcript.
- Dropping below full-time enrollment may affect financial aid.

Final Examinations and Related Policies on Other Exams

All final examinations, term papers, or projects must be returned to the student or be retained by the department for a period of one year.

Full-Time Status

Notes: Full-time status may be defined differently for federal loan purposes. The criteria below apply to students enrolled in colleges other than the College of Professional Studies. Please consult the College of Professional Studies section of this catalog (p. 791) *for criteria that apply to students in CPS.*

A graduate student is considered a full-time student if enrolled in a minimum of 8 semester/quarter hours of credit for the semester with the following considerations:

- Students who hold stipended graduate assistantships will be considered full-time if enrolled for a minimum of 6 semester hours of credit.
- Students for whom English is a second language, at the discretion of their departments, will be considered full-time if they are enrolled in a minimum of 8 semester hours or three courses, whichever is less.
- Students holding Dean's scholarships, Diversity fellowships, Double Husky awards, or being supported by Graduate Student Scholarships will be considered full-time if they are enrolled in a minimum of 8 semester hours.
- Students enrolled in Dissertation or Continuation are considered full-time.
- International students enrolled in graduate programs at Northeastern University must consult with the Office of Global Services (http://www.northeastern.edu/ogs/) on all matters regarding the maintenance of full-time status.

General Regulations

Review the general regulations that follow as well as all other regulations or limitations included throughout this catalog. Your success at Northeastern University depends, in part, on understanding your rights and fulfilling your responsibilities.

Legal Rights and Responsibilities

GRIEVANCE PROCEDURE—SEXUAL HARASSMENT

The university's complete Policy on Equal Opportunity is available at the University Policies site (https://policies.northeastern.edu/policy107/).

No employee, agent, supervisory personnel, or faculty member shall exercise their responsibilities or authority in such manner as to make submission to "sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature" as an explicit or implicit term or condition of evaluation, employment, admission, advancement, or reward within the university. Neither shall any employee, agent, supervisory personnel, or faculty member make submission to or rejection of such conduct the basis for employment or academic decisions affecting any employee or student. Neither shall any employee, agent, supervisory personnel, or faculty member conduct themselves with respect to verbal or physical behavior of a sexual nature where such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive work or classroom environment.

Though sexual harassment will not be tolerated, the university recognizes that it is difficult to regulate emotional relationships between consenting adults. However, a consensual relationship may be suspect in instances in which one of the individuals has authority over the other. Therefore, no faculty or employee involved romantically or sexually with a student may teach or supervise that person either individually or as part of a group in any activity connected to the university.

Any student, teaching assistant, employee, or faculty member who feels that they have been the victim of sexual harassment may bring the matter to the attention of the director of the Office for University Equity and Compliance. Copies of the sexual harassment grievance procedure can be obtained from the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/reporting-options/titleix-prohibited-offenses/).

HAZING

The university's Policy Prohibiting Hazing can be found at the University Policies site (https://policies.northeastern.edu/policy606/).
Additionally, Chapter 269 of the Massachusetts General Laws also prohibits hazing and requires that the university publish the following statutory provisions applicable in Massachusetts:

> Section 17. Whoever is a principal organizer or participant in the crime of hazing, as defined herein, shall be punished by a fine of not more than three thousand dollars or by imprisonment in a house of correction for not more than one year, or both such fine and imprisonment. The term hazing as used in this section and in sections eighteen and nineteen, shall mean any conduct or method of initiation into any student organization, whether on public or private property, which willfully or recklessly endangers the physical or mental health of any student or other person. Such conduct shall include whipping; beating; branding; forced calisthenics; exposure to weather; forced consumption of any food, liquor, beverage, drug, or other substance; or any other brutal treatment or forced physical activity which is likely to adversely affect the physical health or safety of any such student or other person, or which subjects such student or other person to extreme mental stress, including extended deprivation of sleep or rest or extended isolation. Notwithstanding any other provisions of this section to the contrary, consent shall not be available as a defense to any prosecution under this action.
>
> Section 18. Whoever knows that another person is the victim of hazing as defined in section seventeen and is at the scene of such crime shall, to the extent that such person can do so without danger or peril to himself or others, report such crime to an appropriate law enforcement official as soon as reasonably practicable. Whoever fails to report such crime shall be punished by a fine of not more than one thousand dollars.
>
> Section 19. Each institution of secondary education and each public and private institution of postsecondary education shall issue to every student group, student team, or student organization that is part of such institution or is recognized by the institution or permitted by the institution to use its name and facilities or is known by the institution to exist as an unaffiliated student group, student team, or student organization, a copy of this section and sections seventeen and eighteen; provided, however, that an institution's compliance with the section's requirements that an institution issue copies of this section and sections seventeen and eighteen to unaffiliated student groups, teams, or organizations shall not constitute evidence of the institution's recognition or endorsement of said unaffiliated student groups, teams, or organizations.
>
> Each such group, team, or organization shall distribute a copy of this section and sections seventeen and eighteen to each of its members, plebes, pledges, or applicants for membership. It shall be the duty of each such group, team, or organization, acting through its designated officer, to deliver annually to the institution an attested acknowledgement stating that such group, team, or organization has received a copy of this section and said sections seventeen and eighteen, that each of its members, plebes, pledges, or applicants has received a copy of sections seventeen and eighteen, and that such group, team, or organization understands and agrees to comply with the provisions of this section and sections seventeen and eighteen. Each institution of secondary education and each public or private institution of postsecondary education shall, at least annually, before or at the start of enrollment, deliver to each person who enrolls as a full-time student in such institution a copy of this section and sections seventeen and eighteen.
>
> Each institution of secondary education and each public or private institution of postsecondary education shall file, at least annually, a report with the regents of higher education and, in the case of secondary institutions, the board of education, certifying that such institution has complied with its responsibility to inform student groups, teams, or organizations and to notify each full-time student enrolled by it of the

provisions of this section and sections seventeen and eighteen and also certifying that said institution has adopted a disciplinary policy with regard to the organizers and participants of hazing and that such policy has been set forth with appropriate emphasis in the student handbook or similar means of communicating the institution's policies to its students. The board of regents and, in the case of secondary institutions, the board of education shall promulgate regulations governing the content and frequency of such reports and shall forthwith report to the attorney general any such institution that fails to make such report.

USE OF ALCOHOL AND DRUGS

The unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited in or on any Northeastern property. Any university employee or student determined to have violated this policy may be subject to disciplinary action up to and including dismissal. The use of alcohol while on Northeastern property is prohibited except where specifically authorized by the university. No employee may report to work while under the influence of alcohol or illegal drugs. Violation of these regulations may be reason to require evaluation/treatment for substance abuse in coordination with the University Center for Counseling and Student Development and/or for disciplinary action up to and including dismissal. Northeastern works to provide a drug-free workplace for all university employees and students. The Center for Counseling and Student Development provides resources for treatment and referral for students and employees with substance abuse problems. Educational programs for students, employees, and managers are presented through Human Resources Management, the Office of Housing and Residential Life, the Office of Prevention and Education at Northeastern, and University Health and Counseling Services and cover the dangers of alcohol and drug abuse, the availability of assistance for counseling and rehabilitation, and penalties for violating university policies. To comply with federal law, the university requires that employees directly engaged in performance of a grant or contract must notify their employers of any criminal drug statute conviction for a violation occurring in the workplace no later than five days after the conviction. The university must notify any federal contracting agency within 10 days of having received notice that an employee engaged in the performance of such contract has had a criminal drug statute conviction for a violation occurring in the workplace. The university will take appropriate action up to and including dismissal and/or require participation in an approved abuse assistance or rehabilitation program.

USE OF WEAPONS

The use or possession on campus of firearms; explosive agents of any kind; as well as chemicals, mace, and tear gas, is specifically forbidden by the university Policy on Weapons on Campus (https://policies.northeastern.edu/policy604/). Violation of this university policy is cause for disciplinary action up to and including expulsion. In addition, it is worth noting that Massachusetts law states: "Whoever, not being a law enforcement officer and notwithstanding any license obtained by him under the provisions of chapter one hundred and forty, carries on his person a firearm as hereinafter defined, loaded or unloaded, in any building or on the grounds of any college or university without the written authorization of the board or officer in charge of said college or university shall be punished by a fine of not more than one thousand dollars or by imprisonment for not more than one year or both. For the purpose of this paragraph, 'firearm' shall mean any pistol, revolver, rifle, or smoothbore arm from which a shot, bullet, or pellet can be discharged by whatever means."

Massachusetts general law prohibits the possession of nunchaku or karate sticks; switchblades; knives; starter's pistols; ammunition; leather armbands or other clothing that has metallic spikes, points, or studs; or other dangerous weapons or articles. A student who possesses any articles for sporting purposes (for example, bow and arrows) should check with the University Police Department or the Department of Residential Life to determine whether such articles are among those prohibited by statute or university regulation. Northeastern also prohibits the possession of knives other than food utensils.

Policies and Procedures

ANIMALS ON CAMPUS

Pets are generally prohibited in university buildings but may be allowed in outdoor areas on university property. Pets do not include service animals or assistance animals, which may be permitted as accommodations for persons with disabilities in accordance with applicable federal and state laws. The full Policy on Animals on Campus is available at the University Policies site (https://policies.northeastern.edu/policy610/).

APPROPRIATE USE OF COMPUTER AND NETWORK RESOURCES POLICY

The university Policy on Appropriate Use of Computer and Network Resources (https://policies.northeastern.edu/policy700/#_ga=2.156645435143605877016914082 42-357332625168570809 0) is available from the Office of Information Security (https://security.its.northeastern.edu/).

BEHAVIOR ON CO-OP, ON EXTERNSHIPS, AND IN THE NEIGHBORHOOD

As an urban institution, Northeastern is a part of the vibrant community and business life of the surrounding neighborhoods. Maintaining amicable and considerate relations between the university and local residents and businesses is essential to the continued cooperation of the university and its neighbors in civic projects and issues and to the furtherance of the university's broader mission to contribute to the general good of society. The university endeavors to foster conditions under which such beneficial relations exist. Consequently, the university must consider conduct on the part of members of the university community, whether on or off campus and whether isolated or continuing in nature, that is disruptive of these relations; that impairs, interferes with, or obstructs the lawful missions, processes, and functions of the university; or that is found by the university to be abhorrent or offensive to generally accepted standards of social behavior, as inimical to the university's interests.

The university's Code of Student Conduct governs student behavior on co-op, externships, and in the community surrounding the university. In addition, misbehavior in these settings may violate the law, policies of the co-op employer, or rules of the externship sponsor.

BICYCLES

Wherever possible, students should use the bike racks available at various locations on campus. Bicycles should not be chained to fences, doors, trees, or other objects, and under no circumstances may bicycles be brought into any university building. The fire code dictates that all entrances, exits, corridors, and stairwells must be free and clear at all times. Bicycles found in violation of this code will be removed from the area.

CAMPUS ACCESS

Northeastern is a private institution that retains the right to determine the policies and protocols regarding access to university property and premises and the use of campus facilities. Northeastern may, at its sole discretion, deny members of the public access at any time for any reason not prohibited by law, including but not limited to reasons related to university business, public safety, and/or to accommodate university or private events. Moreover, certain facilities, such as residence halls, are intended for use by residence hall residents only, and classrooms and laboratories are intended for use by members of the Northeastern academic community only. Access to such facilities is permitted only in accordance with applicable policies and directives. Certain of Northeastern's campuses maintain additional restrictions and procedures for campus access, which may be reviewed at the University Policies site (https://policies.northeastern.edu/) or on the campus's website. In all cases, the essential purposes of the university cannot be interrupted or disturbed by the access permitted to members of the public. The university reserves the right to rescind access privileges to any person who is violating or has violated university policy, protocol, procedure, practice, or applicable laws or regulations, regardless of whether the person is affiliated with the university.

COPYRIGHTABLE MATERIALS

It is the general policy of the university that student papers or projects submitted in partial fulfillment of course requirements remain the property of the student authors.

This policy does not apply to:

1. “Work for hire” as defined by intellectual property laws
2. Work derived wholly or in part from other patented or copyrighted material
3. Work done as part of external grants or contracts in which the contracting documents or regulations define ownership
4. Work in which the university or its agents or employees contribute substantial time or resources
5. Work considered a thesis or dissertation

The university owns the copyright to any work created or developed by one or more students with the significant use of funds, space, facilities, equipment, materials, or other university resources. The university will not normally construe the payment of salary from unrestricted funds or the provision of office and library facilities as constituting significant use of funds, space, facilities, equipment, materials, or other resources of or administered by the university. Use of laboratory and/or computer facilities or assistance from one or more faculty or staff members to a student author specifically pertaining to the work constitutes significant use of university resources. In all cases, the provost or their designee shall make a good faith determination concerning significant use, which shall be final and binding on all parties.

In the case of a thesis generated by research performed in whole or in part by a student in the course of or pursuant to an agreement for sponsored research or other written agreement, including an agreement between the author(s) and the university, or utilizing equipment or facilities provided to the university under conditions that impose copyright restrictions, ownership or control shall be determined in accordance with such agreement or restrictions. In the absence of such agreement or restrictions, copyright ownership in such a thesis shall reside in the student. However, the student, as a condition of a degree award, must grant the university the royalty-free right to reproduce and publicly distribute copies of the thesis for limited and noncommercial purposes.

Where necessary to secure to the university an ownership of copyright, students shall assign such rights of copyright, or grant the specified rights of reproduction and distribution, to the university. The university reserves the right to employ, at its discretion, the materials or portions of any work created or developed in the course of an author’s relationship with the university, or otherwise covered by the university Patent and Copyright Policy, for promotional, professional, or noncommercial purposes on a royalty-free basis. Certain courses taught at Northeastern involve students in individual or group assignments or projects involving the creation of materials, objects, or techniques that may be patentable or copyrightable. These courses generally require extraordinary levels of faculty organization and participation and/or substantial university resources.

1. Individual teachers or academic units may require that originals or copies of such papers or projects be retained either temporarily or permanently by the individual teacher or by the unit.
2. A thesis is a student work representing significant original or independent research and for which the student receives a substantial amount of credit toward a degree or certificate. Where there is a question concerning whether or not a student’s work is a thesis, the provost or their designee shall make a good faith determination concerning same, which shall be final and binding on all parties.
3. Copies of the university patent and copyright policies are available from the Division of Research Development, 405 Lake Hall, 617.373.4587.

In accordance with university patent and copyright policies, in such courses the university is the owner of all rights in technology, computer programs, or other creative work that may be developed by the undergraduate or graduate student as part of the student’s work in those courses. It is the university’s intention, where applicable, to disclose and authorize the use of such technology, programs, or work to nonprofit organizations and to government agencies without a fee. The university may also have the opportunity to license such materials to a commercial enterprise, and in this event, it is the university’s intention to share any revenue from such a license with student contributors in an amount determined in accordance with the then-existing university policy or plan. Students are informed early in the semester if the course in which they are enrolled falls within this category

and will be asked to sign a letter of agreement. Should the student decline to sign an agreement, they will be assigned to another course section—one in which such agreement is not required—or will be given alternative activities not involving such assignments or projects.

COPYRIGHTS AND PATENTS

Any student who makes, as sole or joint inventor, an invention that involved significant use of university resources, including funds, space, facilities, equipment, or materials, or that is subject to terms of a sponsored research or other agreement between the university and another party, shall assign this invention and all associated applications and patents to the university or its designee unless the invention has been released to the inventor in accordance with the applicable provisions of the university patent policy. Any student, whether before or after terminating their association with the university, shall do whatever is necessary to enable the university or its designee to take out patents in any and all countries on such invention. The cost and expense of making such assignments and procuring such patents shall be borne by the university or its designee. When an invention is made by a student not involving significant use of funds, space, facilities, equipment, materials, or other resources of or administered by the university, the university will waive its rights, and the invention will be the exclusive property of the student, provided the student's rights in the invention are not altered by the terms of any financial aid received, including external sponsorship, scholarships, fellowships, traineeships, thesis expenses, or other assistance, whether or not administered by the university and provided the invention is not subject to third-party rights.

DEMONSTRATIONS

The university supports as fundamental to the democratic process the rights of all members of the university community to express their views and to protest actions or opinions with which there is disagreement. A university is where individuals express diverse ideas and viewpoints in an atmosphere free of any physical force. The university insists that all demonstrations be peaceful and orderly and abide by university regulations.

- Demonstrators must not block corridors or entrances or use loud noise to disrupt a conference, meeting, or assembly.
- Demonstrations may not be conducted in faculty or administrative offices, classrooms, libraries, or study areas.
- Moving picket lines in university corridors are prohibited. (Protests may be registered by individuals or groups standing in a single line against a corridor wall, but corridors must be kept open at all times for the free passage of other members of the community.)

Students, faculty, or other members of the university community who violate these regulations will be subject to disciplinary action; violators also jeopardize their right to remain in the university community.

IDENTIFICATION CARDS

All students must have in their possession at all times the officially approved and properly validated photo identification card. It will be necessary to show this card as a means of identification when using the library and campus recreational facilities, at athletic contests, at student elections, at University Health and Counseling Services, at Student Accounts, at the Office of the University Registrar, to campus police, and elsewhere around the university. An official photo identification card will be issued to new students during their initial orientation and registration periods. Replacements for lost cards can be obtained through Husky Card Services (https://huskycard.sites.northeastern.edu/). All members of the community should be prepared and willing to identify themselves and their guests upon request by authorized personnel.

JURY DUTY

Northeastern expects students to fulfill their civic duties; the university cannot interfere in this process. Students who miss classes because of jury duty (p. 46) must notify their professors in writing, explaining which classes will be missed on which days. The professors will work with students to make up missed assignments or exams. Upon completion of their jury duty, students must bring a copy of the documentation of their service to the appropriate professors. Students on co-op are expected to inform their supervisors if called to jury duty.

MEDIA AND PUBLIC APPEARANCES

In all personal communications to newspapers or other media, as well as personal public appearances in which students identify themselves as members of the Northeastern community, it should be made clear that the opinions presented are a student's own and not necessarily those of the university. Students who appear on public programs as representatives of Northeastern must be particularly careful to avoid language or presentations that could be considered in bad taste or offensive.

SALES AND SOLICITATIONS

The university's Policy on Non-Solicitation and Sales is available at the University Policies site (https://policies.northeastern.edu/policy300/).

SMOKING

All locations, campuses, buildings, and outdoor areas owned and/or operated by the university are smoke free and tobacco free; details of the Policy on Tobacco and Smoke-Free Campus are at the University Policies site (https://policies.northeastern.edu/policy607/). The sale of cigarettes and other tobacco products is prohibited on campus. Smoking cessation information and programs are available. For further information, contact University Health and Counseling Services (https://www.northeastern.edu/uhcs/).

TAPE RECORDERS

Students may not use tape recorders in the classroom without the instructor's consent. Students with disabilities who need a tape recorder in the classroom may make arrangements through the Disability Resource Center (https://drc.sites.northeastern.edu/).

TEXTBOOKS

Students should purchase or have in their possession the assigned textbooks, problem books, manuals, and other supplies that may be necessary in a classroom or laboratory.

Graduation Requirements

To be eligible to receive degrees, students must meet all academic requirements. They must also clear all financial and disciplinary deficiencies.

In addition, each program of study has specific academic requirements. These are specified for each program under the various schools and colleges in this catalog.

Students are expected to monitor their progress toward degree completion or certificate completion throughout their studies via their online degree audit, accessible via the Student Hub.

All eligible degree candidates must complete the graduation application by the applicable deadline. Before you apply to graduate through the Student Hub, we recommend you take the time to review your current program information, i.e., degree, major, and concentration.

Minimum Cumulative GPA

Grades submitted to satisfy, in whole or in part, the requirements for any graduate degree or certificate of advanced study must yield a cumulative GPA of 3.000 or higher. This requirement may be supplemented by additional restrictions established by the graduate program or the college's graduate office such as, but not limited to, the maximum number of individual courses with grades below 3.000 that may be obtained without being required to withdraw or a minimum GPA in each semester.

Students falling below 3.000 are placed on academic probation. If the student remains on academic probation for two semesters, they may be terminated from the graduate program.

Not more than two courses or 6 semester hours of credit, whichever is greater, may be repeated to satisfy the requirements for the degree. The last grade earned in each of these repeated courses is counted in the calculation of the cumulative GPA.

More information regarding course grading and academic disputes may be found at Academic Appeals Policies and Procedures (p. 70).

Overload Conditions for Graduate Assistants

Graduate assistants are expected to devote full-time effort to their studies and the duties of their award.

They are not permitted to hold any other job during the term of their assistantship; however, they may be offered limited extra work on campus. Graduate assistants who are not on F-1 or J-1 visas can be offered overload work that does not exceed an average of 6 hours a week or 90 hours a semester, for a total of 270 hours a year (or three semesters). As part of this work, graduate assistants may be hired to teach one 3-semester-hour course as an overload during the year (180 hours). The hours worked during the weeks between semesters are included in this total.

Pass/Fail (Satisfactory/Unsatisfactory) Grading

The individual schools and colleges determine whether a course will be graded on a pass/fail basis.

Regulations and Requirements for All Graduate Degree Programs

A copy of each graduate degree program as approved by the Board of Trustees and as officially amended is on file in the Office of the Provost. This record contains the goals, learning objectives, and all requirements for the program. All descriptions of the program in the university, college, and department publications must conform to this officially approved record.

Standards of admission are specific to certificate and degree programs and are found on each each college's or offering unit's website.

Admission Requirements

Prior to beginning a graduate program at Northeastern University, students must have met one of the following criteria:

1. Received a bachelor's degree or equivalent from an accredited college or university
2. Received a master's degree or equivalent degree from an accredited college or university
3. Received a first professional or equivalent degree from an accredited college or university
4. Been accepted into an approved bachelor's-to-graduate-degree program at Northeastern

Transfer and Other Advanced Standing Credit

Transfer credits from other institutions (or other programs within the university) will only be accepted at the discretion of the student's destination academic unit and the associated college with the following constraints:

- For graduate certificate programs, a maximum of 3 semester hours or 4 quarter hours of credit earned at another institution may be accepted toward the credential being pursued at Northeastern, provided the credits meet the above-listed standards.
- For master's degree programs, a maximum of 30% of the credits required for the degree that are earned at another institution may be accepted toward the degree being pursued at Northeastern, provided the credits:

    1. Consist of work taken at the graduate level for graduate credit
    2. Carry grades of 3.000 or better
    3. Have been earned at an accredited institution
    4. Have not been used toward any baccalaureate or advanced degree or certificate at another institution

  Advanced standing is based on criteria established by the offering school or college and implemented in coordination with the Office of the University Registrar. When applied, advanced standing reduces the total credits required to complete the primary program.

  The combination of advanced standing and transfer credit shall not exceed 30% of the credits required for the degree. Credit for prior experiential or non-collegiate- sponsored learning is limited to 25% of the degree credits required for the degree.

  Graduate course credits earned at Northeastern by undergraduate students enrolled in a PlusOne program will be applied toward both the undergraduate and graduate degrees as prescribed by the graduate program in which the student is enrolled, not to exceed 16 semester hours or 21 quarter hours. Transfer credit may not be applied to graduate degrees that are completed as part of a PlusOne program. Deviations from this limit shall be considered on a case-by-case basis by the University Graduate Curriculum Committee.

- Students may credit-share specified courses taken while in undergraduate status for both the bachelor's and PhD degrees. A student who departs from the program before receiving PhD candidacy may opt to use those courses toward a master's degree earned. However, such credit sharing cannot be used for more than two credentials, i.e., degrees and certificates. Please see above for limits on credit sharing between credentials.
- For doctoral programs, a maximum of 30% of the total semester hours of required coursework may be granted upon the recommendation of the admitting college's graduate committee.

Transfer credits must have been earned within five academic years of the date of matriculation in the Northeastern program to which they are to be applied.

Grades earned in courses to be applied as transfer credits are not counted as part of the overall grade-point average earned at Northeastern and are posted with a grade of T to the transcript.

Provisional or Special Students

Students cannot be admitted under provisional conditions, i.e., requiring preparatory or remedial coursework that must be successfully completed for progression in the program. Special students are nondegree students taking courses, not to exceed 12 semester or 16 quarter hours, while not admitted to a specific program.

Uniform Credit System

One credit hour of academic credit consists of three hours of work per week throughout the term, usually one hour of class contact and two hours of outside work. When students are registered for thesis credits, directed study, or internship, the appropriate number of credit hours will be determined

using the same method. Programs may vary the ratio of class time to preparation time depending on the learning outcomes and accreditation standards appropriate in their field(s).

A quarter hour is evaluated as three-quarters of a semester hour.

When students are registered for thesis credits, directed study, or internship, the appropriate number of credit hours will be determined using the same method.

Additional information on course and credit guidelines can be found here (p. 50).

Undergraduate Credit for Graduate Courses

Undergraduate students who are juniors or seniors may enroll in graduate courses for credit toward their undergraduate degrees if they meet all prerequisites as determined by the graduate director and they receive permission from the instructor of the course and from the student's undergraduate academic advisor.

Time Limit for Course Credit

Course credits earned in the program of graduate study, or accepted by transfer, are valid for a maximum of seven years unless the relevant graduate office grants an extension.

Academic Progression

Grades submitted to satisfy, in whole or in part, the requirements for any graduate degree or certificate of advanced study must yield a cumulative GPA of 3.000 or higher. This requirement may be supplemented by additional restrictions established by the graduate office such as, but not limited to, the maximum number of individual courses with grades below 3.000 that may be obtained without being required to withdraw or a minimum GPA in each semester.

Students falling below 3.000 will be placed on academic probation. If the student remains on academic probation for two terms, they may be terminated from the graduate program. A PhD student will be considered to be on academic probation if their cumulative GPA falls below 3.000 and/or if they are not making acceptable research progress as defined by the college through an academic review process that occurs at least annually.

No more than two nonrepeatable courses may be retaken to satisfy the curricular requirements for the degree. A specific course may not be retaken more than once. The last grade earned in each of the retaken courses will be counted in the calculation of the cumulative GPA. Courses with a specified attribute of "repeatable" can be repeated up to the specified limit, and the earned grade in each occurrence of course completion will count toward the calculation of the cumulative GPA.

Any incomplete grades must be cleared in accordance with the university's policy concerning incomplete grades (p. 61).

Language Requirements

The committee in charge of the degree program may establish a language requirement.

Required Training

Graduate programs may require relevant training that all of the program' s students must complete by deadlines communicated by the university or by the student's graduate program advisor.

Regulations and Requirements for Graduate Certificate Programs

Certificates That Appear on the Transcript

DEFINITION

A graduate certificate program is a program of study requiring at least three graduate courses and not fewer than 12 semester hours or 16 quarter hours of graduate credit. Successful completion of such a certificate program will be recorded on the student's transcript. Appropriate graduate credits taken as part of a graduate certificate program may be counted toward a graduate degree, at the discretion of the graduate degree program.

ADMISSION

All students admitted to a certificate program must satisfy the general requirements for admission as a graduate student and the requirements for the specific certificate program.

PROCEDURES FOR THE APPROVAL OF NEW CERTIFICATE PROGRAMS

New certificate programs are developed following the procedure outlined in the Guidelines for New Degree Programs found on the Office of the Provost website. (https://provost.northeastern.edu/policies/.html)

All new certificate programs require the approval of the University Graduate Curriculum Committee and notification of the Faculty Senate.

PROCEDURES FOR CERTIFICATE PROGRAM REVIEW

Certificate programs will be reviewed in the context of departmental reviews. Information about these reviews can be found on the Office of the Provost website. (https://provost.northeastern.edu/policies/)

GENERAL REGULATIONS

Except as indicated herein, certificate programs shall be subject to the same regulations and procedures as master's degree programs.

TRANSCRIPT NOTATION

Only approved degrees, certificates, and concentrations appear on the transcript.

Regulations and Requirements for the Master's Degree

Admissions Requirements

All students admitted to a master's program must satisfy the general requirements for admission as a graduate student and the requirements for the specific master's program. To be eligible for admission, with the exception of PlusOne students, applicants must have a bachelor's degree from an accredited college or university.

Course Requirements

A candidate for the master's degree must satisfactorily complete an approved program conforming to the requirements of the graduate school and department or program in which the candidate is registered.

The requirements for the master's degree are a minimum of 30 semester hours beyond the bachelor's degree, except in the College of Professional Studies in which 45 quarter hours of graduate work are required. Undergraduate-level coursework will not be accepted to meet the requirements for the master's degree.

Comprehensive Examination

The committee in charge of the degree program may require a final written or oral comprehensive examination(s) for partial fulfillment of degree requirements.

Thesis

If a thesis is required in partial fulfillment of degree requirements, it must show independent work based, in part, on original material and must meet the approval of the student's thesis committee. The committee in charge of the degree program is responsible for providing instructions concerning preparation of the thesis.

The student must submit the thesis to ProQuest (or a university-sanctioned successor system) according to the time schedule provided by the relevant graduate office. Information on archiving a thesis is available in the relevant graduate office.

Regulations and Requirements for PlusOne Degree Combinations

"PlusOne program" refers to any program in which students accelerate the attainment of the postbaccalaureate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees.

Credit Sharing

Not more than four graduate courses or 16 semester hours (or 21 quarter hours), whichever is greater, taken while a student is in undergraduate status and participating in an accelerated master's (so-called PlusOne) program at Northeastern University, may be used to satisfy the requirements for both the undergraduate and graduate degrees. Exceptions to this credit-sharing limit (due to significantly higher credit requirements for the graduate degree or other special provisions) must be approved through governance processes.

Use of Master's-Level Credits Earned While in Undergraduate Status

Unless they have been accepted into and are enrolled in a designated PlusOne program before the undergraduate degree is conferred, students who took graduate classes to fulfill requirements toward an undergraduate degree at Northeastern may not use those credits later toward a master's degree. If the student took graduate classes resulting in credits beyond those used for the undergraduate degree program (were not used in undergraduate degree audit), those credits may be considered for use toward a subsequent degree program. If course credits are used toward both the undergraduate and graduate degrees in a PlusOne, they cannot be used for other credentials (e.g., a certificate).

Graduate course credits earned while a student was in undergraduate status and enrolled in a designated PlusOne program, used to fulfill requirements toward the undergraduate degree, and eligible to be applied toward the designated PlusOne master's degree program must be designated for such use within the subsequent three academic years after the student receives the bachelor's degree in which those credits were earned.

Regulations and Requirements for Professional Doctorate Degree Programs

Admissions Requirements

A student enrolled in a professional doctorate degree program must satisfy the general requirements for admission as a graduate student and the requirements for the specific professional doctorate degree program. To be eligible for admission, applicants must have a bachelor's degree from an accredited college or university.

Academic Classification and Degree Candidacy

- Doctoral student: Students in this classification have been admitted to a doctoral program.
- Doctoral candidate: Each program in which the term candidacy is used shall have a policy defining candidacy. Students in this classification will have completed all departmental, college, and university requirements except for the dissertation (if applicable). These requirements vary by program but minimally include completion of approximately 30 semester hours or 45 quarter hours of acceptable graduate work beyond the bachelor's degree or possession of a previously earned master's degree that is acceptable to the department and certification by the graduate office. The requirements frequently include a comprehensive examination and/or a proposal defense.

Academic Residency Requirement

In the context of a doctoral degree program, the residency requirement refers to either:

- A minimum number of credits or semesters that must be completed at the degree-granting institution
- A minimum duration during which the degree candidate must be enrolled full-time at the degree-granting institution

In those programs in which the term candidacy is used, after reaching candidacy, students must register for Dissertation for a minimum of two semesters in order to fulfill their formal residency requirement. Continuation status enrollment is for students who are postcandidacy, have completed all coursework and their residency requirement, and are actively engaged in completing a dissertation.

Responsible Conduct of Research

All doctoral students for whom Responsible Conduct of Research training is required must complete training according to the university's Policy on Responsible Conduct of Research (https://policies.northeastern.edu/policy500/).

Course Requirements

A candidate for the professional doctorate degree must satisfactorily complete an approved program conforming to the requirements of the graduate school and department or program in which the candidate is registered.

The requirements for the professional doctorate degree shall be determined by the program.

Undergraduate-level coursework will not be accepted to meet the requirements for the professional doctorate degree.

Qualifying Examination(s)

In departments that require qualifying examinations, students must be notified in writing of the nature and regulations governing these examinations and of how their performance on the examinations will affect their normal progress toward the degree. The graduate office shall be made aware of the department regulations concerning such examinations.

Dissertation Committee

For programs requiring the dissertation, the dissertation committee shall have at least three members, two of whom shall be from Northeastern University. The chair of the dissertation committee will be a faculty of Northeastern and will hold an appropriate terminal degree for the discipline. Exceptions to this policy may be granted by the dean of the relevant college (or their designee) based on the qualifications and experience of the faculty member who would serve as chair.

Comprehensive Examination

For programs requiring a comprehensive examination, the committee in charge of the degree program may require a final written or oral comprehensive examination(s) for partial fulfillment of degree requirements.

Thesis or Dissertation in Practice

If a thesis or dissertation in practice is required in partial fulfillment of degree requirements, it must show independent work based, in part, on original material and must meet the approval of the student's thesis committee. The committee in charge of the degree program is responsible for providing instructions concerning preparation of the thesis.

The student must submit the thesis to ProQuest (or a university-sanctioned successor system) according to the time schedule provided by the relevant graduate office. Information on archiving a thesis is available in the graduate office.

Time Limitation for Achieving Candidacy and Degree Completion

For programs in which the term candidacy is used, degree candidacy must be achieved within three years of entering the doctoral program. For all programs, the degree must be completed within seven years after entering the program. A student may request an extension of these time frames from the graduate office.

Pursuit of an Academic Credential Outside Student's Major

A student enrolled in a doctoral program may seek to pursue academic credentials (e.g., master's degree or certificate) outside of their major only if, prior to completing more than one-third of the required credits for that credential, they obtain the approval of their primary advisor, obtain the approval of the graduate office, and apply to and are accepted into the major offering that credential.

Regulations and Requirements for the Certificate of Advanced Graduate Study

The Certificate of Advanced Graduate Study provides specialized study above the master's degree. It is a course of study that falls between the master's and doctoral degree and culminates in a graduate certificate.

Admissions Requirements

An applicant for the CAGS must hold a master's degree in a related field from an accredited institution and must complete the admission procedure described in the material of the graduate schools. All students admitted to a CAGS program must satisfy the general requirements for admission as a graduate student and the requirements for the specific CAGS program.

Course Requirements

A candidate for the CAGS must satisfactorily complete an approved program conforming to the requirements of the graduate school and department or program in which the candidate is registered. The candidate must complete a minimum of 24 semester hours or, in the case of the College of Professional Studies, 32 quarter hours of credit beyond the master's degree.

Regulations and Requirements for Doctor of Philosophy (PhD) Programs

The formal requirements for the PhD degree are the following: completion of the coursework mandated by the individual degree program, fulfillment of the residency requirement, formal training in the Responsible Conduct of Research for students as appropriate, qualifying and/or comprehensive examination(s) or equivalent as required by the degree program, continuous registration, a final oral examination conducted by the student's PhD committee, and submission of a dissertation to the relevant graduate office and to ProQuest (or a university-sanctioned successor system) for archiving. The dissertation must be based on original and independent research.

Admissions Requirements

All students admitted to a doctor of philosophy program must satisfy the general requirements for admission as a graduate student and the requirements for the specific PhD program.

Academic Classification and Degree Candidacy

1. Doctoral student: Students in this classification have been admitted to a doctoral program.
2. Doctoral candidate: Every degree program shall have a policy defining candidacy. Students in this classification will have completed all departmental, college, and university requirements except for the dissertation. These requirements vary by program but minimally include completion of approximately 30 semester hours of acceptable graduate work beyond the bachelor's degree or possession of a previously earned master's degree that is acceptable to the admissions committee and certification by the graduate office. The requirements frequently include a comprehensive examination and/or a proposal defense.

Academic Residency Requirement

In the context of a doctoral degree program, the residency requirement refers to either:

1. A minimum number of credits or semesters that must be completed through the degree-granting institution
2. A minimum duration during which the degree candidate must be enrolled full-time at the degree-granting institution

After reaching candidacy, students must register for Dissertation for a minimum of two consecutive semesters in order to fulfill their formal residency requirement. Continuation status enrollment is for students who are postcandidacy, have completed all coursework and their residency requirement, and are actively engaged in completing a dissertation.

Responsible Conduct of Research

All doctoral students for whom Responsible Conduct of Research training is required must complete training according to the university's Policy on (https://www.northeastern.edu/policies/Policy_on_Responsible_Conduct_of_Research.pdf) Responsible Conduct of Research. (https://www.northeastern.edu/policies/Policy_on_Responsible_Conduct_of_Research.pdf)

Course Requirements

The program committee in charge of the degree program specifies the doctoral course requirements.

Requirements for Candidacy

In programs that require qualifying examinations, students must be notified in writing of the nature and regulations governing these examinations and of how their performance on the examinations will affect their normal progress toward the degree. The graduate office shall be made aware of the program regulations concerning such examinations.

Annual Review of Student Progress

Units shall define milestones for achieving satisfactory academic progress and shall establish a published process by which the academic progress of every PhD student will be evaluated through an annual review. A copy of each review shall be submitted to the student and the graduate office. If the annual academic review reports that a student is not making sufficient academic progress due to research performance, the PhD student will be placed on academic probation. After two consecutive semesters on academic probation, the student may be dismissed.

PhD Dissertation Committee

The dissertation committee shall have at least three faculty members, two of whom shall be from Northeastern University. The chair of the dissertation committee (who is presumed to be the thesis advisor) will be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD (or other research doctorate) or an appropriate terminal degree for the discipline. Colleges, the provost, or provost-designee may permit full-time faculty from other ranks: 1) on a case-by-case basis to serve in this role based on the research qualifications and experience of individual faculty members or 2) based on equivalent faculty definitions at locations operating under different faculty rank systems.

The PhD committee should be appointed early enough to advise in the formulation of the student's program and in refining the research topic for the dissertation. Within the constraints of the above criteria, the PhD program faculty will determine the process by which dissertation committees are established. The final list of dissertation committee members shall be reported to the college's associate dean for graduate education or administrative unit managing the degree program.

If a student's major advisor leaves Northeastern (including transition to emeritus status), that person may continue the research direction of the dissertation or thesis. However, a co-advisor must be appointed from the academic department or program. The student will then have two advisors, one an official member of the Northeastern faculty who will be available for research and administrative matters and the ex-Northeastern advisor. If a new major advisor is appointed, the former Northeastern faculty member may serve as an outside member of the committee.

Comprehensive Examination(s) and/or Proposal Defenses

Degree programs may require a comprehensive examination(s) and/or an oral defense of the dissertation proposal as the final step before becoming a PhD candidate. The purpose of the comprehensive examination(s) is to test the knowledge and skills of the student in a particular area and their knowledge of recent research developments in the field. The administrative home unit for each PhD program shall establish the process by which comprehensive examination committees are established. Units may require an oral defense of the dissertation proposal in lieu of, or in addition to, a comprehensive examination.

Dissertation

Candidates for the degree of Doctor of Philosophy must complete a dissertation that embodies the results of extended research and makes an original contribution to the field.

Oral Defense of the Dissertation

An oral defense of the dissertation is required and must be held at least 14 calendar days before the degree conferral date. The defense shall be public and conducted with the committee members present either in person or via electronic means. After the public session, a private session may be held to examine material that is subject to a confidentiality agreement. Following the presentation, the candidate will field questions from the committee in public or private. In the case where neither the candidate nor the committee members are present in person on campus (i.e., the candidate and all committee members are connected only remotely via electronic means), there shall be a location established and technology enabled for public, in-person attendance of the defense by the university community and this accommodation made known to the university.

Submission of the Dissertation

The student must submit the dissertation to ProQuest (or a university-sanctioned successor system) according to the time schedule provided by the relevant graduate office.

Time Limitation for Achieving Candidacy and Degree Completion

Degree candidacy must be achieved within three years of entering the PhD program, and the PhD degree must be completed within seven years after entering the PhD program. A student may request an extension of these time frames from the graduate office.

Pursuit of an Academic Credential Outside Student's Major

A student enrolled in a PhD program may seek to pursue academic credentials (e.g., master's degree or certificate) outside of their major only if, prior to completing more than one-third of the required credits for that credential, they obtain the approval of their primary advisor, obtain the approval of the graduate office, and apply to and are accepted into the major offering that credential.

Regulations and Requirements for Interdisciplinary Graduate Degrees

Northeastern University offers both university- and college-approved interdisciplinary graduate programs for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. The program will correspond in scope and depth to Northeastern's established degree standards but need not agree exactly with the regulations of individual units.

The general regulations and requirements for graduate programs apply to all interdisciplinary programs. Additional requirements are as follows.

Interdisciplinary degrees approved by the Board of Trustees and with curriculum listed in the Graduate Catalog will be administered by a unit designated by the provost. The unit may be within the Office of the Provost or within a college. Faculty oversight of these programs will be through a designated program committee or oversight group. For programs in colleges, the processes followed shall be determined by that unit. For degree programs administered through the Office of the Provost, a faculty group appointed by the provost will provide the faculty oversight.

Definitions

- "College" refers to the College of Arts, Media and Design; the Bouvé College of Health Sciences; the D'Amore-McKim School of Business; the Khoury College of Computer Sciences; the College of Engineering; the College of Professional Studies; the College of Science; the College of Social Sciences and Humanities; the School of Law; and Mills College at Northeastern.
- "Graduate office" refers to either the designated graduate administration office in the a college (as defined above) or an equivalent academic and academic support office that exists outside a college that serves the functions of a college-based graduate office.
- "Graduate program" refers to all postbaccalaureate degree, nondegree, and certificate programs and packages of courses offered for graduate credit. Graduate programs shall not include programs or courses that are offered by the School of Law in support of the JD or LLM degree.

PhD Programs

Overview

Northeastern University offers the following PhD programs. The Experiential PhD (p. 107) page has additional information on doctoral programs that connect Northeastern to industry, government, and nonprofit partners.

B

- Bioengineering, PhD (p. 349)
- Biology, PhD (p. 940)
- Biomedical Science, PhD (p. 694)

C

- Chemical Engineering, PhD (p. 366)
- Chemistry, PhD (p. 953)
- Civil and Environmental Engineering, PhD (p. 382)
- Computer Engineering, PhD (p. 411)
- Computer Science, PhD (p. 267)
- Counseling Psychology, PhD (p. 634)
- Criminology and Justice Policy, PhD (p. 1052)
- Cybersecurity, PhD (p. 302)

E

- Economics, PhD (p. 1060)
- Electrical Engineering, PhD (p. 419)
- English, PhD (p. 1067)

H

- History, PhD (p. 1075)
- Human Behavior and Sustainability Sciences, PhD (p. 980)
- Human Movement and Rehabilitation Sciences, PhD (p. 620)

I

- Industrial Engineering, PhD (p. 475)
- Interdisciplinary, PhD (p. 104)
- Interdisciplinary Design and Media, PhD (p. 147)
- Interdisciplinary Engineering, PhD (p. 357)

M

- Marine and Environmental Sciences, PhD (p. 975)
- Mathematics, PhD (p. 991)
- Mechanical Engineering, PhD (p. 478)
- Medicinal Chemistry and Drug Discovery, PhD (p. 701)

N

- Network Science, PhD (p. 273)
- Nursing, PhD (p. 669)

P

- Personal Health Informatics, PhD (p. 314)
- Pharmaceutics and Drug Delivery, PhD (p. 707)
- Pharmacology, PhD (p. 713)
- Physics, PhD (p. 1005)
- Political Science, PhD (p. 1082)
- Population Health, PhD (p. 646)
- Psychology, PhD (p. 1024)
- Public Policy, PhD (p. 1093)

S

- School Psychology, PhD (p. 636)
- Sociology, PhD (p. 1126)

PhD Network

The Northeastern University PhD Network is designed to build distinctive Experiential PhD (p. 107) opportunities and community among PhD students, providing students with support and resources universitywide to enhance their educational experience and career exploration.

At Northeastern, every PhD student has opportunities to acquire experience beyond traditional dissertation research. Exposure to and integration with our many industry and academic partners—through internships, fieldwork, and other collaborations—and in authentic settings—from laboratories, startup companies, and nonprofit institutions—lead to research with greater impact and broader career opportunities, both within and beyond academia. The PhD Network works with internal and external partners to grow and facilitate opportunities for PhD students.

Shared values unite PhD-centered activities at Northeastern:

- **Excellence with purpose:** All PhD programs combine academic rigor with societal impact, preparing critical thinkers to tackle the world's most challenging problems.
- **Innovative thinking:** Our education programs, mentoring activities, and research scholarship develop novel content and pathfinding approaches.
- **Crossing boundaries:** PhD students transcend disciplinary and international boundaries during their innovative educational journey.
- **Integrative education:** The integration of scholarship and research training with collaborative fieldwork and professional development provides a uniquely experiential education.
- **Inclusive diversity:** Students and faculty from diverse cultures and backgrounds drive excellence by bringing a wide range of perspectives to our distinctive programs.

Explore the PhD Network website (https://phd.northeastern.edu/network/resources/) to learn more about:

- Resources that support PhD students' educational, professional, and personal lives
- Events created especially for PhD students, both at Northeastern and through our partners
- Funding in support of fellowships, internships, and conference attendance

Interdisciplinary PhD - Overview

Offering an individually tailored program of study, the Northeastern University Interdisciplinary Doctor of Philosophy program enables students to draw from the disciplines supporting their fields of research and provides flexibility to train the next generation of transdisciplinary and multidisciplinary researchers who will be needed to tackle society's most pressing problems that cross disciplinary boundaries.

The graduate group, consisting of faculty from across Northeastern, provides the overarching faculty oversight to the curriculum that is expected to cross multiple Northeastern colleges. The Interdisciplinary PhD option will only be available when the desired research curriculum cannot be supported by one of Northeastern's existing PhD programs. This PhD program is administered by the Office of the Provost.

Minimum academic standards, oversight, requirements, and milestones related to this new PhD are described below.

GRADUATE GROUP

This refers to the faculty committee that will provide academic oversight for the PhD program as a whole.

DISSERTATION COMMITTEE

Established by the graduate group for each PhD student, the dissertation committee consists of at least three faculty qualified to supervise the student's research and establishes the curriculum requirements in support of the PhD student's anticipated dissertation research. There should be at least one dissertation committee member representing each discipline associated with the proposed PhD, and it is strongly encouraged that an external individual is added as a fourth member of the dissertation committee. This external member must be qualified to supervise and guide PhD-level research. The dissertation committee also establishes the milestone requirements, specifically the format for the qualifying exam at the time of admission. One member of the dissertation committee will serve as the committee chair. Cochairs are permitted and encouraged to guide research at the intersection of disciplines.

AREA OF SPECIALIZATION

Students select an area of specialization, supported by their approved coursework and research areas and denoted on the student's transcript. The area of specialization will be recommended by the dissertation committee. The graduate group will review these areas of specialization within the context of existing PhD specializations. The graduate group will make the final decision about the area of specialization for each student. Area of specialization should be established by the end of the first year of academic study.

ADMISSION TO CANDIDACY

The admission to candidacy recognizes the wide range of disciplines that may participate in in this degree. To reach candidacy, PhD students must demonstrate their research ability through the application and synthesis of skills and knowledge and their ability to pose questions and solve problems. Students should achieve candidacy by the end of the second year of study. The admission to candidacy will include an assessment about the candidate's ability to perform societally impactful research by an external evaluator. Students who require more than

18 months to meet the requirements for candidacy will need to petition the dissertation committee and the graduate group to request extended time. Candidacy will be achieved with the following:

- The qualifying examination subject areas will be established at the time of admission, which will be aligned with the student's proposed research project. A representative from the graduate group will convene the dissertation committee for the qualifying exams. To assess the student's ability to perform impactful research, it is strongly recommended that an evaluator outside Northeastern (and not a member of the dissertation committee) be included as an examiner. The qualifying examination will normally include a written exam, oral exam, response to a journal paper, and/or other format deemed acceptable by the dissertation committee for the involved disciplinary areas.
- Progression to candidacy may also require a research paper requirement. Any paper requirements will be communicated at admission.
- The committee may require a presentation from the student before making its recommendation.

DISSERTATION PROSPECTUS/PROPOSAL

After the student has achieved sufficient depth in a field of study, the student prepares a proposal for a PhD dissertation. This process should take place within a year of achieving candidacy. The dissertation proposal describes the proposed research, including the relevant background materials from literature. The proposal should clearly specify the research questions to be addressed, the methods to be used, and a schedule of milestones to completion. A representative from the graduate group will convene the dissertation committee for the dissertation proposal. The dissertation proposal must be approved by the dissertation committee. It is strongly encouraged that the dissertation committee include an individual qualified to guide the research from outside Northeastern. Upon approval of the written proposal, the student must present the proposed work orally in a public forum, followed by a closed-door oral examination from the dissertation committee. The dissertation committee will submit the dissertation proposal results to the representative from the graduate group who will review and communicate the results to the student. The student may take the dissertation proposal examination twice, at most.

DISSERTATION DEFENSE

The dissertation defense is held in accordance with the bylaws of the University Graduate Curriculum Committee of the Northeastern Faculty Senate. The defense is convened by a representative from the graduate group and is chaired by a Northeastern faculty member approved by the graduate group and outside the dissertation committee. The dissertation committee will include an external examiner who is an individual with expertise in the area of study but not affiliated with the Northeastern global campus system or previously involved with the student's research. The defense chair will communicate the results to the PhD candidate.

Interdisciplinary PhD - Bachelor's Degree Entry

Program Requirements for Bachelor's Degree Entry

Milestones

Core requirements *(curricula established by the dissertation committee)*
Annual progress review
Admission to candidacy
Qualifying examination
Dissertation prospectus/proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 30 semester hours of coursework in consultation with your dissertation committee.		30

The dissertation committee will provide oversight in coursework selection, provided that each student has training (via courses or experience) in prerequisite domain knowledge, research methods, and specific contexts. Students are required to enroll in a minimum of 30 semester hours of coursework approved by the dissertation committee. This coursework may include traditional courses, special topics courses, independent study, and discussant or other coursework taken via partner institution. The coursework should also include opportunities to develop the professional skills (such as communication, teaching, and leadership) required for the student's field of research. Courses delivered at a partner outside Northeastern University may satisfy these course requirements provided an education or experiential PhD agreement exists with that organization. The dissertation committee will ensure that the 30 semester hours represent a balance of coursework across domain knowledge, research methods, application contexts, research integrity, colloquia, the research itself, and professional development. The dissertation committee should submit a plan of study to the graduate group during the first semester of a PhD student's enrollment.

Program Credit / GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Interdisciplinary PhD - Master's Degree Entry

Program Requirements for Master's Degree Entry

Milestones

Core requirements *(curricula established by the dissertation committee)*
Annual progress review
Admission to candidacy

Qualifying examination
Dissertation prospectus/proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 12 semester hours of coursework in consultation with your dissertation committee.		12

The dissertation committee will provide oversight in coursework selection, provided that each student has training (via courses or experience) in prerequisite domain knowledge, research methods, and specific contexts. Students are required to enroll in a minimum of 12 semester hours of coursework approved by the dissertation committee. This coursework may include traditional courses, special topics courses, independent study, and discussant or other coursework taken via partner institution. The coursework should also include opportunities to develop the professional skills (such as communication, teaching, and leadership) required for the student's field of research. Courses delivered at a partner outside Northeastern University may satisfy these course requirements provided an education or experiential PhD agreement exists with that organization. The dissertation committee will ensure that the 12 semester hours represent a balance of coursework across domain knowledge, research methods, application contexts, research integrity, colloquia, the research itself, and professional development. The dissertation committee should submit a plan of study to the graduate group during the first semester of a PhD student's enrollment.

Program Credit / GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Experiential PhD

Overview

The future of research will be collaborative. Researchers across academic institutions, industry, government, and other organizations will team up to solve complex real-world problems. Researchers will require technical proficiency as well as the ability to work with others, form teams, manage projects, and more—skills that go beyond the classroom. At Northeastern University, every PhD student and postdoctoral research associate has opportunities to acquire experiences beyond traditional research. Exposure to and integration with our many partners through unique programs in authentic settings from laboratories to startup companies to nonprofit institutions leads to greater impact and broader career opportunities, both within and beyond academia.

Northeastern's Experiential PhD programs offer such opportunities for current Northeastern PhD students and postdoctoral research associates and for full-time master's-level employees at companies, laboratories, and organizations who want to pursue a doctoral degree at Northeastern. The former occurs through the LEADERs program (p. 107), while the latter occurs through the Industry PhD program (p. 108). Traditional internships and sponsored research agreements are available to Northeastern students.

The LEADERs program is designed to enable researchers to develop professional skills through authentic career exploration opportunities at organizations in industry, government, and the nonprofit sector. Beyond the comfort zone of their own university research group, PhD students and postdoctoral research associates encounter new experiences that help shape their research perspective. They also bring fresh ideas and talent to their host organizations. Northeastern is one of the only universities in the world to offer students in all of its research-based doctoral-degree programs the option to learn and pursue research outside of their primary research group. These real-world placements are highly flexible and customizable, tailored to meet the needs of both Northeastern's PhD students and postdoctoral research associates and our institutional partners.

The Industry PhD is a first-of-its kind research-based doctoral program for full-time master's-level employees. Designed with input from external partners, employees pursue a research-based doctoral degree while maintaining their job and conducting research at the employer site. This enables employees to acquire new skills that will help them to advance in their careers and provides the organization with an opportunity to invest in their future leaders. By working closely with Northeastern faculty, employees will explore their research from a broader scientific perspective, enabling them to appreciate the research foundation of their day-to-day work and to pursue new areas of research for the company.

Experiential PhD programs offer robust benefits to both students and institutional partners. Students solve complex problems as part of their education and chart careers as future innovators. Our institutional partners receive many benefits as well, including:

- A deeper engagement in rapidly evolving fields of research
- Access to university facilities and senior faculty expertise
- Opportunities for senior leadership to mentor and copublish with students and to serve on their dissertation committees
- A chance to recruit emerging talent
- Opportunities to partner with Northeastern, an entrepreneurial research university known for its innovative collaborations with academia, government, and industry

Experiential PhD Leadership, Graduate Certificate

At Northeastern University, PhD students enjoy a uniquely broad range of immersive opportunities to expand critical inquiry, learn, perform original research, and chart a path to professional success. Experiential PhD opportunities enable PhD students to step outside the comfort zone of their campus research group where students can pursue challenging, creative, customized assignments within industry, government, or the nonprofit sector that inform and enhance their pursuit of a research doctorate.

This Graduate Certificate in Experiential PhD Leadership aims to:

• **Challenge students to address complex problems** through experience within the context of real-world needs and challenges faced by industry, government, or nonprofit-sector organizations, broadening students' view of stakeholders and impact, shaping the very questions they raise and answer.

• **Equip students for a lifetime with the cultural agility, creativity, and professional skills**—public speaking and communications, meeting goals and expectations (e.g., project management for personal and professional purposes), teamwork, leadership, peer influence, leading from the middle—that they will need to translate their findings into impactful solutions.

• **Enrich every student's research group and, ultimately, fields of expertise** by fostering a collaborative, entrepreneurial, innovative approach to knowledge creation that expands their network far beyond academia to include intellectual and professional mentors and collaborators.

This graduate certificate designed for PhD students across all of Northeastern's research-based PhD programs provides students embarking on an experiential PhD with the preparation, project delivery, and guidance for contextual integration within the context of leadership development. All students pursuing this leadership certificate will be mentored by their sponsor supervisor and dissertation advisor(s).

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in each course.

Requirements

Code	Title	Hours
PHDL 7600	Leading Self and Others	4
PHDL 7660	Experiential PhD Challenge Project 1	4
PHDL 7662	Experiential PhD Challenge Project 2	4
PHDL 7666	Contextual Integration	0

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Industry PhD

The Industry PhD is a first-of-its kind research-based doctoral program designed with input from external partners to provide a pathway for full-time master's-level employees. Designed with input from external partners, employees pursue a research-based doctoral degree while maintaining their job and conducting research at the employer site. This enables employees to acquire new skills that will help them to advance in their careers and provides the organization with an opportunity to invest in their future leaders. By working closely with Northeastern University faculty, employees will explore their research from a broader scientific perspective, enabling them to appreciate the research foundation of their day-to-day work and to pursue new areas of research for the company.

Experiential PhD programs offer robust benefits to both students and institutional partners. Students solve complex problems as part of their education and chart careers as future innovators. Our institutional partners receive many benefits as well, including:

- A deeper engagement in rapidly evolving fields of research
- Access to university facilities and senior faculty expertise
- Opportunities for senior leadership to mentor and copublish with students and to serve on their dissertation committees
- A chance to recruit emerging talent
- Opportunities to partner with Northeastern, an entrepreneurial research university known for its innovative collaborations with academia, government, and industry

The Industry PhD is applicable to any of our 35 doctoral programs. Applicants should follow the requirements of the program to which they are applying. In addition, the following Industry PhD terms (https://phd.northeastern.edu/industry-and-experiential-phd-program/) apply.

College of Arts, Media and Design

Website (https://camd.northeastern.edu/)

Elizabeth Hudson, PhD, Dean

Casper Harteveld, PhD, Associate Dean for Graduate Programs
Michael Hoppmann, PhD, Associate Dean for Undergraduate Programs
Deirdre Loughridge, PhD, Associate Dean of Faculty Affairs
Thomas Michael, MBA, Associate Dean for Administration and Finance
Andrea Raynor, MFA, Associate Dean for Network, Global Experience, and Partner Programs
Brooke Welles, PhD, Associate Dean of Research
Timothy Blank, MA, Assistant Dean of Student Experience
Katherine Calzada, MEd, Assistant Dean for Faculty Development
Ian Canning, MBA, Assistant Dean for Mobility, Executive, and Partner Programs

617.373.3682

617.373.5084 (fax)

Graduate Enrollment and Student Services
617.373.5329 or 617.373.2566
gradcamd@northeastern.edu

The College of Arts, Media and Design offers graduate programs that build on existing knowledge and establish innovative areas of inquiry and practice. We work with students to frame, research, and answer transformative questions. Together, we challenge, engage, and shape global cultures and marketplaces.

Our Mission

We create a distinctive experiential education by leveraging emergent practices and scholarship in the arts, media, and design. Our unique combination of disciplines empowers innovative thinking and making. Our students become informed citizens and creative leaders with an entrepreneurial spirit.

Graduate Studies in the College of Arts, Media and Design

Welcome to graduate studies at CAMD. We deliver an outstanding graduate education in traditional areas while exploring new approaches to this generation's transformative questions. Our graduate programs highlight intersectional approaches that bring together human, technological, and data literacies to push the boundaries of our disciplines.

We offer diverse program types to meet individual career and academic goals, including terminal degrees (Doctor of Philosophy, Master of Fine Arts, Master of Architecture); professional degrees (Master of Science, Master of Arts, Master of Design); PlusOne pathways; and Graduate Certificates. Our graduate degree programs are inherently interdisciplinary, led by research faculty across the departments of Art + Design, Architecture, Journalism, Music, and Theatre. Coursework incorporates a range of scholarly, applied, and experiential perspectives, complemented by lively community activities including lecture series, exhibitions, symposia, and more.

This is an exciting time to pursue advanced education and scholarship in creative fields. Never have the arts and culture been so clearly essential to our social, economic, and environmental future: From cultural outreach in underserved communities to designing ethical virtual environments for health and security; from green building innovation to cutting-edge journalism; from provocative performances and thought-provoking installations to incisive data visualizations that change how we view the world—our faculty and students are involved in a wealth of academic endeavors, creative enterprises, and professional experience.

Please use these resources to familiarize yourself with the diverse ranges of programs we offer. Don't hesitate to reach out to the graduate program faculty listed in your fields of interest, and be sure to visit CAMD's graduate programs website (https://camd.northeastern.edu/graduate-students/) often, where you'll find current news and links.

Academic Policies and Procedures

- General Information (p. 111)
- Master's Degree Policies (p. 112)
- Graduate Student Classification (p. 113)

General Information

Four units in the College of Arts, Media and Design offer programs at the graduate level:

- Architecture (p. 114)
- Art + Design (p. 125)
- Interdisciplinary (p. 146)
- Journalism (p. 141)

Master's Degree Policies

The College of Arts, Media and Design graduate studies sets minimum standards for all students to fulfill. In addition, departments and programs may have requirements that exceed the standards outlined below. Finally, the CAMD Graduate Programs General Regulations booklet (found at the college's webpage (https://camd.northeastern.edu/graduate-resources-policies/)) further summarizes the expectations for student conduct, academic life, and the responsibilities of the students and the college to one another.

A candidate for the master's degree must complete a minimum of 30 semester hours of graduate-level coursework and such other study as may be required by the department in which the student is registered. To qualify for the degree, a minimum cumulative grade-point average of 3.000, equivalent to a grade of B, must be obtained. This average will be calculated each semester. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be terminated from the program.

To maintain current student status within CAMD, graduate students must make satisfactory progress in their degree, including working toward the graduation requirement of a GPA of 3.000 and the timely completion of coursework. See the university's policy on academic standing ("Minimum Cumulative GPA (p. 88)").

All students must be registered in the last semester of their program. Any student who does not attend Northeastern University for a period of one year will be required to apply for readmission.

Electives

No more than 8 semester hours of electives may be taken outside of CAMD. Any additional non–CAMD elective hours will not count toward the degree.

Graduate Student Scholarship

Students who are registered in degree programs are eligible for a CAMD Graduate Student Scholarship. Award recipients will receive an official award letter from CAMD graduate studies. Pay attention to this letter as it is an official contract that should be read carefully. The GSS is contingent on satisfactory academic progress toward the degree and meeting department-specific guidelines. Recipients must be in full-time status and be registered for a minimum of 8 semester hours. Note, however, that recipients remain eligible for the GSS in their final semester even if they are enrolled in less than 8 semester hours. Receipt of financial support administered by CAMD graduate studies requires that all students receiving awards must maintain a 3.000 cumulative GPA. Students whose cumulative GPA is below 3.000 will be placed on academic probationary status and are not eligible to receive the award while on probation. The GSS can be reactivated by raising the cumulative GPA to 3.000 in the subsequent semester; students who do not meet the minimum GPA requirement at the end of the next semester cannot receive additional probationary periods.

Leave of Absence

Full-time students who are not involved in any academic endeavor for a period of time are required to petition the manager of student services, through their department, for a leave of absence (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/) by completing the leave of absence petition through the Student Hub (https://me.northeastern.edu). CAMD graduate studies will not accept retroactive leave requests. Note that if a student is requesting a leave for medical reasons, students should contact University Health and Counseling Services (http://www.northeastern.edu/uhcs/forms/) at 617.373.2772. Leaves of absence generally are not approved for more than one calendar year at a time. International students must consult with an advisor at the Office of Global Services (https://international.northeastern.edu/ogs/) for proper guidance. Leaves of absence are not appropriate for master's degree students who are working on a thesis but are away from the Northeastern campus. Except in the case of medical leaves, being on an approved leave of absence does not extend the amount of time allowed for degree completion or the makeup of incomplete grades.

Time Limitation

For the master's degree, course credits earned in the program of graduate study are valid for a maximum of seven years.

If students wish to apply for an extension of the time limit, they must submit a petition to their department of study. The petition must include a detailed plan for completion of all remaining degree requirements. In the case of time-limit extension requests for master's degree coursework, the department must certify that the content of each of the courses has not changed since the time the student completed the course. If deemed appropriate, the department will recommend approval of the extension to CAMD graduate studies.

Changes in Requirements

The continuing development of CAMD graduate studies forces regular revision of curricula. When no hardship is imposed on the student because of changes and the facilities (e.g., equipment, technology, studios, etc.) of the college permits, the student is encouraged to meet the more recent program requirements. This requires application to change the catalog term of the student's program of study. To accomplish this, the student's advisor can assist the student with the process of applying to change catalog term. However, if it can be demonstrated that doing so imposes a substantial hardship, the requirements of the year in which the student matriculated will be applicable.

Thesis

Theses are required in some programs and should demonstrate the individual's capacity to execute independent work based on original material. Registration for the thesis course is required. Theses must be approved by the departmental graduate committee and must receive a grade of B (3.000) or better to be accepted. Students who have not completed their thesis after having registered for the specified number of thesis credits must register and pay for Thesis Continuation.

Graduate Student Classification

Regular Student

Those students who are admitted to a degree program.

Conditional Student

Students whose admissions files are missing documentation. A student who has not provided required documentation for admission by the due date for final grades for the student's first academic term will not be permitted to register for a future term.

Special Student

Special students are enrolled on a part-time basis (no more than 6 semester hours per semester). Credit can be earned for a maximum of 12 semester hours over time. Students interested in taking more than 12 semester hours must make a formal application to the degree program through Northeastern University's online application portal (https://app.applyyourself.com/AYApplicantLogin/fl_ApplicantConnectLogin.asp?id=neu-grad). Special students who do not register for four consecutive semesters (excluding summer semester) will be subject to review and possible withdrawal by CAMD graduate studies.

Student Status

For academic purposes, a graduate student is considered a full-time student if enrolled in a minimum of 8 semester hours of credit for the semester, with the following exceptions:

- A student is considered full time if enrolled in a full-time co-op (p. 76).
- Students enrolled in Dissertation or Continuation are considered full time.

Note: Full-time status may be defined differently for federal loan purposes. For information, contact Student Financial Services (https://studentfinance.northeastern.edu/), 617.373.5899.

School of Architecture

Website (https://camd.northeastern.edu/architecture/)

Daniel Adams, MArch
Associate Professor and Director of the School of Architecture
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Master of Architecture

Northeastern University offers a Master of Architecture degree accredited by the National Architectural Accrediting Board (http://www.naab.org).

The program leverages the school's outstanding faculty and pragmatically grounded curriculum. The physical and cultural context of Boston serves as a laboratory for the program's design studios and is design focused but with a different approach than many schools. We find opportunities for innovation within the real estate and construction industries and current policy debates—rather than outside them. This is how we intend to move architects to the center of the discussion about the future of our cities.

Students take courses in urban housing, practice-integrated design, and do original research on market-driven building types. The final degree project in the design studio offers an opportunity to leverage this research with real innovations in hybrid types, strategic alterations to existing ones, and to take on the challenge of finding prototypical solutions for systemic problems.

In addition to studio courses, graduate students take seminars in architectural theory and design strategy; and electives are available in real estate development, sustainable building techniques, urban landscape, and other topics. There is also a unique course that looks at case studies of architecture firms in practice, problem solving, and innovation. We seek to have students leave our program with a unique balance of technical, theoretical, and strategic tools to make a real difference in the profession.

Master of Design for Sustainable Urban Environments

The Master of Design for Sustainable Urban Environments (MDes-SUEN) brings together the allied professional fields of environmental design, landscape architecture, and urban planning to offer advanced study and research opportunities in the design of ecologically and economically productive urban environments. The program seeks to supply graduates for the rapidly growing field of sustainable urbanism through a dynamic curricular mix of design, dialogue, and technical courses, enriched by diverse interdisciplinary electives.

The pedagogic and research focus of the MDes is the design, implementation, and management of sustainable urban environments from the scale of individual parcels to regional systems. Key topics include brownfield and waterfront revitalization, sustainable and secure pedestrian environments, urban habitat design and management, and green and blue infrastructure design and planning with an emphasis handling increased storm water and tidal influx in the urban landscape.

The MDes is a unique program of study in which urban landscape design, planning, and policy dovetail with environmental engineering, environmental science, art, and visualization. Boston's history of innovation in environmental design as well as its legacy of urban redevelopment provide a rich backdrop and laboratory of urban, infrastructural, and ecological prototypes that ideally position the program to creatively and critically explore local issues with global implications.

Contemporary urban theory includes a significant body of writing in the area of "Landscape-" and "Ecological-Urbanism," a critical discourse that looks at the full range of environmental strategies for urban sites with an emphasis on ecological thinking. The paradigm of sustainable environmental design is moving away from form-based planning toward dynamic ecosystem services. This program seeks to prepare students to be innovative and entrepreneurial designers able to combine economic, environmental, and social priorities to make next-generation public spaces and systems.

Programs

Master of Architecture (MArch)

- One-Year Program (p. 115)
- Two-Year Program (p. 116)
- Three-Year Program (p. 118)
- Three-Year Program—Advanced Degree Entrance (p. 120)

Master of Design for Sustainable Urban Environments (MDes-SUEN)

- One-Year Program (p. 122)
- Two-Year Program (p. 123)

Master of Architecture—One-Year Program

This program gives eligible candidates the opportunity to get a NAAB-accredited (http://www.naab.org) Master of Architecture degree in one year.

Open to candidates with either a Bachelor of Science in Architecture from Northeastern University or a professional Bachelor of Architecture degree from an accredited North American program with at least one year of IDP-approved professional experience.

Students engage in a two-semester research and design project based on pertinent contemporary topics chosen by the graduate faculty, or students may propose an independent research and design project. Team research is conducted and compiled into online and physical research books. This body of compiled research then becomes the basis of the intellectual framework for the individual students' design projects. This final degree project parallels an in-depth two-semester professional practice sequence that analyzes all of the contingencies of successful architectural projects, including architectural offices and their project management strategies, real estate development criteria, and associated project finance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Professional Practice		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 6330	Seminar in Modern Architecture	4
ARCH 6340	Graduate Topics in Architecture	4
Research and Project		
ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Elective

Code	Title	Hours
Students must complete a 4-semester-hour graduate elective.		4

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 6330	4	ARCH 6340	4	Vacation	0	Vacation	0
ARCH 6430	4	ARCH 6440	4				
ARCH 7130	6	ARCH 7140	6				
Elective (Required)	4						
	18		**14**		**0**		**0**

Total Hours: 32

Master of Architecture—Two-Year Program

This program offers students who have earned a Bachelor of Science in Architecture from an institution other than Northeastern to engage in the urban-focused curriculum that is offered at the School of Architecture. Students are awarded a M.Arch degree, which is NAAB-accredited (http://www.naab.org).

YEAR ONE

Options Studio offers topical content that best aligns with the research and practice expertise of the faculty, which provides students with the latest concepts in architectural design, theory, and research on a consistently updated and rotating basis. Students select their top choices of studio topics and instructors, giving them more flexibility in the areas for which they would like to focus their education. The Comprehensive Design Studio challenges the students to consider architectural connections at all scales, from the nut and bolt to the scale of the door or window to the scale of the whole building and the city. Additionally, students take classes in technology as well as architecture seminars.

YEAR TWO

In the final year, students engage in a two-semester research and design project based on pertinent contemporary topics chosen by the graduate faculty, or students may propose an independent research and design project. Team research is conducted and compiled into online and physical research books. This body of compiled research then becomes the basis of the intellectual framework for the individual students' design projects. This final degree project parallels an in-depth two-semester professional practice sequence that analyzes all of the contingencies of successful architectural projects, including architectural offices and their project management strategies, real estate development criteria, and associated project finance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Building and Environment		
ARCH 5210	Environmental Systems	4
ARCH 5220	Integrated Building Systems	4
Studio		
ARCH 5115	Option Studio	6
ARCH 5120	Comprehensive Design Studio	6
Case Study		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 5310	Design Tactics and Operations	4
ARCH 6330	Seminar in Modern Architecture	4
ARCH 6340	Graduate Topics in Architecture	4
Research and Project		
ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Electives

Code	Title	Hours
Complete 8–16 semester hours (5000 level or above) from outside the following subject area:		8-16
ARCH		

Program Credit/GPA Requirements

60–68 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 5115	6	ARCH 5120	6	Vacation	0	Vacation	0
ARCH 5210 and ARCH 5211	4	ARCH 5220	4				
ARCH 5310	4	Elective (Required)	4				

Elective (Required)	4	Elective (Optional)	4		
	18		**18**	**0**	**0**

Year 2

Fall	Hours	Spring	Hours
ARCH 6330	4	ARCH 6340	4
ARCH 6430	4	ARCH 6440	4
ARCH 7130	6	ARCH 7140	6
Elective (Optional)	4		
	18		**14**

Total Hours: 68

Master of Architecture—Three-Year Program

Open to candidates who do not have a Bachelor of Science in Architecture or equivalent.
Applicants from all disciplines are welcome. Those who have some architecture course work may be eligible for advanced placement.

The program requires three years of study. Students have the option to pursue a summer co-op opportunity managed by the university's co-op program.

After completing a first-year introductory curriculum, students in the three-year program merge into the two-year MArch curriculum. This is a NAAB-accredited (http://www.naab.org) degree program.

YEAR ONE

In the first year, students take intensive studios, technology classes, and architectural history classes to immerse them in the studio culture of the school and to give them a strong foundation to begin the upper-level studios. The introductory graduate skills and design studios are specifically designed for the students in this program who do not have experience doing architectural drawing and designing. Students complete a series of projects that will give them an opportunity to develop the skills and the critical thinking needed in the graduate curriculum.

YEAR TWO

The Option Studio offers topical content that best aligns with the research and practice expertise of the faculty, which provides students with the latest concepts in architectural design, theory, and research on a consistently updated and rotating basis. Students select their top choices of studio topics and instructors, giving them more flexibility in the areas for which they would like to focus their education. The Comprehensive Design Studio in the second semester challenges the students to consider architectural connections at all scales, from architectural detail, to architectural systems, to the whole building and its urban context.

YEAR THREE

In the final year, students engage in a two-semester research and design project based on pertinent contemporary topics chosen by the graduate faculty, or students may propose an independent research and design project. Team research is conducted and compiled into online and physical research books. This body of compiled research then becomes the basis of the intellectual framework for the individual students' design projects. This final degree project parallels an in-depth two-semester professional practice sequence that analyzes all of the contingencies of successful architectural projects, including architectural offices and their project management strategies, real estate development criteria, and associated project finance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
History		
ARCH 2330	Architecture and the City in the Nineteenth Century	4
ARCH 2340	Modern Architecture	4
Building, Design, and Environment		
ARCH 2240	Architectonic Systems	4
ARCH 3450	Advanced Architectural Communication	4
ARCH 5210	Environmental Systems	4
ARCH 5220	Integrated Building Systems	4
ARCH 5230	Structural Systems	4
Studio		
ARCH 5115	Option Studio	6
ARCH 5120	Comprehensive Design Studio	6
ARCH 6100	Graduate Skills Studio	6
ARCH 6200	Graduate Studio 1: Architectural Design	6
Professional Practice		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 5310	Design Tactics and Operations	4
ARCH 6330	Seminar in Modern Architecture	4
Complete the following (repeatable) course twice:		8
ARCH 6340	Graduate Topics in Architecture	
Research and Project		

ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Electives

Code	Title	Hours
Required Electives		
Complete 8 semester hours of non-ARCH courses (required).		8
Optional Electives		
Complete 4 semester hours of ARCH courses (optional). Electives outside architecture may be taken in consultation with your faculty adviser.		

Program Credit/GPA Requirements

96–104 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ARCH 2240	4	ARCH 2340 and ARCH 2341	4	Vacation	0
ARCH 2330 (and)	4	ARCH 3450 (or required elective)	4		
ARCH 2331		ARCH 5210	4		
ARCH 6100	6	ARCH 5211			
Elective (Required)	4	ARCH 6200	6		
	18		**18**		**0**

Year 2

Fall	Hours	Spring	Hours
ARCH 5115	6	ARCH 3450 (or required elective)	4
ARCH 5230 (and)	4	ARCH 5120	6
ARCH 5231		ARCH 5220	4
ARCH 5310	4	ARCH 6340 (1 of 2)	4
Optional elective	4		
	18		**18**

Year 3

Fall	Hours	Spring	Hours
ARCH 6330	4	ARCH 6340 (2 of 2)	4
ARCH 6430	4	ARCH 6440	4
ARCH 7130	6	ARCH 7140	6
Elective (optional)	4		
	18		**14**

Total Hours: 104

Total credits for the three-year track may range from 96–104 depending on optional electives.

Master of Architecture—Three-Year Program—Advanced Degree Entrance

Open to candidates who do not have a Bachelor of Science in Architecture or an equivalent degree.
Students with some background in architecture may be eligible for advanced placement into the program. Advanced placement will be determined by an applicant's transcript and portfolio.

After completing a first-year introductory curriculum, students in the three-year program merge into the two-year MArch curriculum. This is a NAAB-accredited (http://www.naab.org/)degree program.

Only select courses in the first year of the program will be waived. All waivers are at the discretion of the school and applicants will be required to provide documentation for any waivers (78–100 credits total based on waivers).

The minimum course work for all students in the first year of the program is:

- Two studio courses (minimum 10 credits total)
- Two graduate electives (minimum 8 credits total)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

All advanced-entry students must complete a minimum of 10 semester hours per semester in the first year. Course waivers are determined by the faculty and students should consult with their advisor.

Prerequisites

Courses listed below may be waived as determined by faculty advisor.

Code	Title	Hours
History		
ARCH 2330	Architecture and the City in the Nineteenth Century	4
ARCH 2340	Modern Architecture	4
Building, Design, and Environment		
ARCH 2240	Architectonic Systems	4
ARCH 5210	Environmental Systems	4
ARCH 5230	Structural Systems	4

Core Requirements

Code	Title	Hours
Building, Design, and Environment		
ARCH 3450	Advanced Architectural Communication	4
ARCH 5220	Integrated Building Systems	4
Studio		
ARCH 5115	Option Studio	6
ARCH 5120	Comprehensive Design Studio	6
ARCH 6100	Graduate Skills Studio	6
ARCH 6200	Graduate Studio 1: Architectural Design	6
Professional Practice		
ARCH 6430	Case Studies 1	4
ARCH 6440	Case Studies 2	4
Topics and Seminars		
ARCH 5310	Design Tactics and Operations	4
ARCH 6330	Seminar in Modern Architecture	4
Complete the following (repeatable) course twice:		8
ARCH 6340	Graduate Topics in Architecture	
Research and Project		
ARCH 7130	Master's Research Studio	6
ARCH 7140	Master's Degree Project	6

Electives

Code	Title	Hours
Required Electives		
Complete 8 semester hours of non-ARCH courses.		8
Additional Elective or Topics		
Complete 8 semester hours of non-ARCH courses.		8

Program Credit/GPA Requirements

78–100 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
ARCH 2240	4	ARCH 2340 and ARCH 2341	4
ARCH 2330 (and)	4	ARCH 3450 (or Required Elective)	4
ARCH 2331		ARCH 6200	6
ARCH 5210 (and)	4	Elective (Optional)	4
ARCH 5211			
ARCH 6100	6		
	18		**18**

Year 2

Fall	Hours	Spring	Hours
ARCH 5115	6	ARCH 3450 (or Required Elective)	4
ARCH 5230 (and)	4	ARCH 5120	6
ARCH 5231		ARCH 5220	4
ARCH 5310	4	ARCH 6340 (1 of 2)	4
Optional Elective	4		
	18		**18**

Year 3

Fall	Hours	Spring	Hours
ARCH 6430	4	ARCH 6340 (2 of 2)	4
ARCH 6330	4	ARCH 6440	4
ARCH 7130	6	ARCH 7140	6
Elective (Optional)	4		
	18		**14**

Total Hours: 104

Total credits for the AP track may range from 78–104 depending on waivers and optional electives.
Note: Only courses in year one may be waived. Course waivers are at the discretion of the program director.

Sustainable Urban Environments, MDes—One-Year Program

The one-year Master of Design for Sustainable Urban Environments (MDes-SUEN) is open to students holding an accredited, first-professional degree in landscape architecture, architecture, planning, or urban design. The 36-credit program offers a core sequence of advanced design research studios, proseminars, and urban ecology and technology workshops complemented by interdisciplinary electives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Studio		
SUEN 7130	Master's Research Studio: Design and the Resilient City	6
SUEN 7140	Master's Research Studio: Master's Project	6
Proseminar		
Complete 8 semester hours from the following (repeatable) courses:		8
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments	
SUEN 6340	Topics in Urban Environmental Design	
Technology		
SUEN 7230	Urban Ecologies and Technologies 1	4
SUEN 7240	Urban Ecologies and Technologies 2	4

Electives

Electives in other disciplines may be taken in consultation with your faculty adviser.

Code	Title	Hours
Complete 8 semester hours from the following subject areas:		8
SUEN, ARCH, LARC, PPUA, LPSC, and SBSY		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
SUEN 7130	6	SUEN 7140 (or co-op*)	6
SUEN 7230	4	SUEN 7240	4
SUEN 7320 or 6340	4	SUEN 7320	4
Elective (required)	4	Elective (required)	4
	18		**18**

Total Hours: 36

*Students may opt to do a graduate co-op. Co-op does not count toward degree credits.

Sustainable Urban Environments, MDes—Two-Year Program

The two-year Master of Design for Sustainable Urban Environments (MDes-SUEN) is open to students entering with a bachelor's degree in any field. The 64-credit program provides a full year of core skill sets including design; site analysis, implementation, and visualization; history/theory; and policy. This includes introduction to basic earthworks, water, and plants systems as well as the principles of landscape and urban ecology.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Studio		
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	6
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	6
SUEN 7130	Master's Research Studio: Design and the Resilient City	6
SUEN 7140	Master's Research Studio: Master's Project	6
Cities: Design and Planning		
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	4
LPSC 7312	Cities, Sustainability, and Climate Change	4
Proseminar		
Complete 8 semester hours from the following (repeatable) courses:		8
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments	
SUEN 6340	Topics in Urban Environmental Design	
Technology		
SUEN 6210	Implementation and Visualization for Urban Environments 1	4
SUEN 6220	Implementation and Visualization for Urban Environments 2	4
SUEN 7230	Urban Ecologies and Technologies 1	4
SUEN 7240	Urban Ecologies and Technologies 2	4

Electives

Electives in other disciplines may be taken in consultation with your faculty adviser.

Code	Title	Hours
Complete 8 semester hours from the following subject areas:		8
SUEN, ARCH, LARC, PPUA, LPSC, SBSY		

Program Credit/GPA Requirements

64 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SUEN 6110	6	SUEN 6120	6	Vacation	0	Vacation	0
SUEN 6210	4	SUEN 6220	4				
SUEN 6310	4	LPSC 7312	4				
Elective (Required)	4	Elective (Required)	4				
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours
SUEN 7130	6	SUEN 7140 (or co-op)*	6
SUEN 7320 (or)	4	SUEN 7320	4
SUEN 6340		SUEN 7240	4
SUEN 7230	4	Elective (Optional)	4

Elective (Optional)	4	
	18	**18**

Total Hours: 72

**Note:* Students may opt to do a graduate co-op. Co-op does not count toward degree credits.
Total credits required are 64 (with two optional electives, 72).

Art + Design

Website (https://camd.northeastern.edu/graduate-overview/)

Dietmar Offenhuber, PhD
Chair

Julia Hechtman, MFA
Associate Chair

617.373.4340

The graduate programs in the Department of Art + Design are designed to cultivate capacity and fluency in a range of disciplines and practices to create and deliver value and benefit for an increasingly connected and diverse world. Spanning many subjects, interests, and intentions across disparate fields and manifold practices of art, media, and design, our master's and certificate programs will challenge and inspire you to push the boundaries of cultural production and stewardship and social and civic impact. We strive to empower you to bring your ideas to life through design conversations, media making, and artistic expression and enjoy richly rewarding careers and lives.

Programs

Master of Fine Arts (MFA)

- Experience Design (p. 126)
- Information Design and Data Visualization (p. 128)

Master of Science (MS)

- Experience Design (p. 131)
- Game Science and Design (p. 133)
- Information Design and Data Visualization (p. 135)
- Media Innovation and Data Communication (p. 144)

Graduate Certificate

- Experience Design (p. 137)
- Game Experience Design (p. 138)
- Game Science (p. 139)
- Information Design and Visualization (p. 140)

Experience Design, MFA

The Master of Fine Arts in Experience Design embraces research-driven design thinking for entrepreneurship, innovation, and other areas, preparing students to be vital contributors and leaders at the intersection of innovation and design.

Experience design is a holistic and integrative approach to design that utilizes investigation into the human experience in specific situations to improve its quality, given an understanding of human goals, needs, and desires. For example, in the context of healthcare, an experience designer does not focus on the design of any one technology product, information system, or physical space. Instead, the designer is charged with understanding and improving the overall sequence of events that impact the patient before and during a hospital stay as well as through follow-up care.

The experience design program moves beyond design thinking to produce outcomes that demonstrate the value of human-centered research and design methods. It draws on findings from a range of professional and scholarly disciplines (including business, psychology, human-computer interaction, engineering, cybernetics) to understand and shape specific situations. It extends across many industries and aspects of life: healthcare, technology, services, travel, education, entertainment, shopping, dining, and the nature of work itself.

Through examining how people behave in a real context in relation to emerging technologies, the Master of Fine Arts in Experience Design allows graduates from design and related disciplines (such as communications, computer science, business, architecture, art, journalism, humanities, and the social sciences) to gain knowledge and experience in the design competencies. To accomplish these goals, students study how to invoke cooperation, collaboration, and integration across disciplines and practices.

The Master of Fine Arts in Experience Design seeks to prepare students to be vital contributors and leaders of professional experience design teams where technological innovation intersects with design. Successful graduates should be able to analyze how people undergo real-world situations, enabling them to enrich experience by orchestrating new design-driven relationships. They will be equipped with the skills to identify shortcomings as well as opportunities for improved engagement between systems and elements—virtual or physical—with the humans who encounter them.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
ARTG 5120	Research Methods for Design	4
ARTG 5600	Experience Design Studio 1: Principles	4
ARTG 5610	Design Systems	4
ARTG 5620	Notational Systems for Experience	4
ARTG 5640	Prototyping for Experience Design	4
ARTG 6310	Design for Behavior and Experience	4
ARTG 6600	Experience Design Studio 2: Group and Interpersonal	4
ARTG 6700	Design Studio 3: Synthesis	4
Thesis		
ARTG 7100	Critical Design and Research Seminar	4
ARTG 7910	Design Project and Exhibition	4
ARTG 7990	Thesis	4

Electives

Code	Title	Hours
Complete 16 semester hours of elective courses, such as these, in consultation with your advisor (multiple completions of ARTG 5000 may apply toward the elective requirement):		16
ARTG 5000	Topics in Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5710	Design for Dignity	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6900	Special Topics in Design	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
ARTG 5600	4	ARTG 5610	4	Co-op or vacation	
ARTG 5120	4	ARTG 6310	4		
ARTG 5620	4	ARTG 6600	4		
ARTG 5640	4	Elective	4		
	16		**16**		**0**

Year 2

Fall	Hours	Spring	Hours
ARTG 6700	4	ARTG 7100	4
Elective	4	ARTG 7910	4
Elective	4	ARTG 7990	4
Elective	4		
	16		**12**

Total Hours: 60

Information Design and Data Visualization, MFA

The Master of Fine Arts in Information Design and Data Visualization program uniquely combines design training and analytical methods with distinctive approaches to theoretical, visual, and technical aspects of visual communication. Successful graduates gain expertise in the visual and technological languages of data, applying modes of visual cognition, and using analytics tools to create interactive, data-driven communication and installations.

This design-centric program seeks to prepare graduates to collaborate across a variety of fields and settings, crossing the bridge between technology, public communication, and systems design. Successful graduates are prepared to be professional information designers and data visualization experts in design agencies, research institutions, industry, and public institutions, able to lead and collaborate in this dynamic and burgeoning interdisciplinary field of practice and research. Students also are well positioned to pursue PhDs and academic careers. Students have the unique advantage of studying at a major research university known for interdisciplinary collaboration located in Boston—a global center for technology, science, education, and culture—offering diverse opportunities for practice and research in information design and data visualization.

The MFA-IDDV curriculum includes studio courses and seminars in graphic, information, and interaction design; creative inquiry; research methodologies; data literacies; and visualization technologies. It integrates faculty instruction with visiting artists and researchers. The degree requires 60 credit hours over two academic years, with an option to engage in Northeastern's renowned co-op program. A thesis project, a written thesis, and an accompanying work exhibition in the thesis show are required.

Learn more about IDDV projects, students, and faculty at Information Design and Data Visualization (http://northeastern.edu/visualization/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Studio		
ARTG 5100	Information Design Studio 1: Principles	4
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	4
ARTG 6700	Design Studio 3: Synthesis	4
Theory and Research Methods		
ARTG 5310	Visual Cognition	4
ARTG 5320	Statistics for Design	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4
ARTG 6110	Information Design Theory and Critical Thinking	4
Design and History		
ARTG 5110	Information Design History	4
ARTG 5130	Visual Communication for Information Design	4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
Thesis		
ARTG 7100	Critical Design and Research Seminar	4
ARTG 7910	Design Project and Exhibition	4
ARTG 7990	Thesis	4

Electives

Code	Title	Hours
In consultation with faculty advisor, complete two courses from the following (one of the electives can be chosen from any Northeastern graduate courses; multiple completions of ARTG 5000 may apply toward the elective requirement):		8
ARTG 5000	Topics in Design	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5430	Visualization Technologies 2: Advanced Practices	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 5710	Design for Dignity	
ARTE 5901	Special Topics in Art and Design Studio	
ARTG 6310	Design for Behavior and Experience	

ARTG 6330	Information Design Mapping Strategies
ARTG 6555	Graphic Design Synthesis
ARTG 6900	Special Topics in Design
JRNL 6341	Telling Your Story with Data

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, Optional Summer Co-op

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
ARTG 5100	4	ARTG 5310	4	Co-op or vacation	0
ARTG 5130	4	ARTG 5330	4		
ARTG 5150	3	ARTG 6100	4		
ARTG 5151	1	ARTG 6110	4		
ARTG 5320	4				
	16		**16**		**0**

Year 2

Fall	Hours	Spring	Hours
ARTG 5110	4	ARTG 7100	4
ARTG 6700	4	ARTG 7910	4
Elective	4	ARTG 7990	4
Elective	4		
	16		**12**

Total Hours: 60

Sample Three Years, Co-op in Fall

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5130	4	ARTG 5330	4
ARTG 5150	3	ARTG 6100	4
ARTG 5151	1	ARTG 6110	4
ARTG 5320	4		
	16		**16**

Year 2

Fall	Hours	Spring	Hours
Co-op	0	ARTG 7100	4
ARTG 6700	4	ARTG 7910	4
		Elective	4
	4		**12**

Year 3

Fall	Hours
ARTG 5110	4
ARTG 7990	4
Elective	4
	12

Total Hours: 60

Sample Three Years, Co-op in Spring

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5130	4	ARTG 5330	4
ARTG 5150	3	ARTG 6100	4
ARTG 5151	1	ARTG 6110	4
ARTG 5320	4		
	16		**16**

Year 2

Fall	Hours	Spring	Hours
ARTG 5110	4	Co-op	0
ARTG 6700	4		
	8		**0**

Year 3

Fall	Hours	Spring	Hours
Elective	4	ARTG 7100	4
Elective	4	ARTG 7910	4
		ARTG 7990	4
	8		**12**

Total Hours: 60

Sample Three Years, Two Co-ops

(Research co-op track)

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5130	4	ARTG 5330	4
ARTG 5150	3	ARTG 6100	4
ARTG 5151	1	ARTG 6110	4
ARTG 5320	4		
	16		**16**

Year 2

Fall	Hours	Spring	Hours
ARTG 6700	4	Co-op*	0
Co-op	0		
	4		**0**

Year 3

Fall	Hours	Spring	Hours
ARTG 5110	4	ARTG 7100	4
Elective	4	ARTG 7910	4
Elective	4	ARTG 7990	4
	12		**12**

Total Hours: 60

*The second co-op must be a research-oriented co-op related to the thesis after completion of Design Studio 3: Synthesis (ARTG 6700) with the permission of the program coordinator.

Experience Design, MS

The Master of Science in Experience Design embraces research-driven design thinking for entrepreneurship, innovation, and other areas, preparing students to be vital contributors and leaders at the intersection of innovation and design.

Experience design is a holistic and integrative approach to design that utilizes investigation into the human experience in specific situations to improve its quality, given an understanding of human goals, needs, and desires. For example, in the context of healthcare, an experience designer does not focus on the design of any one technology product, information system, or physical space. Instead, the designer is charged with understanding and improving the overall sequence of events that impact the patient before and during a hospital stay as well as through follow-up care.

The experience design program moves beyond design thinking to produce outcomes that demonstrate the value of human-centered research and design methods. It draws on findings from a range of professional and scholarly disciplines (including business, psychology, human-computer interaction, engineering, cybernetics) to understand and shape specific situations. It extends across many industries and aspects of life: healthcare, technology, services, travel, education, entertainment, shopping, dining, and the nature of work itself.

Through examining how people behave in a real context in relation to emerging technologies, the Master of Science in Experience Design allows graduates from design and related disciplines (such as communications, computer science, business, architecture, art, journalism, humanities, and the social sciences) to gain knowledge and experience in the design competencies. To accomplish these goals, students study how to invoke cooperation, collaboration, and integration across disciplines and practices.

The Master of Science in Experience Design seeks to prepare students to be vital contributors and leaders of professional experience design teams where technological innovation intersects with design. Successful graduates should be able to analyze how people undergo real-world situations, enabling them to enrich experience by orchestrating new design-driven relationships. They will be equipped with the skills to identify shortcomings as well as opportunities for improved engagement between systems and elements—virtual or physical—with the humans who encounter them.

The MS degree is intended for graduate students from related fields—media, design, communications, data science, and more—who would like to acquire competencies in experience design to complement their skills and address their professional needs. Embedded in the course offering of our Master of Fine Arts in Experience Design (p. 126) program, students in the MS program will have the opportunity to join MFA students for activities such as attending guest lectures and workshops.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5120	Research Methods for Design	4
ARTG 5600	Experience Design Studio 1: Principles	4
ARTG 5610	Design Systems	4
ARTG 5620	Notational Systems for Experience	4
ARTG 6310	Design for Behavior and Experience	4
ARTG 6600	Experience Design Studio 2: Group and Interpersonal	4

Electives

Code	Title	Hours
Complete two elective courses (4 credits each), such as these, in consultation with your advisor; multiple completions of ARTG 5000 may apply toward the elective requirement; other electives may be chosen in consultation with the program coodinator):		8
ARTG 5000	Topics in Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5640	Prototyping for Experience Design	
ARTG 5710	Design for Dignity	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6900	Special Topics in Design	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
ARTG 5120	4	ARTG 5610	4
ARTG 5600	4	ARTG 6310	4
ARTG 5620	4	ARTG 6600	4
Elective	4	Elective	4
	16		**16**

Total Hours: 32

*Students may opt to do a graduate co-op. Co-op does not count toward credits required for the degree.

Game Science and Design, MS

The **Master of Science (MS) in Game Science and Design** is a program that seeks to give students a comprehensive understanding of how successful game products are created in a player-centric environment. Successful graduates who wish to become professional game developers or game user research experts should be able to collaborate effectively in this dynamic and burgeoning field of practice and research. Focusing on the science of game development, students have an opportunity to learn the design and technological skills needed to build a game and develop a deep understanding of playability and analytics that makes products successful in an increasingly competitive marketplace.

The game industry has expanded to include social and mobile gaming; augmented and virtual reality; as well as games in health, education, and training. Rapid innovations are happening in player psychology, middleware, graphics and authoring tools, game mechanics, and artificial intelligence and narrative techniques. It has become an increasingly competitive space.

The selectiveness of the industry and the diversity of the skills required mean that students seeking entry need both broad and deep skills. As an emergent industry using diverse technology and collaborative practices, the game industry needs professionals with interdisciplinary skill sets who can blend knowledge about development with knowledge about evaluation methods and players' behavior and psychology.

Jointly offered by Northeastern's College of Arts, Media and Design and Khoury College of Computer Sciences (https://www.khoury.northeastern.edu/), the **Master of Science in Game Science and Design** is a one-of-a-kind interdisciplinary program that seeks to prepare students to meet this need by weaving together science and design. This is a two-year, 34-credit-hour program.

All admitted students will be assigned to an advisor who will help them select a pathway with a coherent set of electives depending on their career goals. The advisor will also monitor their progress through the master's degree.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5122	Business Models in the Game Industry	1
GSND 5130 and GSND 5131	Mixed Research Methods for Games and Recitation for GSND 5130	4
Thesis		
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	4
GSND 7990	Thesis	4

Electives

Code	Title	Hours
Game Design or Development		
Complete one of the following:		4
CS 5150	Game Artificial Intelligence	
CS 5850	Building Game Engines	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	
Game User Research or Analytics		
Complete one of the following:		4
CS 5340	Computer/Human Interaction	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Code	Title	Hours
Other Electives List		
Complete any two of the previously listed courses or from the following (courses not listed below may be completed in consultation with your program coordinator).		8
If ARTG 5000 or GSND 6000 or GSND 6001 is completed more than once, the additional completions may be allowed toward the electives.		
Elective courses outside of CAMD are subject to availability and registration policy of the home college.		
ARTG 5000	Topics in Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5310	Visual Cognition	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
GSND 6000	Advanced Topics in Game Design	
GSND 6001	Advanced Topics in Game Science	
INSH 5302	Information Design and Visual Analytics	
JRNL 6341	Telling Your Story with Data	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
GSND 5110 and GSND 5111 and GSND 5112	5	Elective	4	Co-op (optional)	0
GSND 5130 and GSND 5131	4	Elective	4		
	9		**8**		**0**

Year 2

Fall	Hours	Spring	Hours
GSND 5122	1	GSND 7990	4
GSND 6330 and GSND 6331	4	Elective	4
Elective	4		
	9		**8**

Total Hours: 34

Note: Co-op or Thesis Co-op is optional in consultation with faculty advisor.

Information Design and Data Visualization, MS

The Master of Science in Information Design and Data Visualization is a two-semester research- and analysis-oriented program focusing on visual interfaces to communicate and explore digital information. Successful graduates may become professional information designers and data visualization experts able to collaborate effectively in this dynamic and burgeoning field of practice and research, prepared to work in data-driven areas including design, technology, business, health, education, and public institutions. The curriculum is designed to train students in design principles, critical inquiry, and the analytical and creative practices needed to assume leadership roles in an evolving interdisciplinary field. Coursework focuses on the translation of data and information into visual languages and the integration of theoretical, cognitive, and technical aspects of visualizations that engage a broad range of audiences. From this master's program, students have multiple options to expand their advanced studies along diverse avenues, including adding graduate certificates in related topics such as user analytics, data analytics, experience design, and cultural entrepreneurship; engaging in co-op opportunities; and applying to proceed academically into a terminal Master of Fine Arts degree.

To learn more visit the Information Design and Data Visualization (https://camd.northeastern.edu/program/information-design-and-visualization/) page.

Program Requirements

Boston-based students complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5100	Information Design Studio 1: Principles	4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
ARTG 5310	Visual Cognition	4
ARTG 5320	Statistics for Design	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	4
ARTG 6110	Information Design Theory and Critical Thinking	4

Elective

Thesis (ARTG 7890) is required in lieu of an elective for Vancouver-based students in consultation with program coordinator.

Code	Title	Hours
Complete one of the following:		4
ARTG 5000	Topics in Design	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5430	Visualization Technologies 2: Advanced Practices	
ARTG 5710	Design for Dignity	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6555	Graphic Design Synthesis	
ARTG 7890	Thesis	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plans of Study

Two Semesters, No Co-op [1]

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5150 and ARTG 5151	4	ARTG 5330	4

ARTG 5320	4	ARTG 6100	4
Elective	4	ARTG 6110	4
	16		**16**

Total Hours: 32

[1] Summer co-op is optional in consultation with the program coordinator.

Four Semesters, No Co-op [2]

Year 1

Fall	Hours	Spring	Hours
ARTG 5100	4	ARTG 5310	4
ARTG 5320	4	ARTG 5150 and ARTG 5151	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
ARTG 5330	4	ARTG 6110	4
ARTG 6100	4	Elective	4
	8		**8**

Total Hours: 32

[2] Students can choose to do a co-op in the summer between year 1 and year 2.

Experience Design, Graduate Certificate

The Graduate Certificate in Experience Design embraces research-driven design thinking for entrepreneurship, innovation, and other areas, preparing students to be vital contributors and leaders at the intersection of innovation and design.

Experience design is a holistic and integrative approach to design that utilizes investigation into the human experience in specific situations to improve its quality, given an understanding of human goals, needs, and desires. For example, in the context of healthcare, an experience designer does not focus on the design of any one technology product, information system, or physical space. Instead, the designer is charged with understanding and improving the overall sequence of events that impact the patient before and during a hospital stay as well as through follow-up care.

The Graduate Certificate in Experience Design moves beyond design thinking to produce outcomes that demonstrate the value of human-centered research and design methods. It draws on findings from a range of professional and scholarly disciplines (including business, psychology, human-computer interaction, engineering, cybernetics) to understand and shape specific situations. It extends across many industries and aspects of life: healthcare, technology, services, travel, education, entertainment, shopping, dining, and the nature of work itself.

Through examining how people behave in a *real* context in relation to emerging technologies, the Graduate Certificate in Experience Design allows working professionals or graduates from design and related disciplines (such as communications, computer science, business, architecture, art, journalism, humanities, and the social sciences) to gain knowledge and experience in the design competencies. To accomplish these goals, students need to learn how to invoke cooperation, collaboration, and integration across disciplines and practices.

The Graduate Certificate in Experience Design is designed to prepare students to be vital contributors and leaders of professional experience design teams where technological innovation intersects with design. Successful graduates will be able to analyze how people undergo real-world situations, enabling them to enrich experience by orchestrating new design-driven relationships. They will be equipped with the skills to identify shortcomings as well as opportunities for improved engagement between systems and elements—virtual or physical—with the humans who encounter them.

The certificate is intended for practitioners and graduate students from related fields—media, design, communications, data science, and more—who would like to acquire competencies in experience design to complement their skills and address their professional needs. Embedded in the course offering of our Master of Fine Arts in Experience Design (p. 126) program, students in the certificate program will have the opportunity to join MFA students for activities such as attending guest lectures and workshops.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5610	Design Systems	4
ARTG 5620	Notational Systems for Experience	4
ARTG 6310	Design for Behavior and Experience	4

Elective

Code	Title	Hours
Complete 4 semester hours of 5000- to 6000-level course work in the following subject area:		4
ARTG		

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Game Experience Design, Graduate Certificate

The Graduate Certificate in Game Experience Design offers training in the skills, tools, and methods needed to design successful game products, including social and mobile gaming; augmented and virtual reality; as well as games for health, education, and science. Students gain hands-on experience in designing games under faculty with industry expertise in game design. Game design courses focus on innovation; societal impact; and player-centric, experiential design approaches. The Graduate Certificate in Game Experience Design is a one-year, 17-semester-hour program. Upon successful completion of the certificate, students can opt to apply to the Master of Science in Game Science and Design and, if accepted, transfer credits gained through the certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5130	Mixed Research Methods for Games	4

Electives

Code	Title	Hours
Complete 8 semester hours from the following (multiple completions of ARTG 5000 or GSND 6000 may apply to the elective requirement):		8
ARTG 5000	Topics in Design	
ARTG 5640	Prototyping for Experience Design	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	

Program Credit/GPA Requirements

17 total semester hours required
Minimum 3.000 GPA required

Game Science, Graduate Certificate

The Graduate Certificate in Game Science offers training in assessing, tracking, and analyzing player experience using game analytics methods and techniques, biometrics, and research methods including interviews and surveys. Students gain hands-on experience with these methods and techniques under faculty guidance with industry experts in game science. The game development process has shifted from “design, develop, release” to “design, develop, release, and continuously fine-tune based on user data.” Game science plays a critical role in this new process. The Graduate Certificate in Game Science is a one-year, 17-semester-hour program. Upon successful completion of the certificate, students can opt to apply to the Master of Science in Game Science and Design and, if accepted, transfer credits gained through the certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5130	Mixed Research Methods for Games	4

Electives

Code	Title	Hours
Complete two of the following (multiple completions of ARTG 5000 or GSND 6001 may apply toward the elective requirement):		8
ARTG 5000	Topics in Design	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Program Credit/GPA Requirements

17 total semester hours required
Minimum 3.000 GPA required

Information Design and Visualization, Graduate Certificate

The Graduate Certificate in Information Design and Visualization focuses on the data-driven analytical and visual design of information, preparing students to communicate visually while engaging advanced data analytics to produce meaningful information environments.

Successful graduates of the Certificate in Information Design and Visualization are professionals who are prepared to tackle new information communication challenges and communicate and collaborate with researchers in a variety of fields, as well as stakeholders and the public. Throughout the course of the certificate, students master how to think visually, while also learning how to produce effective, meaningful visual information from various sources of data.

The certificate is intended for practitioners and graduate students from related fields—media, design, communications, data science, and more—who would like to acquire competencies in information design and data visualization to complement their skills and address their professional needs. Embedded in the course offering of our Master of Fine Arts in Information Design and Visualization (p. 128) program, students in the certificate program have the opportunity to join MFA students for activities such as attending guest lectures and workshops.

To learn more, visit the Information Design and Visualization (https://camd.northeastern.edu/visualization/) portal.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARTG 5130	Visual Communication for Information Design	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4

Electives

Code	Title	Hours
Complete two of the following (multiple completions of ARTG 5000 may apply toward the elective requirement):		8
ARTG 5000	Topics in Design	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5110	Information Design History	
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5430	Visualization Technologies 2: Advanced Practices	
ARTG 5710	Design for Dignity	
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
ARTG 6555	Graphic Design Synthesis	
ARTG 6900	Special Topics in Design	
ARTG 5000 or 6000 level course		

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

School of Journalism

Website (http://www.northeastern.edu/camd/journalism/)

Jonathan Kaufman, MA
Professor and Director

617.373.3236

Welcome to the graduate programs at Northeastern University's School of Journalism. Our school offers three degrees: a Master of Arts in Journalism, a Master of Science in Media Innovation and Data Communication, and a Master of Science in Media Advocacy.

The Master of Arts in Journalism degree is designed to merge traditional journalism with the latest technology. Students new to the field or those with experience can choose one of two tracks—professional journalism or media innovation—to prepare them for the challenges faced by legacy and new media in the digital age. The Master of Science in Media Innovation and Data Communication degree focuses on new forms of data-driven media practice, creative digital storytelling, and strategies for fostering innovation in media fields. The Master of Science in Media Advocacy degree is designed to teach strategic advocacy skills and prepare graduates to succeed as resilient, media-empowered citizens in a global society. Moreover, these programs offer students hands-on training in preparation for careers in reporting, editing, multimedia design and production, social media, and data journalism.

As part of Northeastern's College of Arts, Media and Design, our graduate students are also part of an interdisciplinary and creative community. Our core curriculum is supplemented by electives that take advantage of course offerings from within our college and from other colleges in the university. And with our experiential education opportunities and outstanding co-op program, students do not have to wait until after graduation to begin developing skills as reporters, media advocates, or public relations professionals.

It is our goal to help you put your passion into practice. To that end, our graduate programs afford students the opportunity to study in Boston with a small and dedicated faculty of specialists with years of experience and extensive contacts in the media world.

Programs

Master of Arts (MA)

- Journalism (p. 142)

Master of Science (MS)

- Media Advocacy (p. 143)
- Media Innovation and Data Communication (p. 144)

Journalism, MA

The School of Journalism offers a dynamic Master of Arts degree that seeks to prepare students for the challenges faced by media organizations in the digital age. The degree trains students to become rigorous, ethical, and creative news reporters, editors, and content producers, as well as social media managers and video/audio specialists.

Both students new to the field and those with some experience can choose courses tailored to help them thrive in particular subject areas, such as criminal justice or climate change, or around specific technologies, such as podcasting or data visualization. Our programs are designed to merge the skills of professional journalism with knowledge of the latest information technologies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
JRNL 6200	Enterprise Reporting 1	4
JRNL 6201	Enterprise Reporting 2	4
JRNL 6202	Perspective on Journalism Ethics	4
JRNL 6340	Fundamentals of Digital Journalism	4

Electives

Code	Title	Hours
Complete 20 semester hours in the following range:		20
JRNL 5309 to JRNL 7976		
Courses from other disciplines may be taken in consultation with your faculty advisor.		
No more than two courses outside of CAMD may be taken.		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study: Two Years with Co-op in Summer 2

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 6100	1	JRNL 6201	4	Vacation	0	Co-op	0
JRNL 6200	4	JRNL 6202	4				
JRNL 6340	4	Elective 2	4				
Elective 1	4						
	13		**12**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours
Co-op	0	Elective 3	4
		Elective 4	4
		Elective 5	4
	0		**12**

Total Hours: 37

Media Advocacy, MS

The Master of Science in Media Advocacy places particular focus on developing direct and indirect advocacy skills: that is, to influence government decision makers directly and to change minds indirectly through shifting public opinion. The program uniquely combines grounding in governmental structures and the legal system with sophisticated training in the latest communication techniques including social media, web communications, and videography, as well as data analytics and data-driven storytelling. Successful graduates will be empowered to promote the public agenda of employers ranging from mission-driven organizations, such as the ACLU or the Sierra Club, to industry leaders, such as hospitals and technology companies, to lobbying and strategic communications groups and political consulting firms.

Program Requirements

Core Requirements

Code	Title	Hours
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 5480	Research for Media Strategy	4
LW 6400	Law, Policy and Legal Argument	4
LW 7667	Law and Ethics of Advocacy	3

Electives

Code	Title	Hours
A minimum of 17 credits of electives is required. No more than 8 semester hours can be taken outside of the College of Arts, Media, and Design or the School of Law.		17
	Complete a minimum of 4 semester hours of coursework from the College of Arts, Media, and Design. Choose from recommended focus areas of JRNL, ARTD, ARTG, COMM, and INAM (additional areas may be chosen in consultation with your adviser).	
	Complete a minimum of 5 semester hours of coursework from the School of Law.	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample One-and-a-Half Years with No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 5400	4	JRNL 5480	4	Vacation	0	Vacation	0
LW 6400	4	Elective 2	3-4				
Elective 1	3-4	Elective 3	3-4				
	11-12		**10-12**		**0**		**0**

Year 2

Fall	Hours
LW 7667	3
Elective 4	3-4
Elective 5	3-4
Elective 6	3-4
	12-15

Total Hours: 33-39

Media Innovation and Data Communication, MS

The Master of Science will offer a distinctive approach to knowledge and innovation in media fields, an approach rooted in the rigor of professional journalism—with its emphasis on empowered knowledge acquisition, empirical verification, and storytelling in the public interest—but one keenly attuned to emerging, data-driven technologies and their potential. The program capitalizes on the revolution in data storytelling and computational methods in media work; the rapid evolution in video, animation, and augmented/virtual reality technologies; and social networks and digital analytics. Our graduates will be prepared to become leaders in media firms and outlets engaged with cutting-edge technologies and innovative digital startups, as well as a broad range of media and communications organizations across the rapidly evolving digital economy.

Program Requirements

Core Requirements

Code	Title	Hours
ARTG 5330	Visualization Technologies 1: Fundamentals	4
JRNL 6306	Media Innovation Studio 1	4
JRNL 6307	Media Innovation Studio 2	4
JRNL 6340	Fundamentals of Digital Journalism	4
JRNL 6341	Telling Your Story with Data	4

Electives

Code	Title	Hours
Students must complete 16 semester hours.		16
Note: Courses in other disciplines may be taken in consultation with your faculty advisor. No more than two courses outside of CAMD may be taken.		

Program Credit/GPA Requirements

36 total semester hours required

Minimum 3.000 GPA required

Plan of Study

Three Semesters and No Co-op

Year 1

Fall	Hours	Spring	Hours
JRNL 6340	4	JRNL 6306	4
JRNL 6341	4	ARTG 5330	4
Elective	4	Elective	4
	12		**12**

Year 2

Fall	Hours
JRNL 6307	4
Elective	4
Elective	4
	12

Total Hours: 36

Four Semesters and One Six-Month Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 6340	4	JRNL 6306	4	Vacation		Co-op	0
JRNL 6341	4	ARTG 5330	4				
Elective	4	Elective	4				
	12		**12**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours
JRNL 6307	4	Elective	4

Co-op	0	Elective	4
	4		**8**

Total Hours: 36

Three Semesters and One Summer Co-op

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
JRNL 6340	4	JRNL 6306	4	Co-op	0
JRNL 6341	4	ARTG 5330	4		
Elective	4	Elective	4		
	12		**12**		**0**

Year 2

Fall	Hours
JRNL 6307	4
Elective	4
Elective	4
	12

Total Hours: 36

Interdisciplinary Programs

Welcome to interdisciplinary graduate studies in the College of Arts, Media and Design. Here you'll find courses and programs that embrace shared dialogue and experiential learning across creative fields. These interdisciplinary doctoral programs, master's programs, and graduate certificates place collaboration at the core of their mission, integrating frameworks, methods, and practices to support students in developing truly innovative approaches and outcomes. Our interdisciplinary degree and certificate options provide a strong foundation of use-inspired, experientially informed coursework and research opportunities.

The PhD in Interdisciplinary Design and Media offers an innovative, globally aware, human-centered approach to advanced graduate study, focusing on practice-based research and scholarship applied to or conducted through making or creation.

The Master of Science in Creative Practice Leadership program brings together faculty, scholars, and practitioners across the performing arts, fine arts, and design fields to work with students to explore new forms of practice and leadership within contemporary culture. Students engage in a shared core, then develop a customized course of study, allowing focus on a breadth of issues.

The Master of Science in Arts Administration and Cultural Entrepreneurship and graduate certificate programs give students foundational to advanced training in the skills and techniques essential to leading arts and culture organizations today, combining the human literacies of collaboration and communication with the technical basis of arts organizational visioning, planning, and sustainable management.

The Master of Science in Urban Planning and Policy program is jointly offered between the college's School of Architecture and the School of Public Policy and Urban Affairs within the College of Social Sciences and Humanities. The curriculum provides a strong foundational knowledge base and allows specialization into the closely related areas of sustainable urban planning and contemporary approaches to urban policy for global cities.

Programs

Doctor of Philosophy (PhD)

- Interdisciplinary Design and Media (p. 147)

Master of Science (MS)

- Arts Administration and Cultural Entrepreneurship (p. 152)
- Creative Practice Leadership (p. 156)
- Extended Realities
- Urban Planning and Policy (p. 163)

Graduate Certificate

- Arts Administration (p. 167)
- Cultural Entrepreneurship (p. 168)

Interdisciplinary Design and Media, PhD

The PhD provides a rigorous, globally aware, practice-based, and human-centered approach to advanced scholarship. It aims to cultivate researcher-designers with a versatile repertoire of methods and a passion for applying those skills to the emerging epistemic perspective of integrated human, technological, and data frameworks within creative collaboration across disciplinary boundaries. The degree is designed to attract entrepreneurial self-starters who seek to break ground and invent new fields through hybrid and integrated approaches to knowledge creation.

The PhD emphasizes four pillars of excellence within a research culture:

- Engaging with the nature of human experience through innovative, interdisciplinary approaches to design
- Investigating new forms of digital media and data-driven communication across diverse disciplines
- Articulating how creativity can embrace connections between artistic practices, innovation, entrepreneurship, and research
- Connecting with changing forms of technology and media to foster shared experiences and exchange within local and global communities

The PhD is unique in its focus on practice-based research or scholarship applied to or conducted through making or creation. This is an emerging area that has been applied internationally to a wide range of creative fields and industries, many of which are represented within the College of Arts, Media and Design: music, theatre, design, studio art, games, architecture, journalism, and others. It differs from other forms of knowledge creation in that it rigorously cultivates the creation of artifacts as a mode of producing new knowledge, theories, and methodologies. Practice-based research integrates fields such as creativity and cognition or human-computer interaction to understand how practice operates, to enact that knowledge in practical applications, and to use the acts of creation themselves as a research methodology. PhD students will be encouraged to conduct their research in—and in some cases create—"living labs" embedded in real-world contexts and through on- and off-campus research partnerships.

The PhD degree program is composed of a common core and pathways of specialization. The core is centered around three areas: design research, which provides a methodology for understanding the ways design and media touch every aspect of daily life at every level of society; ethical practice, which engages with the humanistic concerns of design and cultural production; and experiential learning, which offers students the opportunity to produce research and conduct fieldwork with partner organizations.

Specialized pathways, customized according to the program of study as approved by the PhD advisors and vetted by external experts, include:

- Information design and visualization
- Design research
- Creative research

Degree Requirements

POSTBACCALAUREATE ENTRY

The PhD degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need five years to complete the program.

ADVANCED ENTRY

Students can petition for an advanced entry, which requires completion of at least 28 semester hours. Advanced entry requires an advanced degree (MS, MA, MFA, etc.) or extensive experience aligned with the research direction of the candidate. While students can qualify for advanced entry upon acceptance, the decision for students to continue in the advanced program is made after the first year, where they have to demonstrate that they do not need additional coursework and can complete the program in four years.

Qualifying Examination

The qualifying exam is a written and/or oral examination in the primary and secondary research fields that ensures the student is intimately familiar with the relevant scholarly work in their area of concentration. The pedagogical role is not in the examination itself but in the rigorous preparation of the primary and secondary fields by the student, approved by the advisor. Prior to the qualifying exam, the student prepares a document that outlines the selected primary and secondary fields, provides an overview of the current state of research, and assembles a list of relevant literature that will serve as the basis for the examination. The emphasis of the examination (for example, short essays, a lecture presenting a scholarly argument) is to be useful for the dissertation research. Typically, the student takes the qualifying examination during the second year.

Dissertation Proposal Defense

To ensure students complete satisfactory dissertations that are appropriate for their focus area(s), all students are required to submit and defend a dissertation proposal prior to advancing to candidacy. The dissertation proposal is a detailed document outlining the scholarly context, methods, arguments, and activities underpinning the dissertation. It will include a detailed research plan and timeline and is to be approved by the student's dissertation committee, which the student has to assemble in advance. The student then defends the accepted dissertation proposal in the context of the research seminar, inviting feedback from faculty and other students. The dissertation proposal defense is open to the entire CAMD PhD community and constitutes the last step before degree candidacy.

Degree Candidacy

A student is considered a PhD degree candidate after:

- Successfully completing core and specialization courses with a minimum of a 3.000 cumulative GPA and no grades lower than a B in core courses
- Passing the qualifying exam
- Submitting and successfully defending the dissertation proposal

Advising and Committee Formation

Each entering student will be assigned to a faculty advisor based on their interests who will guide students in completing their core requirements of their degree. Ideally, this person will also serve as their thesis committee chair, but they may transition to another committee chair as they transition into ABD status. As part of this process, in addition to their thesis committee chair, they will also be expected to identify two other readers representing their secondary and, if applicable, tertiary discipline areas. The advisory committee will be responsible for guiding the students through their individual research proposal process, helping them to develop a robust research methodology and clear plan for completion. The advisory committee will also be responsible for identifying an appropriate external expert to consult at key stages of degree progression. The advisors will also guide the students through the thesis project and its written component. Where applicable, committee members will also mentor and support the student through funded research.

Dissertation Defense

Each student will, with the aid of their advisor and committee, define the final product. The research component will typically consist of empirical and/or theoretical scholarship created using a methodology appropriate for the topic and field that is fully integrated with the practice component. The synergy between creative practice and research can take the form of knowledge production through a variety of potential means: production of digital and physical artifacts, software and hardware applications, games, paintings, documentaries, comics, exhibitions, design projects or products, theatrical productions, musical compositions, performances, or other formats. The work will include a written dissertation that can also be paired with other modes of conveyance, such as a documentary, demonstration, performance, or exhibition. A key function of the dissertation will be to contextualize the practical work in contemporary scholarship and discourse, clearly articulating its rationale and contribution to the field. Over the course of their studies, students are expected to produce peer-reviewed submissions based on their work.

The dissertation defense follows a similar format to the proposal defense. Acceptable dissertation models may include long-form (book-style) dissertations, multiple publishable papers, a system build-evaluate model, or other creative formats enumerated above.

Program Requirements

Milestones

Annual review
Individual path (including advisors)
Teaching requirement
Qualifying examination
Dissertation proposal
Dissertation committee
Dissertation defense

Required Coursework

Code	Title	Hours
INAM 7000	Introduction to Research in Interdisciplinary Design and Media	4
INAM 7001	Research Methods in Interdisciplinary Design and Media	4
INAM 7900	Research Seminar	4
INAM 7901	Dissertation Writing Seminar	4
Research Methods Elective		
Complete one research methods elective from this list or in consultation with your advisor.		4
ARCH 6340	Graduate Topics in Architecture	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5620	Notational Systems for Experience	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6900	Special Topics in Design	
GSND 5110	Game Design and Analysis	
GSND 5130	Mixed Research Methods for Games	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
GSND 6984	Research	

INAM 6300	Models for Applied Inquiry in Creative Practice
JRNL 5400	Media and Advocacy in Theory and Practice
Dissertation	
INAM 9990	Dissertation Term 1
INAM 9991	Dissertation Term 2

Discipline-Specific Coursework

Code	Title	Hours
Complete 28 semester hours of discipline-specific coursework in consultation with your domain-specific advisor and committee members.		28

A minimum of 48 credit hours of coursework beyond the undergraduate degree is required.
A minimum 3.000 cumulative GPA and no grades lower than a B in core courses are required.

Plan of Study

Year 1					
Fall	**Hours**		**Spring**	**Hours**	
INAM 7000		4	INAM 7900		4
INAM 7001		4	Research methods elective		4
Discipline-specific coursework		4	Discipline-specific coursework		4
		12			**12**
Year 2					
Fall	**Hours**		**Spring**	**Hours**	
Discipline-specific coursework		4	Discipline-specific coursework		4
Discipline-specific coursework		4	Discipline-specific coursework		4
Discipline-specific coursework		4	INAM 7901		4
		12			**12**
Year 3					
Fall	**Hours**		**Spring**	**Hours**	
Qualifying exams		0	Teaching requirement, TA		0
Teaching requirement, TA		0	INAM 9991		
INAM 9990					
		0			**0**
Year 4					
Fall	**Hours**		**Spring**	**Hours**	
Teaching requirement, teacher of record		0	Teaching requirement, teacher of record		0
INAM 9996		0	INAM 9996		0
		0			**0**
Year 5					
Fall	**Hours**		**Spring**	**Hours**	
INAM 9996		0	INAM 9996		0
		0			**0**

Total Hours: 48

Advanced Entry Program Requirements

Milestones

Annual review
Individual path (including advisors)
Teaching requirement
Qualifying examination
Dissertation proposal
Dissertation committee
Dissertation defense

Required Coursework

Code	Title	Hours
INAM 7000	Introduction to Research in Interdisciplinary Design and Media	4
INAM 7001	Research Methods in Interdisciplinary Design and Media	4
INAM 7900	Research Seminar	4
INAM 7901	Dissertation Writing Seminar	4
Research Methods Elective		
Complete one research methods elective from this list or in consultation with your advisor:		4
ARCH 6340	Graduate Topics in Architecture	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5310	Visual Cognition	
ARTG 5320	Statistics for Design	
ARTG 5620	Notational Systems for Experience	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6900	Special Topics in Design	
GSND 5110	Game Design and Analysis	
GSND 5130	Mixed Research Methods for Games	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
GSND 6984	Research	
INAM 6300	Models for Applied Inquiry in Creative Practice	
JRNL 5400	Media and Advocacy in Theory and Practice	
Dissertation		
INAM 9990	Dissertation Term 1	
INAM 9991	Dissertation Term 2	

Discipline-Specific Coursework

Code	Title	Hours
Complete 8 semester hours of discipline-specific coursework in consultation with your domain-specific advisor and committee members.		8

A minimum of 28 semester hours of coursework beyond the graduate degree is required.
A minimum 3.000 cumulative GPA and no grades lower than a B in core courses are required.

Advanced Entry Plan of Study

Year 1

Fall	Hours	Spring	Hours
INAM 7000	4	INAM 7900	4
INAM 7001	4	Research methods elective	4
Discipline-specific coursework	4	Discipline-specific coursework	4
	12		**12**

Year 2

Fall	Hours	Spring	Hours
Qualifying exams	0	Teaching requirement, TA	0
Teaching requirement, TA	0	INAM 7901	4
INAM 9990	0	INAM 9991	0
	0		**4**

Year 3

Fall	Hours	Spring	Hours
Teaching requirement, teacher of record	0	Teaching requirement, teacher of record	0
INAM 9996	0	INAM 9996	0
	0		**0**

Year 4

Fall	Hours	Spring	Hours
INAM 9996	0	INAM 9996	0
	0		**0**

Total Hours: 28

Arts Administration and Cultural Entrepreneurship, MS

The arts and cultural industries are key drivers of each nation's economy, contributing more than $730 billion annually in the United States alone. While the economic impact of the arts and cultural industries can be measured, their social impacts are often underestimated. Music, dance, visual art, and theatre are critical to how we perceive, interpret, and critique the world and people around us. The arts articulate our beliefs, politics, familial and community ties, and history.

Arts administrators are the bridge between creative practitioners and audiences and between arts institutions and supportive stakeholders. In today's digitally driven, highly competitive, and increasingly global economy, traditional institutions for visual and performing arts face critical sustainability challenges. Leaders in the arts must adopt the creative thinking and problem-solving skills of an entrepreneur in order to envision new models for creative practice, audience engagement, and funding.

The interdisciplinary Master of Science in Arts Administration and Cultural Entrepreneurship (AACE) prepares arts leaders to both convey the human necessity of creative expression and apply creative thinking to manage resources, inspire audience engagement, and sustain financial support. The arts, and audience opportunities to experience them, are more dynamic and diverse than ever before, flourishing in major arts institutions as well as nonhierarchical organizations, from artist-run spaces and community organizations to annual festivals and pop-up exhibitions. It is time for a transformation in leadership training that matches the ingenuity of today's most exciting experiments in music, dance, theatre, and the visual arts. Arts leaders must also be equipped with the administrative, analytical, and technological skill sets necessary to excel within the complex, interdependent arts ecosystem.

The AACE curriculum is designed to meet the changing needs of arts leaders, from administrators in arts institutions to creative practitioners and entrepreneurs eager to make their art startup a reality. The program focuses on leadership innovation in a range of performance, visual arts, and cultural organizations. As an intellectual and practical course of study that merges the expertise of academics, creative professionals, administrators, and entrepreneurs, the program's aim is to support sustainable creative practice.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Arts Administration Foundation		
AACE 6000	Arts and Culture Organizational Leadership	3
AACE 6010	Planning for Arts and Cultural Organizations	3
AACE 6020	Experiential Study in Arts Administration	3
Cultural Entrepreneurship Foundation		
AACE 6200	Programming and Community Engagement for Cultural Entrepreneurs	3
AACE 6210	Building Value Through Cultural Enterprise	3
AACE 6300	Fundraising in the Arts	3

Electives

Code	Title	Hours
Arts Administration Directed Elective		
Complete one of the following:		3
AACE 6110	Information Technology for Arts and Cultural Organizations	
AACE 6120	Advocacy and the Arts	
Cultural Entrepreneurship Directed Elective		
Complete one of the following:		3
AACE 6220	Innovative Approaches to Audience Engagement	
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
ENTR 6218	Business Model Design and Innovation	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6250	Lean Design and Development	
Experiential Electives in Arts Leadership		
Complete two of the following courses not taken to fulfill the above requirements:		6
AACE 6110	Information Technology for Arts and Cultural Organizations	

AACE 6120	Advocacy and the Arts
AACE 6220	Innovative Approaches to Audience Engagement
ARTG 6310	Design for Behavior and Experience
LW 6110	Law of Information and Records
LW 6120	Law and Strategy
LW 6160	Regulation and Global Business Strategies
MUSI 6000	Management of Music Organizations
MUSI 6300	Intellectual Property for Creative Practice Leadership

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plans of Study

TWO YEARS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
AACE 6000	3	AACE 6010	3	Arts Administration Directed Elective	3
AACE 6200	3	AACE 6300	3		
	6		**6**		**3**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours
AACE 6020	3	Cultural Entrepreneurship Directed Elective	3	Experiential Elective 2	3
AACE 6210	3	Experiential Elective 1	3		
	6		**6**		**3**

Total Hours: 30

ONE AND A HALF YEARS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
AACE 6000	3	AACE 6010	3	Arts Administration Directed Elective	3
AACE 6200	3	AACE 6020	3		
AACE 6210	3	AACE 6300	3		
	9		**9**		**3**

Year 2

Fall	Hours
Cultural entrepreneurship directed elective	3
Experiential elective 1	3
Experiential elective 2	3
	9

Total Hours: 30

Creative Collaboration and Multidisciplinary Design, MS

Overview

The Master of Science in Creative Collaboration and Multidisciplinary Design is an executive education degree rooted in the creative process as the main driver for adaptive thinking, dynamic communication, and empowering collaboration. In today's highly networked organizational structures, current and future leaders will need the skills to navigate the creative process, respond to shifting landscapes with agility, and articulate their vision through multiple modalities in ways that inspire, connect, and call others to action. This highly interactive, experiential degree will provide students with a combination of design skills and creativity techniques in a project-based learning environment to foster innovative leadership and empower communication. Graduates will leave with a flexible toolkit to nurture their individual creativity, adaptability in the face of rapid change, and skills to become well-rounded strategists and communicators.

Program Requirements

Program Requirements

Code	Title	Hours
Foundation		
INAM 5300	Principles of Design	2
INAM 5305	User Observation and Design Planning	2
INAM 5310	Principles of Creative Collaboration	2
Seminars		
INAM 5507	Foundations of Data Visualization	1
INAM 5508	Visual Data Encodings	1
Experiential		
INAM 5400	Facilitating Creative Collaboration	2
INAM 5405	The Agile Mindset and Design-Led Innovation	2
INAM 5410	Persuasion and the Power of Storytelling	2
Studio		
INAM 5415	Design Studio: Fundamentals of Iterative Prototyping	2
Capstone		
INAM 6900	Interdisciplinary Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours of electives from one of the ranges below (or in consultation with your graduate advisor):		12
INAM 5300 to INAM 5349		
INAM 5400 to INAM 5449		
INAM 5500 to INAM 5549		
INAM 6500 to INAM 6549		

Plan of Study

Sample Full-Time Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INAM 5300	2	INAM 5400	2	INAM 5415	2
INAM 5305	2	INAM 5405	2	INAM 5507	1
INAM 5310	2	INAM 5410	2	INAM 5508	1
Electives	6	Electives	6	INAM 6900	4
	12		**12**		**8**

Total Hours: 32

Sample Part-Time Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INAM 5300	2	INAM 5400	2	INAM 5415	2
INAM 5305	2	INAM 5405	2	INAM 5507	2
INAM 5310	2	INAM 5410	2	INAM 5508	2

Elective		2	Elective	2	Elective 2
		8		**8**	**8**
Year 2					
Fall	**Hours**				
Electives		4			
INAM 6900		4			
		8			

Total Hours: 32

Creative Practice Leadership, MS

Admissions to this program have been suspended.

Website (https://camd.northeastern.edu/program/creative-practice-leadership/)

Through a series of four transdisciplinary core courses and four discipline-weighted, student-selected electives in the performing and visual arts, the MS Creative Practice Leadership offers a two-semester, intensive, Masters-level program of training in and exploration of new approaches to leadership in the fields of critical creative practice, cultural entrepreneurship, and innovation in the arts and entertainment industries. Grounded in a broadly interdisciplinary approach, the goal is to enable administrators and practitioners in the creative professions to become transformational leaders and change agents for a rapidly evolving cultural environment.

The MS Creative Practice Leadership engages administration, curation, advocacy and other forms of cultural communication and intermediation from the point of view that creative practice leadership must become more than an outwardly successful business or administrative exercise; rather, such leadership must re-examine past assumptions about, and envision new parameters for how, success is defined. The ethos underlying the design of courses in this program is that leadership in the arts and creative industries brings a responsibility to the progress, vitality and sustainability of the world that those creative enterprises seek to embrace, a responsibility that requires critical thinking and deeply thoughtful exploration, along with the skills necessary for implementation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INAM 6100	Critical Foundations of Creative Practice	4
INAM 6200	Topics in Communication Strategies	4
INAM 6210	Projects in Interdisciplinary Creative Practice	4
INAM 6300	Models for Applied Inquiry in Creative Practice	4

Electives

Code	Title	Hours
Complete 16 semester hours in the following subject areas in consultation with your advisor:		16
AACE, ARTG, ARTH, COMM, INAM, JRNL, MUSI, THTR, 5000 level or above		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample One Year, No Co-op

Year 1

Fall	Hours	Spring	Hours
INAM 6100	4	INAM 6210	4
INAM 6200	4	INAM 6300	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 32

Sample Two Year, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INAM 6100	4	INAM 6210	4	Elective	4	Co-op	
INAM 6200	4	INAM 6300	4				
Elective	4						
Elective	4						
	16		**8**		**4**		**0**

Year 2	
Fall	**Hours**
Co-op	
Elective[1]	4
	4

Total Hours: 32

1 International students cannot take an online elective in their last term as their only class.

Extended Realities, MS

Overview

The Master of Science in Extended Realities seeks to open the new technologies, methods, practices, and skills of extended realities (XR) to students. XR includes augmented, virtual, and mixed reality. XR technologies have seen explosive growth over the last decade of mixed reality.

This program is structured to allow students flexibility and specialization to choose a path that matches their interest. Students have the opportunity to focus on a single concentration area or a mix of course electives depending upon their professional background and aspirations. The College of Arts, Media and Design partners closely with Bouvé College of Health Sciences, the College of Engineering, the D'Amore McKim School of Business, and Khoury College of Computer Sciences to offer additional concentrations that provide breadth and depth of knowledge.

The Master of Science in Extended Realities welcomes students from a diverse range of backgrounds because of the applications of XR technology used in many disciplines and industries, including medicine, business, entertainment, architecture, and journalism.

Some concentrations may require a technical background and are noted in the requirements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Extended Reality Core

Code	Title	Hours
Required Courses		
EXRE 5010 and EXRE 5011	Immersive Media: Extended Realities (XR) History, Theory, and Impact and Seminar for EXRE 5010	5
EXRE 5020	Developing Extended Realities (XR)	4
EXRE 5030	Designing Extended Realities (XR)	4
EXRE 6500	Extended Realities (XR) Studio	4
EXRE 7500 or EXRE 7990	Extended Realities (XR) Project Thesis	4
GSND 5122	Business Models in the Game Industry	1

Extended Reality Concentration Options

Complete one of the following options:

- Artificial Intelligence (p. 158)
- Data Visualization (p. 159)
- Entrepreneurship (p. 159)
- Experience Design (p. 159)
- Game Design (p. 159)
- Game Science (p. 160)
- Human Computer Interaction (p. 160)
- Human Movement Science (p. 160)
- Information Ethics (p. 160)
- Marketing (p. 161)
- Media Innovation and Advocacy (p. 161)
- Public History (p. 161)
- Wireless Networking (p. 161)
- XR Design (p. 162)
- XR Development (p. 162)

Program Credit/GPA Requirements

34 total semester hours required. Some concentrations may require more than 34 semester hours to complete.
Minimum 3.000 GPA required

ARTIFICIAL INTELLIGENCE CONCENTRATION

Code	Title	Hours
Requires a background in computer science.		
Complete three of the following:		12

CS 5097	Mixed Reality
CS 5100	Foundations of Artificial Intelligence
CS 6120	Natural Language Processing
CS 6140	Machine Learning

DATA VISUALIZATION CONCENTRATION

Code	Title	Hours
Required Courses		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
ARTG 5330	Visualization Technologies 1: Fundamentals	4
Electives		
Complete 4 semester hours from the following:		4
ARTG 5310	Visual Cognition	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	

ENTREPRENEURSHIP CONCENTRATION

Code	Title	Hours
Required Courses		
INNO 6200	Enterprise Growth and Innovation	3
Electives		
Complete 9 semester hours from the following:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

EXPERIENCE DESIGN CONCENTRATION

Code	Title	Hours
Required Courses		
ARTG 5610	Design Systems	4
ARTG 6310	Design for Behavior and Experience	4
Electives		
Complete 4 semester hours from the following:		4
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	

GAME DESIGN CONCENTRATION

Code	Title	Hours
Required Courses		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
Electives		
Complete 8 semester hours from the following:		8
GSND 6000	Advanced Topics in Game Design	

GSND 6240	Exploratory Concept Design
GSND 6250	Spatial and Temporal Design

GAME SCIENCE CONCENTRATION

Code	Title	Hours
Required Courses		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
Electives		
Complete at least 8 semester hours from the following:		8
GSND 6001	Advanced Topics in Game Science	
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

HUMAN COMPUTER INTERACTION CONCENTRATION

Code	Title	Hours
Required Courses		
CS 5340	Computer/Human Interaction	4
Electives		
Complete 8 semester hours from the following:		8
ARTG 5710	Design for Dignity	
CS 5097	Mixed Reality	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 6350	Empirical Research Methods	
CS 7390	Special Topics in Human-Centered Computing	
GSND 6340	Biometrics for Design	

HUMAN MOVEMENT SCIENCE CONCENTRATION

Code	Title	Hours
Required Courses		
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
Electives		
Complete 7–8 semester hours from the following:		7-8
PT 5133	Kinesiology	
PT 5150	Motor Control, Development, and Learning	
PT 5321	Applications of Biomechanics in Human Function and Movement	
PT 5410	Functional Human Neuroanatomy	
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation	
PT 7020	Technologies in Movement and Rehabilitation Science	

INFORMATION ETHICS CONCENTRATION

Code	Title	Hours
Required Courses		
Complete two of the following:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Elective		
Complete one of the following:		4
PHIL 5001	Global Justice	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

MARKETING CONCENTRATION

Code	Title	Hours
Required Courses		
MKTG 6200	Creating and Sustaining Customer Markets	3
Electives		
Complete 9 semester hours from the following:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

MEDIA INNOVATION AND ADVOCACY CONCENTRATION

Code	Title	Hours
Required Courses		
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 6340	Fundamentals of Digital Journalism	4
Elective		
Complete one of the following:		4-5
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
JRNL 5311	Design for Storytelling	
JRNL 6305	Topics (and optional ARTG 5151)	
JRNL 6341	Telling Your Story with Data	

PUBLIC HISTORY CONCENTRATION

Code	Title	Hours
Required Courses		
HIST 5237	Issues and Methods in Public History	4
Complete the following (repeatable) course twice:		4
HIST 8410	Fieldwork in History 1 (to be taken twice)	
Elective		
Complete one of the following:		4
HIST 5241	Exhibits and Museums	
HIST 7219	Topics in Cultural History	
HIST 7250	Topics in Public History	

WIRELESS NETWORKING CONCENTRATION

Code	Title	Hours
Required Courses		
EECE 7374	Fundamentals of Computer Networks	4
Electives		
Complete 8 semester hours from the following:		8
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	

XR DESIGN CONCENTRATION

Code	Title	Hours
Required Courses		
GSND 6520	3D Modeling and Asset Creation Principles	4
Electives		
Complete at least 8 semester hours from the following:		8-9
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 5310	Visual Cognition	
ARTG 5610	Design Systems	
ARTG 6310	Design for Behavior and Experience	
EXRE 5973	Topics in Extended Realities (XR)	
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	
GSND 6250	Spatial and Temporal Design	
GSND 6330	Player Experience	
GSND 6340	Biometrics for Design	
GSND 6460	Generative Game Design	
JRNL 6340	Fundamentals of Digital Journalism	

XR DEVELOPMENT CONCENTRATION

Code	Title	Hours
Required Courses		
CS 5097	Mixed Reality	4
Electives		
Complete 8 semester hours from the following:		8
CS 5150	Game Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5310	Computer Graphics	
CS 5335	Robotic Science and Systems	
CS 5340	Computer/Human Interaction	
CS 5850	Building Game Engines	
CS 6140	Machine Learning	

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours
EXRE 5010 and EXRE 5011	5	EXRE 5030	4
EXRE 5020	4	GSND 5110 and GSND 5111 and GSND 5112	5
	9		**9**

Year 2

Fall	Hours	Spring	Hours
EXRE 6500	4	EXRE 7500	4
GSND 5122	1	GSND 6350	4
GSND 6340	4		
	9		**8**

Total Hours: 35

Urban Planning and Policy, MS

The Master of Science in Urban Planning and Policy program trains leaders interested in building just and sustainable solutions to today's critical urban problems. Students in the program develop the theoretical and analytical tools to understand contemporary challenges of social, racial, and environmental injustice in cities and urban regions. They develop professional tools to work effectively in the realms of planning, policy, politics, and advocacy to impact urban challenges, including affordable housing provision, equitable and sustainable economic growth, sustainable transportation, and climate change adaptation and mitigation. This innovative program combines the expertise in urban planning and policy analysis data analytics of the School of Public Policy and Urban Affairs with expertise in physical planning, design, and data visualization at the School of Architecture. The core curriculum of the program provides students with a solid foundation in essential skills and concepts, including techniques of effective community engagement, research design and statistics, economic analysis, legal foundations of urban planning and policy, and the history of urban development and urban planning. Students also have the opportunity to develop substantial expertise in a specialization area, including urban analytics, urban sustainability and resilience, urban design and physical planning, and urban development policy and planning.

The optional cooperative education experience (co-op) is available to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

In addition to the co-op option, students in the program have opportunities to gain experience in the application of their knowledge and skills via internships, class projects, and a capstone research report. They graduate prepared for careers working for state and local government, federal agencies, community development corporations and other nonprofit organizations, research institutes, and as private-sector planning consultants.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Planning and Policy		
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	4
PPUA 6502	Economic Analysis for Policy and Planning	4
SUEN 6340	Topics in Urban Environmental Design	4
Research Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
Students in the urban analytics focus area are encouraged to take INSH 5301.		
Choose one from the following:		4
INSH 5301	Introduction to Computational Statistics	
INSH 6500	Statistical Analysis	
Planning Law		
Choose one from the following:		2-4
LPSC 5201	Law and the City	
PPUA 5201	Urban Planning and the Law	
Planning and Social Justice		
Choose one from the following:		2-4
PPUA 5233	Contemporary Community Development	
PPUA 5235	Participatory Community Planning Methods	
PPUA 6219	Race, Justice, and Belonging in Planning Practice	

Focus Areas

Complete one of the following focus areas:

- Urban Design and Physical Planning (p. 164)
- Urban Analytics (p. 164)
- Sustainability and Resilience (p. 164)
- Urban Development Policy and Planning (p. 165)

URBAN DESIGN AND PHYSICAL PLANNING

Code	Title	Hours
Gateway Course		
ARCH 6340	Graduate Topics in Architecture	4
Tracks		
Complete one of the following tracks:		8
Urban Design and Real Estate		
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
Physical Planning and Design for Sustainable Urbanism		
SUEN 7230	Urban Ecologies and Technologies 1	
SUEN 7240	Urban Ecologies and Technologies 2	
Urban Experience Track		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 6310	Design for Behavior and Experience	
Capstone		
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	6

URBAN ANALYTICS

Code	Title	Hours
Gateway Course		
PPUA 5262	Big Data for Cities	4
Required Courses		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4

SUSTAINABILITY AND RESILIENCE

Code	Title	Hours
Gateway Course		
LPSC 7312	Cities, Sustainability, and Climate Change	4
or SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	
Methods		
Complete one of the following:		4
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
SUEN 7230	Urban Ecologies and Technologies 1	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5231	Transportation Policy	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5249	Sustainable Urban Coastal Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6220	Implementation and Visualization for Urban Environments 2	
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	

SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

URBAN DEVELOPMENT POLICY AND PLANNING

Code	Title	Hours
Gateway Course		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5233	Contemporary Community Development	
PPUA 5265	Global Urbanization and Planning	
Methods		
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
or PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
PPUA 5265	Global Urbanization and Planning	
PPUA 5270	Food Systems and Public Policy	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6551	Nonprofit Organizations and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6340	Topics in Urban Environmental Design	

Electives

Code	Title	Hours
Complete 4-8 semester hours of the following:		4-8
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
ARCH 6100	Graduate Skills Studio	
ARCH 6330	Seminar in Modern Architecture	
ARCH 6340	Graduate Topics in Architecture	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 6330	Information Design Mapping Strategies	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5302	Information Design and Visual Analytics	
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	

PPUA 5234	Land Use and Urban Growth Policy
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers
PPUA 5238	Climate Change and Global Urbanization
PPUA 5239	Problems in Metropolitan Policymaking
PPUA 5244	Comparative Public Policy and Administration
PPUA 5245	Education Policy in the United States
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5260	Ecological Economics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5265	Global Urbanization and Planning
PPUA 5270	Food Systems and Public Policy
PPUA 6202	Research Toolkit for Python for Policy
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing
PPUA 6506	Techniques of Policy Analysis
PPUA 6551	Nonprofit Organizations and Social Change
PPUA 7237	Advanced Spatial Analysis of Urban Systems
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems
SUEN 6210	Implementation and Visualization for Urban Environments 1
SUEN 6220	Implementation and Visualization for Urban Environments 2
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory
SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

48 total semester hours required (50 with optional co-op)
Minimum 3.000 GPA required

Arts Administration, Graduate Certificate

Today's arts sector is more vital and dynamic than ever, flourishing in both arts institutions and "non-hierarchical organizations," from artist-run spaces to community organizations. This context, paired with changes in the funding climate over the past 30 years, has generated a need to transform leadership training in the arts. Creative thinkers must be equipped with administrative, analytical, entrepreneurial, and technological skill sets to work within the complex, interdependent arts and cultural ecosystem.

The **Graduate Certificate in Arts Administration** offers an interdisciplinary graduate program focused on leadership innovation in performance, visual arts, cultural, and community organizations.

The Graduate Certificate in Arts Administration challenges students to create diverse, viable, and sustainable arts and culture projects and organizations; to use entrepreneurial practices in order to create transformation; to develop and deploy new arts and culture sector-focused business and analytic skills; and to design innovative planning and engagement strategies. Course and project work embeds experiential opportunities to explore and demonstrate transformational arts management approaches.

The required curriculum includes three core and one directed elective for a total of 12 credit hours. All courses can be completed online.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
AACE 6000	Arts and Culture Organizational Leadership	3
AACE 6010	Planning for Arts and Cultural Organizations	3
AACE 6020	Experiential Study in Arts Administration	3

Elective

Code	Title	Hours
Complete one of the following:		3
AACE 6110	Information Technology for Arts and Cultural Organizations	
AACE 6200	Programming and Community Engagement for Cultural Entrepreneurs	
AACE 6210	Building Value Through Cultural Enterprise (Building Value through Cultural Enterprise)	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Cultural Entrepreneurship, Graduate Certificate

Cultural entrepreneurs combine their passion for creative and cultural products and programs with creative, out-of-the-box thinking to forge the resilience of the arts sectors and the wider communities they serve. Cultural entrepreneurs employ innovative approaches to audience engagement – like a roving theater company, pop-up museum, or a smartphone app for artistic collaboration – to deliver artistic value to wide and diverse audiences and make a positive social, environmental, and economic impact. Today's cultural entrepreneurs operate in diverse professional environments, from consulting for organizational transformation to launching a creative startup. By understanding community impacts and activating a range of cultural and creative experiences, cultural entrepreneurs play a crucial role in ensuring the vitality of artistic engagement, advancing community goals, and strengthening society.

The **Graduate Certificate in Cultural Entrepreneurship** empowers students with a critical, creative perspective on arts programming and management and a myriad of creative management tools that harness new technologies for artistic engagement.

The Graduate Certificate in Cultural Entrepreneurship offers an interdisciplinary program to create diverse and viable projects and organizations for artistic experience and positive social impact. The program prepares students to become innovators in a range of artistic and cultural disciplines, from music, visual art, theater, and dance to community-building and transformation. The curriculum offers students the opportunity to identify opportunities for evolution in the arts and cultural sectors and to develop critical, creative practices; leadership acumen; and skill sets in arts management, strategic planning, and performance analysis to conceive and implement creative, cultural programming for community engagement and positive impact.

The program learning objectives provide students with opportunities to:

- Develop an understanding of methods and tools used to conceptualize, scope, pilot, evaluate, iterate and launch cultural entrepreneurship projects;
- Align creative practice and arts enterprise strategies with opportunities, challenges and resources to achieve desired impact;
- Apply communication, engagement and evaluation techniques to develop and sustain diverse audiences and stakeholder relationships;
- Engage in critical analysis of the work of peers and industry leaders by analyzing and contextualizing the quality, viability and sustainability of culturally-driven entrepreneurship.

The required curriculum includes three core courses and one directed elective for a total of 12 semester hours. All courses can be completed online.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
AACE 6200	Programming and Community Engagement for Cultural Entrepreneurs	3
AACE 6210	Building Value Through Cultural Enterprise (Building Value through Cultural Enterprise)	3
AACE 6220	Innovative Approaches to Audience Engagement (Experiential Study in Cultural Entrepreneurship)	3

Elective

Code	Title	Hours
Complete one of the following:		3
AACE 6000	Arts and Culture Organizational Leadership	
AACE 6010	Planning for Arts and Cultural Organizations	
AACE 6110	Information Technology for Arts and Cultural Organizations	
ENTR 6212	Business Planning for New Ventures	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

D'Amore-McKim School of Business

Website (https://damore-mckim.northeastern.edu/?utm_medium=website&utm_source=catalog)

David De Cremer, PhD, Dunton Family Dean

Kate E. Klepper, MBA, Associate Dean of Graduate Programs

Northeastern University's D'Amore-McKim School of Business has built and sustained a legacy of excellence for 100 years. Our graduate programs prepare leaders with a curriculum focused on technology, data analytics, and uniquely human skills like critical thinking, creativity, and an entrepreneurial mindset.

D'Amore-McKim is part of a thriving global network, attracting some of the best and brightest faculty across the business world. Many are founders of tech startups and respected management leaders, and our students benefit daily from their research and expertise.

Experience-fueled learning is at the heart of everything we do. Our students do more than master skills in their chosen business field. They put the knowledge gained from a demanding curriculum to work as they apply what they've learned to authentic business challenges. This educational model sets us apart.

Graduate School of Business Administration
617.373.5992

Most graduate degrees: gradbusiness@northeastern.edu
Most graduate certificates: gradcertificates@northeastern.edu
Online MBA and Online Graduate Certificates: onlinemba@northeastern.edu

Graduate School of Professional Accounting
617.373.3244
gspa@northeastern.edu

Master of Science

Northeastern University's D'Amore-McKim School of Business develops leaders and thinkers who will guide the future of work in an ever-evolving digital landscape.D'Amore-McKim master's degree programs#help students build specialized expertise and gain a competitive advantage.

Our innovative master's programs—taught with D'Amore-McKim's focus on the tech economy—prepare students to excel in a data-driven business world.Students learn from our respected business faculty, many of whom are consultants, founders of tech start-ups, and respected management leaders. Students study alongside diverse classmates who share their passions and interests.

Students enroll in D'Amore-McKim's master's degrees for full-time or part-time study.

Programs

Master of Science (MS)

- Business Analytics (p. 171)
- Business Analytics—Online (p. 172)
- International Management (p. 173)
- Management (p. 174)

Master of Science in Accounting (MSA)

- Accounting (p. 185)

Master of Science in Finance (MSF)

- Finance (p. 187)
- Quantitative Finance (p. 188)

Business Analytics, MS

Northeastern University D'Amore-McKim School of Business's Master of Science in Business Analytics (https://damore-mckim.northeastern.edu/programs/ms-business-analytics/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=msba) prepares students to lead in a business world driven by Big Data.

Make Data-Driven Business Decisions

Students build the skills to know what data to analyze and understand how to leverage that data for strategic decision making. Classwork provides exposure to data mining, statistical and quantitative analysis, multivariate testing, and predictive modeling. Students explore how to build sales, enhance marketing, or strengthen a company's infrastructure.

Integrate Classroom and Professional Experiences

Through in-class case studies and a capstone project, professors share real company data so that students apply their knowledge to actual business challenges. They gain unique perspectives as they learn from renowned experts who have led through times of rapid change. Through an optional graduate co-op, students translate ideas into action as they complete a project for an organization.

Complete the Degree in as Few as 12 Months

Students complete seven courses throughout the first two semesters and an optional career management class developed by the Graduate Career Center advisor. Students may complete their final three courses over the summer term or can extend their studies and complete their program in the fall term.

Students enroll in this 30-semester-hour master's degree program for full-time study.

Program Requirements

Core Requirements

Code	Title	Hours
MISM 6200	Introduction to Business Analytics	3
MISM 6202	Foundations of Data Analysis for Business	3
MISM 6205	Data Wrangling for Business	3
MISM 6210	Information Visuals and Dashboards for Business	3
MISM 6212	Data Mining and Machine Learning for Business	3
MISM 6213	Business Information Design, Quality, and Strategy	3
MISM 6214	Business Analytics Capstone	3

Elective Coursework

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
HRMG 6223	Global Talent Management	
MISM 6201	Database Management for Business	
MISM 6206	Modeling for Business	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	
MKTG electives as advised		

Optional Career Management Course

Code	Title	Hours
BUSN 6200	Career Management	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Business Analytics, MS—Online

Northeastern University D'Amore-McKim School of Business's Online Master of Science in Business Analytics (https://damore-mckim.northeastern.edu/programs/ms-business-analytics/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=msba) prepares working professionals to lead in a business world driven by Big Data.

Make Data-Driven Business Decisions

Students build the skills to know what data to analyze and understand how to leverage that data for strategic decision making. Classwork provides exposure to data mining, statistical and quantitative analysis, multivariate testing, and predictive modeling. Students explore building sales, enhancing marketing, or strengthening a company's infrastructure.

Integrate Classroom and Professional Experiences

Through in-class case studies and a capstone project, professors share real company data so that students apply their knowledge to actual business challenges. They gain unique perspectives as they learn from renowned experts who have led through times of rapid change.

Learn From Anywhere, Anytime

Listen to lectures, access course materials, and submit assignments by deadlines in this 100% online program. All courses are seven weeks long, and you'll focus on one course at a time for an intensive learning experience.

Students enroll in this 30-semester-hour master's degree program for online study.

Program Requirements

Core Requirements

Code	Title	Hours
MISM 6200	Introduction to Business Analytics	3
MISM 6202	Foundations of Data Analysis for Business	3
MISM 6205	Data Wrangling for Business	3
or MISM 6203	Business Analytics Methods	
MISM 6210	Information Visuals and Dashboards for Business	3
MISM 6212	Data Mining and Machine Learning for Business	3
MISM 6213	Business Information Design, Quality, and Strategy	3
MISM 6214	Business Analytics Capstone	3

Elective Coursework

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
HRMG 6223	Global Talent Management	
MKTG 6232	Engaging Customers and Markets	
MKTG 6294	Customer-Centric Research Methods for Marketing	
MKTG 6295	Customer Performance Modeling	
STRT 6210	Workforce Metrics and Analytics	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

International Management, MS

Northeastern University D'Amore-McKim School of Business's Master of Science in International Management program is designed to prepare students to bridge local and international operations quickly and confidently.

Develop a Global Mindset

Students have an opportunity to develop critical thinking skills to handle the challenges organizations and businesses face when operating across borders and cultures. Core courses focus on cultural agility, leadership, and workforce management. Students explore topics ranging from international trade to globalization of the world economy.

Integrate Classroom and Professional Experiences

Students obtain real-world experiences that help them to gain a fresh perspective while using relevant skills. They apply their knowledge to actual business challenges through class projects.

Students can gain experience tackling real business issues faced by a company aligned with their career aspirations through the "Make Your Case" consulting program. Students build storytelling and case-writing skills while gaining inside exposure to their chosen industry.

Students may enroll in this 30-semester-hour master's degree program for full-time and part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
INTB 6200	Managing the Global Enterprise	3
INTB 6226	Becoming a Global Leader	3
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met:		3
STRT 6210	Workforce Metrics and Analytics (or graduate-level INTB elective)	
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
FINA 6204	International Financial Management	
INNO 6200	Enterprise Growth and Innovation	
INTB 5000 - 6999		
INTB 6230	Global Field Study	
MKTG 6212	International Marketing	
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
INTB 6260	Advanced Topics in Global Management and Strategy	
STRT 6200	Strategic Decision Making in a Changing Environment	

Electives

Code	Title	Hours
In consultation with advisor, complete 15 graduate-level semester hours from the following for which prerequisites have been met:		15
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Management, MS

Overview

Northeastern University's D'Amore-McKim School of Business MS in Management (https://damore-mckim.northeastern.edu/programs/ms-x/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=msx) program enables students to gain the business knowledge and specialized expertise needed in today's digitally driven economy.

Students enroll in this 30-semester-hour master's degree program for full-time, part-time, or hybrid study. There are four ways to earn this master's degree:

MS in Management: Boston Campus

The MS program in management on our Boston campus allows students to personalize all aspects of their degree, including core coursework, to match their specific professional goals. Four core classes each represent a key domain: managing organizations, data-driven management, strategy and growth, and finance and operations. Students without a background in these areas have an opportunity to build foundational skills, and those with previous experience expand their knowledge in higher-level courses.

Students may focus their learning by selecting a market-aligned concentration. They'll personalize their program by selecting electives from the entire portfolio of graduate-level courses taught by D'Amore-McKim's industry-leading faculty. Or they may choose to take one elective from a diverse list of eligible graduate courses offered by other Northeastern colleges.

MS in Management: Oakland Campus

CONCENTRATION IN ENTREPRENEURSHIP

The MS program in management on our Oakland campus helps students build the expertise and perspective to succeed in a new business venture. All students take the same entrepreneurship-focused core coursework fostering networking within the cohort. Students have an opportunity to learn to design winning competitive strategies, from product and service development to venture financing, business plans, go-to-market strategy, and managing high-performance teams. Students also complete a four-course concentration in entrepreneurship to deepen their learning.

By studying in the Bay Area, students have access to some of the most successful tech and social ventures, allowing them to build their network while gaining the tangible skills to launch their own enterprise.

MS in Management: Online Only

CONCENTRATION IN DIGITAL TRANSFORMATION IN HEALTHCARE
CONCENTRATION IN HEALTHCARE ADMINISTRATION

The online MS program in management focuses on healthcare and leverages a unique partnership between Northeastern University and the Mayo Clinic College of Medicine and Science. Coursework provides a deep understanding of the technical skills, regulatory frameworks, and managerial competencies necessary to join the next generation of healthcare pioneers.

Students choose one of two concentrations: digital transformation in healthcare or healthcare administration. Digital transformation in healthcare is designed for current healthcare executives who want to leverage emerging technologies better. Healthcare administration offers business and healthcare knowledge tailored for those entering the industry.

MS in Management: Online with On-Campus Residencies

CONCENTRATION IN STRATEGIC TECHNOLOGY LEADERSHIP

The MS program in management with a concentration in strategic technology leadership is designed to prepare executives and senior leaders to harness digital technology and innovation. They develop expertise in solving challenges with cutting-edge technologies and deepen their knowledge of strategies for managing technology adoption.

Students develop a project business plan under the guidance of a seasoned executive mentor. Classes are hybrid, with live online interactive courses and three in-person residencies in Boston or London.

Program Requirements

Core Requirements

Code	Title	Hours
Managing Organizations		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
HRMG 6200	Managing People and Organizations	
HRMG 6212	Creating an Innovative Organization	
HRMG 6223	Global Talent Management	
INTB 6226	Becoming a Global Leader	
MGMT 6213	Managing Ethics in the Workplace and Marketplace	
MGMT 6214	Negotiations	

MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
Data-Driven Management		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
MISM 6200	Introduction to Business Analytics	
MISM 6202	Foundations of Data Analysis for Business	
MISM 6203	Business Analytics Methods	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MKTG 6200	Creating and Sustaining Customer Markets	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	
Strategy and Growth		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
INNO 6200	Enterprise Growth and Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INTB 6200	Managing the Global Enterprise	
MKTG 6216	Market Focused Strategy	
SCHM 6213	Global Supply Chain Strategy	
STRT 6200	Strategic Decision Making in a Changing Environment	
Finance and Operations		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met. Choose from the following:		3
FINA 6309	Foundations of Accounting and Finance	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	

Concentration Options

Students may complete one of the following concentrations. Not all concentrations are available at all locations; please refer to your advisor or admissions coach for the course availability each semester at your location. Courses taken to fulfill concentrations may be used toward the elective section below.

- Accounting Analytics (p. 177)
- Analytics (p. 177)
- Brand Management
- Business Management for Healthcare (p. 178)
- Corporate Finance
- Corporate Innovation
- Digital Transformation in Healthcare
- Entrepreneurship (p. 179)
- Healthcare Administration (p. 179)
- International Business (p. 180)
- Investments (p. 180)
- Leading People and Organizations (p. 180)
- Marketing (p. 181)
- Marketing Analytics (p. 181)
- Operations and Supply Chain Management (p. 181)

- Public Health (p. 182)
- Strategic Technology Leadership (p. 182)
- Sustainability and Business (p. 182)

Electives

Code	Title	Hours
In consultation with advisor, complete 18 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		18
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, MISM, SCHM, STRT		
In consultation with advisor, students may also select an interdisciplinary elective, for which prerequisites have been met, offered in partnership with other Northeastern University colleges. Choose from the following:		
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 6214	Experimental Design and Biostatistics	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 5110	Introduction to Data Management and Processing	
ECON 5140	Applied Econometrics	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 6600	Computation and Visualization for Analytics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7374	Special Topics in Industrial Engineering	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

JRNL 5311	Design for Storytelling
JRNL 5400	Media and Advocacy in Theory and Practice
JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

30 total semester hours required

Minimum 3.000 GPA required

CONCENTRATION IN ACCOUNTING ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
MISM 6202	Foundations of Data Analysis for Business	3
MISM 6205	Data Wrangling for Business	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
ACCT 6203	Business Entity Taxation	
ACCT 6205	Auditing in a Big Data Environment	
ACCT 6207	Contemporary and Emerging Issues in Financial Reporting	
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	
ACCT 6231	Corporations and Shareholders	
ACCT 6235	Partners and Partnerships	
MISM 6210	Information Visuals and Dashboards for Business	

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
or MISM 6203	Business Analytics Methods	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6200	Creating and Sustaining Customer Markets	3

MKTG 6223	Brand and Advertising Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
FINA 6220	Healthcare Finance	3
or SCHM 6223	Managing Healthcare Supply Chain Operations	
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Optional Electives		
Note: Electives are not required; the following course(s) are suggested beyond the concentration:		
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6205	Financial Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6204	International Financial Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
Electives		
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	

INNO 6200	Enterprise Growth and Innovation
INNO 6217	Lean Innovation
INNO 6222	Competing in Dynamic, Innovation-Driven Markets
INNO 6225	Acquisitions, Alliances, and Growth
MGMT 6280	Innovation for Next-Generation Products and Systems

CONCENTRATION IN DIGITAL TRANSFORMATION IN HEALTHCARE

Code	Title	Hours
To earn the Concentration in Digital Transformation in Healthcare, students must complete the following four core courses of the core curriculum of this program:		
MISM 6200	Introduction to Business Analytics	
MGMT 6213	Managing Ethics in the Workplace and Marketplace	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	
Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6404	Patient Engagement Informatics and Analytics	3
INNO 6200	Enterprise Growth and Innovation	3
MGSC 6281	Service Innovation and Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6220	Healthcare Finance	
or FINA 6309	Foundations of Accounting and Finance	
HINF 5105	The American Healthcare System	
HRMG 6220	Health Organization Management	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
Electives		
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6340	The Technical Entrepreneur as Leader	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

CONCENTRATION IN HEALTHCARE ADMINISTRATION

Code	Title	Hours
To earn the Concentration in Healthcare Administration, students must complete the following four core courses of the core curriculum of this program:		
FINA 6309	Foundations of Accounting and Finance	
or SCHM 6223	Managing Healthcare Supply Chain Operations	
MISM 6200	Introduction to Business Analytics	
MGMT 6213	Managing Ethics in the Workplace and Marketplace	

STRT 6220	Strategic Management for Healthcare Organizations	
Required		
HRMG 6200	Managing People and Organizations	3
HRMG 6223	Global Talent Management	3
INNO 6200	Enterprise Growth and Innovation	3
MGMT 6214	Negotiations	2-3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6309	Foundations of Accounting and Finance (If not taken towards concentration core)	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6404	Patient Engagement Informatics and Analytics	
HRMG 6220	Health Organization Management	
HRMG 6230	Leading a Diverse and Inclusive Organization	
MGSC 6281	Service Innovation and Management	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
SCHM 6223	Managing Healthcare Supply Chain Operations (If not taken towards concentration core)	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6200	Managing the Global Enterprise	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
INTB 6212	Cultural Aspects of International Business	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6203	Investment Analysis	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
Required		
HRMG 6200	Managing People and Organizations	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
HRMG 6212	Creating an Innovative Organization	

HRMG 6218	Great Companies
HRMG 6220	Health Organization Management
HRMG 6223	Global Talent Management
MGMT 6214	Negotiations
STRT 6210	Workforce Metrics and Analytics

CONCENTRATION IN MARKETING

Code	Title	Hours
Required		
MKTG 6200	Creating and Sustaining Customer Markets	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6200	Creating and Sustaining Customer Markets	3
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
Required		
SCHM 6201	Operations and Supply Chain Management	3
SCHM 6213	Global Supply Chain Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN PUBLIC HEALTH

Code	Title	Hours
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 6208	Urban Community Health Assessment	3

CONCENTRATION IN STRATEGIC TECHNOLOGY LEADERSHIP

Code	Title	Hours
To earn the Concentration in Strategic Technology Leadership, students must complete the following four core courses of the core curriculum of this program:		
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INTB 6226	Becoming a Global Leader	
MISM 6212	Data Mining and Machine Learning for Business	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
Required		
Complete the following course twice:		6
INNO 6250	Integrated and Applied Technology Leadership Project	3
Complete the following:		
INNO 6240	Strategic Disruption Residency 1	1
INNO 6241	Strategic Disruption Residency 2	1
INNO 6242	Strategic Disruption Residency 3	1
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, MISM, SCHM, or STRT		
Students may also select preapproved interdisciplinary electives, for which prerequisites have been met, offered in partnership with other Northeastern University colleges.		

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
Required		
MECN 6200	Global Competition and Market Dominance	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

Plan of Study

Sample Plans of Study

Not all concentrations are available at all locations; please refer to your advisor or admissions coach for the course availability each semester at your location.

MS IN MANAGEMENT: BOSTON CAMPUS (12 MONTHS)

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Core area course 1	3	Core area course 3	3	Core area course 4	3
Core area course 2	3	Concentration course 2 or elective	3	Concentration course 4 or elective	3
Concentration course 1 or elective	3	Concentration course 3 or elective	3	Elective	3

		Elective	3		
	9		**12**		**9**

Total Hours: 30

MS IN MANAGEMENT: BOSTON CAMPUS (16 MONTHS)

Year 1

Fall	Hours	Spring	Hours
Core area course 1	3	Core area course 3	3
Core area course 2	3	Concentration course 2 or elective	3
Concentration course 1 or elective	3	Concentration course 3 or elective	3
		Elective	3
	9		**12**

Year 2

Fall	Hours
Core area course 4	3
Concentration course 4 or elective	3
Elective	3
	9

Total Hours: 30

MS IN MANAGEMENT: OAKLAND CAMPUS (12 MONTHS)

Concentration in Entrepreneurship

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Core area course 1		Core area course 3		Core area course 4	
INNO 6222	3	FINA 6309	3	HRMG 6200	3
Core area course 2		Concentration course 2		Concentration course 4	
MISM 6202	3	ENTR 6241	3	ENTR 6219	3
Concentration course 1		Concentration course 3		Elective 2	
ENTR 6212	3	ENTR 6300	3	ENTR 6214	3
		Elective 1			
		INNO 6230	3		
	9		**12**		**9**

Total Hours: 30

MS IN MANAGEMENT: OAKLAND CAMPUS (16 MONTHS)

Concentration in Entrepreneurship

Year 1

Fall	Hours	Spring	Hours
Core area course 1		Core area course 3	
INNO 6222	3	FINA 6309	3
Core area course 2		Concentration course 2	
MISM 6202	3	ENTR 6241	3
Concentration course 1		Concentration course 3	
ENTR 6212	3	ENTR 6300	3
		Elective 1	
		INNO 6230	3
	9		**12**

Year 2

Fall	Hours
Core area course 4	
HRMG 6200	3
Concentration course 4	
ENTR 6219	3

Elective 2	
ENTR 6214	3
	9

Total Hours: 30

MS IN MANAGEMENT: ONLINE ONLY
Concentration in Digital Transformation

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INNO 6200	3	MISM 6200	3	MGMT 6213	3
STRT 6220	3	HINF 6404	3	Elective	3
MGSC 6281	3	SCHM 6223	3		
Elective	3	HINF 5101	3		
	12		**12**		**6**

Total Hours: 30

MS IN MANAGEMENT: ONLINE ONLY
Concentration in Healthcare Administration

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INNO 6200	3	MISM 6200	3	MGMT 6213	3
STRT 6220	3	HRMG 6222	3	Elective	3
HRMG 6200	3	MGMT 6214	3		
FINA 6309 (or elective)	3	SCHM 6214 (or elective)	3		
	12		**12**		**6**

Total Hours: 30

MS IN MANAGEMENT: ONLINE, WITH ON-CAMPUS RESIDENCIES [1]
Concentration in Strategic Technology Leadership

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
INNO 6222	3	MKTG 6230	3	Elective	3
INTB 6226	3	MISM 6212	3	Elective	3
INNO 6250	3	INNO 6250	3		
INNO 6240	1	INNO 6241	1		
	10		**10**		**6**

Year 2

Fall	Hours
Elective	3
INNO 6242	1
	4

Total Hours: 30

1 Students will take courses online but will be required to attend an on-campus residency in Boston and/or London.

Accounting, MSA

Northeastern University D'Amore-McKim School of Business's Master of Science in Accounting is designed to prepare students for a career in the rapidly evolving accounting industry.

Build Deep Accounting Expertise

Students build on their undergraduate accounting major and have an opportunity to gain the knowledge, skills, and credit hours needed to pursue CPA licensure and launch their careers in just seven months. Classwork deepens their expertise through advanced accounting topics, management best practices, and data analytics skills. The Board of Public Accountancy in Massachusetts has approved the program curriculum.

Select a Track

Students may specialize in either audit or tax, guiding them toward the career that best suits their goals. The audit track offers intense exposure to ethics, auditing research, and forensic accounting. The tax track explores the intricacies of the tax industry so that students may gain a comprehensive understanding of taxation at all levels, from local to international.

Integrate Classroom and Professional Experiences

Students have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills.#They#apply their knowledge to actual business challenges through class projects. Students gain unique perspectives as they learn from industry-leading faculty with years of practice as both PhDs and CPAs at Big 4 and other public accounting firms.

Students enroll in this 30-semester-hour master's degree program for full-time study.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6203	Business Entity Taxation	3
ACCT 6204	Financial Reporting for Integrated Multinational Enterprises	3
ACCT 6229	Accounting for Foreign Currency Transactions	1
Ethics		
ACCT 6253	Ethics in the Accounting Profession	3
Financial Reporting		
ACCT 6207	Contemporary and Emerging Issues in Financial Reporting	3
ACCT 6216	Financial Reporting for Governments and Nonprofit Entities	2

Tracks

Complete one of the following tracks:

AUDIT TRACK

Code	Title	Hours
ACCT 6205	Auditing in a Big Data Environment	3
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	3
ACCT 6254	Accounting Research and Communication	3

TAXATION TRACK

Code	Title	Hours
ACCT 6231	Corporations and Shareholders	3
ACCT 6235	Partners and Partnerships	3
ACCT 6254	Accounting Research and Communication	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
ACCT 5255	Forensic Accounting	
ACCT 5256	Internal Auditing	
ACCT 6239	State and Local Taxation	
ACCT 6240	International Taxation: Inbound Transactions	

ACCT 6243	Advanced Flow-Through Entities
ACCT 6248	Income Taxation of Trusts and Estates
ACCT 6292	Tax Research, Practice, and Ethics

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Finance, MSF

Northeastern University D'Amore-McKim School of Business' Master of Science in Finance (https://damore-mckim.northeastern.edu/programs/ms-finance/?utm_medium=website&utm_source=catalog&utm_campaign=ptmsf) helps students cultivate the high-level knowledge needed to drive financial strategy in today's tech economy.

Develop Deep Finance Expertise

Core courses and elective offerings help students become financial experts with the skills to diversify financial portfolios, effectively minimize risks, maximize return on investments, and sustain growth. Students interested in pursuing the Chartered Financial Analyst designation will find CFA preparations integrated into their coursework.

Integrate Classroom and Professional Experiences

Students will have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills. They apply their knowledge to actual business challenges through class projects.

Students can apply to participate in a student-managed mutual fund, The 360 Huntington Fund, where they gain valuable experience performing equity research and portfolio management. By participating in the Fund, students may earn one semester hour per semester with the option to fulfill a 3 semester hours elective course requirement by participating for three terms.

Students enroll in this 30-semester-hour master's degree program for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6202	Analysis of Financial Institutions and Markets	3
FINA 6203	Investment Analysis	3
FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3

Electives

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6220	Healthcare Finance	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6292	Advanced Topics in Finance	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
A maximum of one graduate-level business course may be taken from the following subject codes:		
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Quantitative Finance, MSF

Northeastern University D'Amore-McKim School of Business's Full-Time MS in Quantitative Finance is designed to prepare students to thrive in a rapidly changing finance industry transformed by technology and innovation.

Cultivate Advanced Finance and Fintech Skills

This quantitative finance curriculum emphasizes the intersection of finance and data analytics. Coursework integrates economics, mathematics, and computer science with financial theory and application. Students interested in pursuing the Chartered Financial Analyst designation will find CFA preparations integrated into their coursework.

Integrate Classroom and Professional Experiences

Students will have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills.Through an optional graduate co-op, students translate ideas into action as they complete a project for an organization.

Students can apply to participate in a student-managed mutual fund, The 360 Huntington Fund (https://damore-mckim.northeastern.edu/programs/360-huntington-fund/?utm_medium=website&utm_source=catalog&utm_campaign=msqf), where they can gain experience performing equity research and portfolio management. By participating in the Fund, students may earn 1 semester hour per semester with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Complete the Degree in as Few as 12 Months

In the first two semesters, students complete six required courses, one elective, and an optional career development program developed by the Graduate Career Center advisors. They may complete the remaining three elective courses over the summer term or extend their studies and complete their electives in the fall term.

Students enroll in this 30-semester-hour master's degree program for full-time study.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
FINA 6203	Investment Analysis	3
FINA 6331	Corporate Finance	3
FINA 6332	Fundamentals of Financial Math and Financial Markets	3
FINA 6333	Data Analytics in Finance	3
FINA 6334	Empirical Methods in Finance	3
FINA 6335	Derivatives and Risk Analytics	3

Electives

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours from the following for which prerequisites have been met:		12
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
ECON 5140	Applied Econometrics	
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6292	Advanced Topics in Finance	
FINA 6336	Fixed-Income Securities and Derivatives	
FINA 6337	Computational Methods in Finance	
FINA 6338	Alternative Investments	
FINA 6339	Quantitative Portfolio Management	
FINA 6340	Financial Markets and Banking in the Postcrisis Era	

FINA 6360	Fund Management for Analysts
FINA 6361	Fund Management for Managers

Optional Career Management Course

Code	Title	Hours
BUSN 6200	Career Management	0

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Master of Business Administration

Northeastern University's D'Amore-McKim School of Business prepares students to navigate a global and ever-evolving business world. A D'Amore-McKim MBA prepares students for the future of work in a digitally driven economy.

MBA students integrate broad business knowledge with a deep understanding of the future of technological advancement. They build in-demand skills leveraging actual company data through projects as they learn from a faculty of consultants, respected management leaders, and startup founders. This prepares our students to become innovative leaders.

Integrating classroom instruction with authentic, experience-powered learning is what we do best at D'Amore-McKim. It's an approach that expands students' knowledge base, develops their creative mindset, and prepares them to meet the shifting demands of today's business world. Students in our MBA programs will have ample opportunities to dive headfirst into experiences that will give them fresh perspectives and in-demand skills.

Students enroll in D'Amore-McKim MBA programs full time, part time, or for online study.

Programs

- Business Administration, MBA—Full-Time (p. 191)
- Business Administration, MBA—Online (p. 200)
- Business Administration, MBA—Part-Time (p. 202)

Business Administration, MBA—Full-Time

Northeastern University's D'Amore-McKim School of Business has reinvented the Full-Time MBA (https://damore-mckim.northeastern.edu/programs/full-time-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ftmba) for today's rapidly changing world. Our Full-Time MBA program integrates business knowledge with a deep understanding of technology, preparing students to stay ahead of change and become the leaders that today's business world demands. Students will choose from a wide-ranging list of in-demand electives and concentrations—including our signature MBA x concentrations—allowing them to develop a unique nonbusiness skill set.

Integrate Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Through a corporate residency, students translate ideas to action for three, six, or up to 12 months. Far removed from the typical internship, students work full-time at a leading firm or startup in their field and have significant responsibilities as they work to deliver on organizational goals.

Select Two Concentrations

Students will specialize their degree by selecting two in-demand business concentrations. Or, they could choose to add expertise in another professional area by choosing an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Build an Interdisciplinary Skill Set

Students will select six interdisciplinary (non-business) semester hours of their choice. They can mix and match the content that interests them from a diverse list of eligible graduate courses across Northeastern colleges.

Program Requirements

Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
BUSN 6363	Social Impact of Business	2
INNO 6318	Innovation Driven Strategy	2
Career Management		
BUSN 6200	Career Management	0
BUSN 6950	MBA Skills Workshop	0
Corporate Residency		
BUSN 6954	Co-op Work Experience - Half-Time	0
BUSN 6964	Co-op Work Experience	0
BUSN 6970	Professional Projects	0
Three-month, six-month, or up to two six-month corporate residency options		

Concentration Options

Complete two of the following concentrations:

- Analytics (p. 193)
- Brand Management (p. 194)
- Business Management for Healthcare (p.)
- Corporate Finance (p. 194)
- Corporate Innovation (p. 195)
- Entrepreneurship (p. 195)
- International Business (p. 195)

- Investments (p. 196)
- Leading People and Organizations (p. 196)
- Marketing (p. 196)
- Marketing Analytics (p. 197)
- Operations and Supply Chain Management (p. 197)
- Sustainability and Business (p. 197)
- MBA x Artificial Intelligence (p. 197)
- MBA x Bioinformatics (p. 197)
- MBA x Biotechnology Industry (p. 197)
- MBA x Cybersecurity (p. 198)
- MBA x Data Science (p. 198)
- MBA x Data Visualization (p. 198)
- MBA x Experience Design (p.)
- MBA x Game Design and Analytics (p. 198)
- MBA x Information Ethics (p. 198)
- MBA x Media Innovation and Advocacy (p. 199)
- MBA x Public Health (p. 199)
- MBA x Software Development (p. 199)

ELECTIVE

Code	Title	Hours
Experiential Requirement		
In consultation with advisor, complete 3 semester hours from the following:		3
BUSN 6351	Experiential Education	
BUSN 6945	Washington Campus Seminar	
ENTR 5000	New Venture Development	
INTB 6230	Global Field Study	
INTB 6238	Global Project	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
MKTG 6606	Digital, Analytics, Technology, and Automation Advanced Research Practicum	
Open Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
Interdisciplinary Requirement		
In consultation with advisor, complete 6 graduate-level semester hours, for which requirements have been met, offered in partnership with other Northeastern University colleges:		6
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	

BIOT 5631	Cell Culture Processes for Biopharmaceutical Production
BIOT 6214	Experimental Design and Biostatistics
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
DS 5110	Introduction to Data Management and Processing
ECON 5140	Applied Econometrics
GE 5030	Iterative Product Prototyping for Engineers
GE 5100	Product Development for Engineers
GSND 5110	Game Design and Analysis
GSND 6320	Psychology of Play
GSND 6340	Biometrics for Design
GSND 6350	Data-Driven Player Modeling
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5105	The American Healthcare System
HINF 6202	Business of Healthcare Informatics
HINF 6205	Creation and Application of Medical Knowledge
IE 5617	Lean Concepts and Applications
IE 5640	Data Mining for Engineering Applications
IE 6200	Engineering Probability and Statistics
IE 6600	Computation and Visualization for Analytics
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7374	Special Topics in Industrial Engineering
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
JRNL 5311	Design for Storytelling
JRNL 5400	Media and Advocacy in Theory and Practice
JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

55 total semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
BUSN 6365	Business Analytics	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
ECON 5140	Applied Econometrics	
IE 6600	Computation and Visualization for Analytics	
INSH 5302	Information Design and Visual Analytics	
MISM 6205	Data Wrangling for Business	

MISM 6210	Information Visuals and Dashboards for Business
MISM 6212	Data Mining and Machine Learning for Business
MISM 6213	Business Information Design, Quality, and Strategy
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit
MKTG 6234	Marketing Analytics
SCHM 6215	Supply Chain Analytics
STRT 6210	Workforce Metrics and Analytics

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
MKTG 6320	Advanced Marketing Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
FINA 6220	Healthcare Finance	3
or SCHM 6223	Managing Healthcare Supply Chain Operations	
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Optional Electives		
Note: Electives are not required; the following course(s) are suggested beyond the concentration:		3-9
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6320	Advanced Financial Management	3
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met:		3
FINA 6203	Investment Analysis	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
FINA 6203	Investment Analysis	

FINA 6204	International Financial Management
FINA 6205	Financial Strategy
FINA 6207	Financial Modeling
FINA 6211	Financial Risk Management
FINA 6213	Investment Banking
FINA 6214	Mergers and Acquisitions
FINA 6215	Business Turnarounds
FINA 6216	Valuation and Value Creation
FINA 6217	Real Estate Finance and Investment
FINA 6260	Entrepreneurial Finance and Venture Capital
MECN 6200	Global Competition and Market Dominance

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	
MGSC 6281	Service Innovation and Management	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
ENTR 6340	The Technical Entrepreneur as Leader	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6200	Managing the Global Enterprise	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
FINA 6204	International Financial Management	
INTB 6212	Cultural Aspects of International Business	
INTB 6224	Competing to Win in Emerging Markets	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	

INTB 6238	Global Project
MKTG 6212	International Marketing

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6320	Advanced Financial Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
MECN 6200	Global Competition and Market Dominance	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
HRMG 6230	Leading a Diverse and Inclusive Organization	
HRMG 6280	The Human Side of Innovation	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

Note: Only one course outside HRMG and MGMT may be taken to fulfill the concentration.

CONCENTRATION IN MARKETING

Code	Title	Hours
Required		
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	

MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit
MKTG 6234	Marketing Analytics

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
Required		
SCHM 6213	Global Supply Chain Strategy	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6200	Global Competition and Market Dominance	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

CONCENTRATION IN MBA X ARTIFICIAL INTELLIGENCE

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	4
CS 5170	Artificial Intelligence for Human-Computer Interaction	4
CS 6140	Machine Learning	4

CONCENTRATION IN MBA X BIOINFORMATICS

Code	Title	Hours
BINF 6200	Bioinformatics Programming	4
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4

CONCENTRATION IN MBA X BIOTECHNOLOGY INDUSTRY

Code	Title	Hours
BIOT 5120	Foundations in Biotechnology	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3

BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
In consultation with advisor, complete 1 graduate-level semester hour of BUSN courses for which prerequisites have been met.		1

CONCENTRATION IN MBA X CYBERSECURITY

Code	Title	Hours
CY 5001	Cyberspace Technology and Applications	4
CY 5250	Decision Making for Critical Infrastructure	4
CY 6760	Wireless and Mobile Systems Security	4

CONCENTRATION IN MBA X DATA SCIENCE

Code	Title	Hours
DS 5110	Introduction to Data Management and Processing	4
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4

CONCENTRATION IN MBA X DATA VISUALIZATION

Code	Title	Hours
Required		
ARTG 5150	Information Visualization Principles and Practices	3
ARTG 5151	Information Design Critique Seminar	1
ARTG 5330	Visualization Technologies 1: Fundamentals	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
ARTG 5310	Visual Cognition	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	

CONCENTRATION IN MBA X EXPERIENCE DESIGN

Code	Title	Hours
Required		
ARTG 5610	Design Systems	4
ARTG 6310	Design for Behavior and Experience	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	

CONCENTRATION IN MBA X GAME DESIGN AND ANALYTICS

Code	Title	Hours
Required		
GSND 5110	Game Design and Analysis	4
GSND 6350	Data-Driven Player Modeling	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
GSND 6320	Psychology of Play	
GSND 6330	Player Experience	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

CONCENTRATION IN MBA X INFORMATION ETHICS

Code	Title	Hours
In consultation with advisor, complete 8 graduate-level semester hours for which prerequisites have been met:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
PHIL 5001	Global Justice	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

CONCENTRATION IN MBA X MEDIA INNOVATION AND ADVOCACY

Code	Title	Hours
Required		
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 6340	Fundamentals of Digital Journalism	4
Elective		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met:		4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
JRNL 5311	Design for Storytelling	
JRNL 6305	Topics	
JRNL 6341	Telling Your Story with Data	

CONCENTRATION IN MBA X PUBLIC HEALTH

Code	Title	Hours
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 6208	Urban Community Health Assessment	3

CONCENTRATION IN MBA X SOFTWARE DEVELOPMENT

Code	Title	Hours
CS 5500	Foundations of Software Engineering	4
CS 5520	Mobile Application Development	4
CS 5610	Web Development	4

Business Administration, MBA—Online

Northeastern University's D'Amore-McKim School of Business prepares business leaders to navigate the challenges of today's tech-forward business world. D'Amore-McKim's Online MBA (https://damore-mckim.northeastern.edu/programs/online-mba/?utm_medium=website&utm_source=catalog&utm_campaign=omba) program helps students build broad business skill sets and specialized knowledge in their field. In this flexible program, students build skills that they can apply in real-time—and complete their degree 100% online in as little as 18 months.

Integrate Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern University MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students gain unique perspectives as they learn from entrepreneurs and executives at top firms who have led through times of rapid change.

Live Faculty Connect Sessions

Optional live faculty sessions offer a collaborative and interactive learning environment where students can connect with their professors and peers weekly to discuss course concepts, receive feedback, and gain valuable insights.

EXPO Courses

In the EEBA 6401 Experiential Business Decision Making course, students take on the role of a C-suite business executive and tackle a real business challenge for an actual company, all while gaining real-time feedback from a seasoned C-suite executive.

Societal Challenge Courses

In the societal challenge courses, students build upon the skills gained in the core course focusing on stakeholder values and societal challenges by selecting either a diversity, equity, and inclusion course or a sustainability course. The skills gained through these courses are designed to prepare students for immediate impact and are exactly what employers are seeking.

In the EEBA 6403 EXPO Challenge: Diversity, Equity, and Inclusion course, students work as a team to solve a DEI-related business problem. The course format includes case studies, Q&A sessions, and guidance and feedback from industry experts and seasoned faculty members.

In the EEBA 6402 EXPO Challenge: Sustainability course, students work in teams to bring their experience and newly learned skills to solve a real sustainability-related business problem. These problems could range from environmental sustainability issues to societal challenges associated with climate change. The course format includes case studies, Q&A sessions, and guidance and feedback from industry experts and seasoned faculty members.

Program Requirements

Business Core Requirements

Code	Title	Hours
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
EEBA 6401	Experiential Business Decision Making	3
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
INNO 6318	Innovation Driven Strategy	2
MKTG 6318	Customer Value and the Enterprise	2
SCHM 6318	Managing Operations and the Supply Chain	2
STRT 6318	Strategic Planning for the Future	2

Societal Challenges Core

Code	Title	Hours
BUSN 6402	Stakeholder Values and Societal Challenges in Business	2
In consultation with advisor, complete one of the following:		2
EEBA 6402	EXPO Challenge: Sustainability	
EEBA 6403	EXPO Challenge: Diversity, Equity, and Inclusion	

Business Electives

Code	Title	Hours
In consultation with advisor, complete 24 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		24
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

In consultation with advisor, complete 5 semester hours of experiential elective coursework.		5
EEBA 6401	Experiential Business Decision Making	

Program Credit/GPA Requirements

50 total semester hours required
Minimum 3.000 GPA required

Business Administration, MBA—Part-Time

Northeastern University's D'Amore-McKim School of Business prepares business leaders to navigate the challenges of today's tech-forward business world. D'Amore-McKim's Part-Time MBA (https://damore-mckim.northeastern.edu/programs/part-time-mba/?utm_medium=website&utm_source=catalog&utm_campaign=part-time-mba) program helps students build broad business skill sets and specialized knowledge in their field. In this flexible program, students build skills they can apply in real time—and complete their degree part-time.

Integrate Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students gain unique perspectives as they learn from entrepreneurs and executives at top firms who have led through times of rapid change.

Select Up to Two Concentrations

Students may specialize their degree by selecting up to two in-demand business concentrations. Students gain exposure to diverse perspectives as they build competencies in multiple disciplines. This combination prepares them to lead in a complex business world.

Program Requirements

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
ACCT 6201	Financial Reporting and Managerial Decision Making 2	1.5
Management		
HRMG 6200	Managing People and Organizations	3
INTB 6200	Managing the Global Enterprise	3
MGSC 6200	Information Analysis	3
MGSC 6204	Managing Information Resources	1.5
SCHM 6201	Operations and Supply Chain Management	3
STRT 6200	Strategic Decision Making in a Changing Environment	3
Marketing		
MECN 6200	Global Competition and Market Dominance	3
MKTG 6200	Creating and Sustaining Customer Markets	3
Finance		
FINA 6200	Value Creation through Financial Decision Making	3
Entrepreneurship		
INNO 6200	Enterprise Growth and Innovation	3

Optional Concentration

Students may complete up to two of the following concentrations. Courses taken to fulfill concentrations may be used toward the elective section below.

- Analytics (p. 203)
- Brand Management (p. 203)
- Business Management for Healthcare (p. 203)
- Corporate Finance (p. 204)
- Corporate Innovation (p. 204)
- Corporate Renewal (p. 204)
- Entrepreneurship (p. 204)
- International Business (p. 205)
- Investments (p. 205)
- Leading People and Organizations (p. 205)
- Marketing (p. 206)
- Marketing Analytics (p. 206)
- Mutual Fund Management (p. 206)
- Operation and Supply Chain Management (p. 206)
- Sustainability and Business (p. 206)

Electives

Code	Title	Hours
In consultation with advisor, complete 27 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		27
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
No more than 6 semester hours can be drawn from 1-semester-hour courses.		

Program Credit/GPA Requirements

60 semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Elective		
In consultation with advisor, complete 3 graduate-level semester hours hours from the following for which prerequisites have been met:		3
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	

MKTG 6218	Managing Customer Engagement in a Service World
MKTG 6226	Consumer Behavior
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy
SCHM 6223	Managing Healthcare Supply Chain Operations

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6205	Financial Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	

CONCENTRATION IN CORPORATE RENEWAL

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
MKTG 6216	Market Focused Strategy	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	

ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
FINA 6260	Entrepreneurial Finance and Venture Capital
GE 5030	Iterative Product Prototyping for Engineers
INNO 6230	Platform Innovation
MKTG 6214	New Product Development

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6212	Cultural Aspects of International Business	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
INNO 6225	Acquisitions, Alliances, and Growth	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	
MKTG 6212	International Marketing	
SCHM 6213	Global Supply Chain Strategy	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours hours from the following for which prerequisites have been met:		6
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6292	Advanced Topics in Finance	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN MARKETING

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN MUTUAL FUND MANAGEMENT

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6219	Portfolio Management	3
Electives		
Complete 3 semester hours through our student-managed mutual fund. Each course is 1 semester hour and may be taken multiple times. At least 1 semester hour must be as a fund manager (FINA 6361).		3
FINA 6360	Fund Management for Analysts	
or FINA 6361	Fund Management for Managers	

CONCENTRATION IN OPERATION AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours hours from the following for which prerequisites have been met:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6213	Global Supply Chain Strategy	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	

INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation
MECN 6205	Sustainability and the Economics of Markets
MGMT 6225	Sustainability and Leadership
MGMT 6226	Sustainability and the Business Environment
SCHM 6221	Sustainability and Supply Chain Management

Combined Degrees

Northeastern University's D'Amore-McKim School of Business prepares leaders with deep business expertise. Our interdisciplinary combined degrees merge courses from two powerful D'Amore-McKim degree programs—the foundation of business expertise from our renowned MBA and deep skills of a specialized master's degree. Students complete their course of study by earning one combined degree.

Integrating classroom instruction with authentic, experience-powered learning is what we do best at D'Amore-McKim. It's an approach that expands students' knowledge base, develops their creative mindset, and prepares them to meet the shifting demands of today's business world. Students in our combined degree programs will have opportunities to dive headfirst into experiences that will give them fresh perspectives and in-demand skills.

Combined degree programs merge many core requirements from a D'Amore-McKim MBA with a specialized master's degree, allowing students to finish their program in less time than it would take to earn the two degrees separately. With this unique blend of knowledge, students become adaptable leaders prepared to navigate the complexity of decision making and tackle global business challenges head-on.

Students enroll in combined degree programs for full-time or part-time study.

Programs

- Accounting and Business Administration, MSAMBA (p. 209)
- Finance and Business Administration, MSFMBA (p. 211)
- Finance and Business Administration, MSFMBA—Online (p. 220)
- Finance and Business Administration, MSFMBA—Part-Time (p. 221)
- Quantitative Finance and Business Administration, MSFMBA (p. 227)

Accounting and Business Administration, MSAMBA

Overview

Northeastern University D'Amore-McKim School of Business' Master of Science in Accounting/Master of Business Administration (https://damore-mckim.northeastern.edu/programs/ms-accounting-mba/) combined-degree program puts nonaccounting majors on an accelerated path toward a successful career in accounting.

CULTIVATE DEEP ACCOUNTING KNOWLEDGE AND FUNDAMENTAL BUSINESS SKILLS

This 15-month curriculum is constructed in partnership with some of the leading accounting firms. Students will build knowledge in both accounting and business, including a four-course concentration in business analytics.

ANALYTICS CONCENTRATION

Students will develop their analytical skills through an MBA concentration in analytics. Through four courses students use data to support business decision making and create a measurable improvement on organizational performance.

INTEGRATE CLASSROOM AND PROFESSIONAL EXPERIENCES

Students will have opportunities to obtain real-world experiences that help them gain a fresh perspective while using relevant skills. They apply their knowledge to actual business challenges through class projects. Starting in January, students leverage their newly acquired skills in a three-month paid corporate residency at a Big 4 or another top accounting firm. Far removed from the typical internship, students work full-time as an associate and have significant responsibilities to deliver on organizational goals.

Students may enroll in this 68-semester-hour master's degree program for full-time study.

Program Requirements

Business Administration Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
ENTR 6318	Innovation Driven Strategy	2
MGMT 6211	Business Law and Professional Ethics	2

Accounting Requirements

Code	Title	Hours
Required		
ACCT 6223	Audit and Other Assurance Services	6
ACCT 6224	Taxation of Individuals and Business Entities	6
ACCT 6226	Strategic Cost Management	3
ACCT 6227	Accounting for Business Combinations	3
ACCT 6228	Contemporary Issues in Accounting Theory	3
Financial Reporting		
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	3
ACCT 6220	Corporate Financial Reporting and Decision Making 1	3
ACCT 6221	Corporate Financial Reporting and Decision Making 2	6
ACCT 6222	Corporate and Governmental/Nonprofit Financial Reporting and Decision Making	6

Analytics Concentration Requirements

Code	Title	Hours
Required		
BUSN 6365	Business Analytics	3
MGSC 6201	Information Systems and Technology	3

MISM 6210	Information Visuals and Dashboards for Business	3
MISM 6212	Data Mining and Machine Learning for Business	3

Elective

Code	Title	Hours
Open Elective		
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites are met. Choose from the following subject codes:		3
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

Corporate Residency Requirement

Code	Title	Hours
BUSN 6964	Co-op Work Experience	0

Program Credit/GPA Requirements

68 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Code	Title	Hours
Summer 1		
ACCT 6220	Corporate Financial Reporting and Decision Making 1	3
HRMG 6318	Managing the Organization	2
Summer 2		
ACCT 6221	Corporate Financial Reporting and Decision Making 2	6
BUSN 6365	Business Analytics	3
ENTR 6318	Innovation Driven Strategy	2
Fall		
ACCT 6222	Corporate and Governmental/Nonprofit Financial Reporting and Decision Making	6
ACCT 6223	Audit and Other Assurance Services	6
ACCT 6224	Taxation of Individuals and Business Entities	6
MGSC 6201	Information Systems and Technology	3
MISM 6201	Database Management for Business	3
Spring		
ACCT 6226	Strategic Cost Management	3
BUSN 6964	Co-op Work Experience	0
MKTG 6318	Customer Value and the Enterprise	2
SCHM 6318	Managing Operations and the Supply Chain	2
Summer 1		
ACCT 6217	Corporate Governance, Ethics, and Financial Reporting	3
ACCT 6227	Accounting for Business Combinations	3
FINA 6318	Financial Management	2
MISM 6212	Data Mining and Machine Learning for Business	3
Summer 2		
ACCT 6228	Contemporary Issues in Accounting Theory	3
MGMT 6211	Business Law and Professional Ethics	2
STRT 6318	Strategic Planning for the Future	2
Elective		3
Total Hours		**68**

Finance and Business Administration, MSFMBA

Overview

Northeastern University's D'Amore-McKim School of Business prepares resilient finance leaders to weather a changing business world. The Full-Time MS in Finance/MBA (https://damore-mckim.northeastern.edu/programs/full-time-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ftmsfmba) combined degree program integrates business knowledge with a deep understanding of finance, preparing students to be the leaders that today's business world demands.

Integrating Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students will gain invaluable experience at the intersection of business and finance through a corporate residency, translating ideas into action for three, six, or up to 12 months. Far removed from the typical internship, students work full-time at a leading firm or startup in their field and have significant responsibilities as they work to deliver on organizational goals.

Develop Deep Finance Expertise

Students pursue a major in finance laser-focused on financial theory and practice. Students gain advanced financial skills and high-level knowledge to drive financial strategy, increase shareholder value, support flexible operating models, minimize risk, and maximize revenue through their finance courses.

Students can gain valuable experience performing equity research and portfolio management in a student-managed mutual fund, the 360 Huntington Fund. By participating in the Fund, students may complete 1 semester hour of coursework, with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Select a Concentration

Students specialize their degree by selecting a concentration. Our faculty recommend the analytics concentration. Or, students may choose another in-demand business concentration or add expertise in another professional area by choosing an interdisciplinary MBA x concentration offered through partnerships with other Northeastern colleges.

Program Requirements

Business Administration Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
BUSN 6363	Social Impact of Business	2
INNO 6318	Innovation Driven Strategy	2
Career Management		
BUSN 6200	Career Management	0
BUSN 6950	MBA Skills Workshop	0
Corporate Residency		
BUSN 6954	Co-op Work Experience - Half-Time	0
BUSN 6964	Co-op Work Experience	0
BUSN 6970	Professional Projects	0
Three-month, six-month, or two six-month corporate residency placement options		

Finance Major Requirements

Code	Title	Hours
Required		
FINA 6202	Analysis of Financial Institutions and Markets	3
FINA 6203	Investment Analysis	3

FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3
FINA 6320	Advanced Financial Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours of FINA courses for which prerequisites have been met.		6

Concentration Options

Complete one of the following concentrations:

- Analytics (p. 212) (*Recommended)*
- Brand Management (p. 213)
- Business Management for Healthcare (p. 213)
- Corporate Innovation (p. 213)
- Entrepreneurship (p. 213)
- International Business (p. 214)
- Leading People and Organizations (p. 214)
- Marketing (p. 214)
- Marketing Analytics (p. 215)
- Operations and Supply Chain Management (p. 215)
- Sustainability and Business (p. 215)
- MBA x Artificial Intelligence (p. 215)
- MBA x Bioinformatics (p. 216)
- MBA x Biotechnology Industry (p. 216)
- MBA x Cybersecurity (p. 216)
- MBA x Data Science (p. 216)
- MBA x Data Visualization (p. 216)
- MBA x Experience Design (p. 216)
- MBA x Game Design and Analytics (p. 216)
- MBA x Information Ethics (p. 217)
- MBA x Media Innovation and Advocacy (p. 217)
- MBA x Public Health
- MBA x Software Development (p. 217)

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
BUSN 6365	Business Analytics	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
ECON 5140	Applied Econometrics	
IE 6600	Computation and Visualization for Analytics	
INSH 5302	Information Design and Visual Analytics	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
MKTG 6320	Advanced Marketing Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
FINA 6220	Healthcare Finance	3
or SCHM 6223	Managing Healthcare Supply Chain Operations	
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Optional Electives		
Note: Electives are not required; the following course(s) are suggested beyond the concentration:		3-9
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	
MGSC 6281	Service Innovation and Management	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12

ENTR 6210	Managing Operations in Early Stage Ventures
ENTR 6212	Business Planning for New Ventures
ENTR 6214	Social Enterprise
ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
FINA 6260	Entrepreneurial Finance and Venture Capital
GE 5030	Iterative Product Prototyping for Engineers
INNO 6230	Platform Innovation
MKTG 6214	New Product Development

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6200	Managing the Global Enterprise	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
FINA 6204	International Financial Management	
INTB 6212	Cultural Aspects of International Business	
INTB 6224	Competing to Win in Emerging Markets	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6238	Global Project	
MKTG 6212	International Marketing	

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
HRMG 6230	Leading a Diverse and Inclusive Organization	
HRMG 6280	The Human Side of Innovation	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

Note: Only one course outside HRMG and MGMT may be taken to fulfill the concentration.

CONCENTRATION IN MARKETING

Code	Title	Hours
Required		
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	

MKTG 6216	Market Focused Strategy
MKTG 6218	Managing Customer Engagement in a Service World
MKTG 6222	Digital Marketing
MKTG 6223	Brand and Advertising Management
MKTG 6224	B2B and Strategic Sales
MKTG 6226	Consumer Behavior
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit
MKTG 6234	Marketing Analytics

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6234	Marketing Analytics	3
MKTG 6320	Advanced Marketing Management (Advanced Marketing Management)	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following:		6
MKTG 6120	Graduate Research Practicum in Marketing	
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
Required		
SCHM 6213	Global Supply Chain Strategy	3
Electives		
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met. Choose from the following:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met. Choose from the following:		12
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6200	Global Competition and Market Dominance	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

CONCENTRATION IN MBA X ARTIFICIAL INTELLIGENCE

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	4
CS 5170	Artificial Intelligence for Human-Computer Interaction	4
CS 6140	Machine Learning	4

CONCENTRATION IN MBA X BIOINFORMATICS

Code	Title	Hours
BINF 6200	Bioinformatics Programming	4
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4

CONCENTRATION IN MBA X BIOTECHNOLOGY INDUSTRY

Code	Title	Hours
BIOT 5120	Foundations in Biotechnology	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
Complete 1 additional semester hour of BUSN coursework.		1

CONCENTRATION IN MBA X CYBERSECURITY

Code	Title	Hours
CY 5001	Cyberspace Technology and Applications	4
CY 5250	Decision Making for Critical Infrastructure	4
CY 6760	Wireless and Mobile Systems Security	4

CONCENTRATION IN MBA X DATA SCIENCE

Code	Title	Hours
DS 5110	Introduction to Data Management and Processing	4
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4

CONCENTRATION IN MBA X DATA VISUALIZATION

Code	Title	Hours
Required		
ARTG 5150	Information Visualization Principles and Practices	3
ARTG 5151	Information Design Critique Seminar	1
ARTG 5330	Visualization Technologies 1: Fundamentals	4
Electives		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
ARTG 5310	Visual Cognition	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6330	Information Design Mapping Strategies	

CONCENTRATION IN MBA X EXPERIENCE DESIGN

Code	Title	Hours
Required		
ARTG 5610	Design Systems	4
ARTG 6310	Design for Behavior and Experience	4
Electives		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	

CONCENTRATION IN MBA X GAME DESIGN AND ANALYTICS

Code	Title	Hours
Required		
GSND 5110	Game Design and Analysis	4
GSND 6350	Data-Driven Player Modeling	4
Electives		

In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
GSND 6320	Psychology of Play	
GSND 6330	Player Experience	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

CONCENTRATION IN MBA X INFORMATION ETHICS

Code	Title	Hours
In consultation with advisor, complete 8 graduate-level semester hours for which prerequisites have been met. Choose from the following:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
PHIL 5001	Global Justice	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

CONCENTRATION IN MBA X MEDIA INNOVATION AND ADVOCACY

Code	Title	Hours
Required		
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 6340	Fundamentals of Digital Journalism	4
Electives		
In consultation with advisor, complete 4 graduate-level semester hours for which prerequisites have been met. Choose from the following:		4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
JRNL 5311	Design for Storytelling	
JRNL 6305	Topics	
JRNL 6341	Telling Your Story with Data	

CONCENTRATION IN MBA X PUBLIC HEALTH

Code	Title	Hours
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 6208	Urban Community Health Assessment	3

CONCENTRATION IN MBA X SOFTWARE DEVELOPMENT

Code	Title	Hours
CS 5500	Foundations of Software Engineering	4
CS 5520	Mobile Application Development	4
CS 5610	Web Development	4

ELECTIVES

Code	Title	Hours
Experiential Requirement		
In consultation with advisor, complete 3 semester hours from the following:		3
BUSN 6351	Experiential Education	
BUSN 6945	Washington Campus Seminar	
ENTR 5000	New Venture Development	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
INTB 6230	Global Field Study	

INTB 6238	Global Project	
MKTG 6606	Digital, Analytics, Technology, and Automation Advanced Research Practicum	
Open Electives		
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		6
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
Interdisciplinary Requirement		
In consultation with advisor, complete 6 graduate-level semester hours, for which the requirements have been met, offered in partnership with other Northeastern University colleges. Choose from the following:		6
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 6214	Experimental Design and Biostatistics	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 5110	Introduction to Data Management and Processing	
ECON 5140	Applied Econometrics	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 6600	Computation and Visualization for Analytics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7374	Special Topics in Industrial Engineering	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
JRNL 5311	Design for Storytelling	
JRNL 5400	Media and Advocacy in Theory and Practice	

JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

67 semester hours required
Minimum 3.000 GPA required

Finance and Business Administration, MSFMBA—Online

Overview

Northeastern University's D'Amore-McKim School of Business prepares leaders highly skilled in finance and business. Our Online Master of Science in Finance/Master of Business Administration (https://damore-mckim.northeastern.edu/programs/online-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=onlinemsfmba) combined degree program integrates business knowledge with a deep understanding of finance, preparing students to be the leaders that today's business world demands. In this flexible program, students build skills that they can apply in real time—and complete their degree virtually.

Program Requirements

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6272	Financial Statement Preparation and Analysis	2.25
ACCT 6273	Identifying Strategic Implications in Accounting Data	2.25
Management		
HRMG 6200	Managing People and Organizations	3
INTB 6200	Managing the Global Enterprise	3
MGMT 6213	Managing Ethics in the Workplace and Marketplace	3
MGSC 6204	Managing Information Resources	1.5
SCHM 6201	Operations and Supply Chain Management	3
Marketing		
MECN 6200	Global Competition and Market Dominance	3
MKTG 6200	Creating and Sustaining Customer Markets	3
Analysis		
FINA 6200	Value Creation through Financial Decision Making	3
MGSC 6200	Information Analysis	3
STRT 6200	Strategic Decision Making in a Changing Environment	3
Entrepreneurship		
INNO 6200	Enterprise Growth and Innovation	3
Finance		
FINA 6203	Investment Analysis	3
FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3

Electives

Code	Title	Hours
Finance Electives		
In consultation with advisor, complete 9 graduate-level semester hours of FINA courses for which prerequisites have been met.		9
Business Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, TECE		

Program Credit/GPA Requirements

63 semester hours required
Minimum 3.000 GPA required

Finance and Business Administration, MSFMBA—Part-Time

Northeastern University's D'Amore-McKim School of Business prepares leaders highly skilled in finance and business. D'Amore-McKim's Part-Time MS in Finance/MBA (https://damore-mckim.northeastern.edu/programs/part-time-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ptmsfmba) combined degree program integrates business knowledge with a deep understanding of finance, preparing students to be the leaders that today's business world demands. In this flexible program, students build skills they can apply in real time—and complete their degree part-time.

Integrating Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students benefit from the experience of their faculty as finance experts and business leaders who understand today's challenges because they've experienced them firsthand.

Develop Deep Finance Expertise

Students pursue a major in finance laser-focused on financial theory and practice. Students have an opportunity to gain advanced financial skills and high-level knowledge to drive financial strategy, increase shareholder value, support flexible operating models, minimize risk, and maximize revenue through the finance courses.

Students can gain experience performing equity research and portfolio management in a student-managed mutual fund, The 360 Huntington Fund. By participating in the Fund, students may earn one semester hour per semester with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Select a Concentration

Students specialize their degree by selecting a concentration. They gain exposure to diverse perspectives as they build competencies in multiple disciplines. This combination of their finance major and a concentration of their choosing prepares them to lead in a complex business world.

Program Requirements

Core Requirements

Code	Title	Hours
Accounting		
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
ACCT 6201	Financial Reporting and Managerial Decision Making 2	1.5
Management		
HRMG 6200	Managing People and Organizations	3
INTB 6200	Managing the Global Enterprise	3
MGSC 6200	Information Analysis	3
MGSC 6204	Managing Information Resources	1.5
SCHM 6201	Operations and Supply Chain Management	3
STRT 6200	Strategic Decision Making in a Changing Environment	3
Marketing		
MECN 6200	Global Competition and Market Dominance	3
MKTG 6200	Creating and Sustaining Customer Markets	3
Entrepreneurship		
INNO 6200	Enterprise Growth and Innovation	3
Finance		
FINA 6200	Value Creation through Financial Decision Making	3
FINA 6203	Investment Analysis	3
FINA 6204	International Financial Management	3
FINA 6205	Financial Strategy	3
FINA 6206	Finance Seminar	3

Optional Concentrations

Students may complete up to two of the following concentrations. Courses taken to fulfill concentrations may be used toward the electives section below.

- Analytics (p. 222)
- Brand Management (p. 222)
- Business Management for Healthcare (p. 223)

- Corporate Finance (p. 223)
- Corporate Innovation (p. 223)
- Corporate Renewal (p. 224)
- Entrepreneurship (p. 224)
- International Business (p. 224)
- Investments (p. 224)
- Leading People and Organizations (p. 225)
- Marketing (p. 225)
- Marketing Analytics (p. 225)
- Mutual Fund Management (p. 225)
- Operations and Supply Chain Management (p. 226)
- Sustainability and Business (p. 226)

Electives

Code	Title	Hours
Finance Electives		
In consultation with advisor, complete 12 graduate-level semester hours of FINA courses for which prerequisites have been met.		12
Business Electives		
In consultation with advisor, complete 15 graduate-level semester hours from the following for which prerequisites have been met:		15
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		

Program Credit/GPA Requirements

72 total semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN ANALYTICS

Code	Title	Hours
Required		
MISM 6200	Introduction to Business Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	
SCHM 6215	Supply Chain Analytics	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN BRAND MANAGEMENT

Code	Title	Hours
Required		
MKTG 6223	Brand and Advertising Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	

MKTG 6226	Consumer Behavior
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit

CONCENTRATION IN BUSINESS MANAGEMENT FOR HEALTHCARE

Code	Title	Hours
Required		
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3
Elective		
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
ENTR 6214	Social Enterprise	
FINA 6220	Healthcare Finance	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
MGMT 6214	Negotiations	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6205	Financial Strategy	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	

CONCENTRATION IN CORPORATE INNOVATION

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ARTG 5610	Design Systems	
GE 5100	Product Development for Engineers	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
INNO 6230	Platform Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	

CONCENTRATION IN CORPORATE RENEWAL

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
MKTG 6216	Market Focused Strategy	

CONCENTRATION IN ENTREPRENEURSHIP

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
ENTR 6340	The Technical Entrepreneur as Leader	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	
INNO 6230	Platform Innovation	
MKTG 6214	New Product Development	

CONCENTRATION IN INTERNATIONAL BUSINESS

Code	Title	Hours
Required		
INTB 6212	Cultural Aspects of International Business	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
INNO 6225	Acquisitions, Alliances, and Growth	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	
MKTG 6212	International Marketing	
SCHM 6213	Global Supply Chain Strategy	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6207	Financial Modeling	

FINA 6211	Financial Risk Management
FINA 6212	Fixed Income Securities and Risk
FINA 6213	Investment Banking
FINA 6217	Real Estate Finance and Investment
FINA 6219	Portfolio Management
FINA 6292	Advanced Topics in Finance

CONCENTRATION IN LEADING PEOPLE AND ORGANIZATIONS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6221	Power and Influence	
HRMG 6223	Global Talent Management	
INTB 6226	Becoming a Global Leader	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

CONCENTRATION IN MARKETING

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

CONCENTRATION IN MARKETING ANALYTICS

Code	Title	Hours
Required		
MKTG 6234	Marketing Analytics	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

CONCENTRATION IN MUTUAL FUND MANAGEMENT

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6219	Portfolio Management	3
Electives		
Complete 3 semster hours through our student-managed mutual fund. Each course is 1 semester hour and may be taken multiple times. At least 1 semster hour must be as a fund manager (FINA 6361).		3

FINA 6360	Fund Management for Analysts
or FINA 6361	Fund Management for Managers

CONCENTRATION IN OPERATIONS AND SUPPLY CHAIN MANAGEMENT

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
SCHM 6211	Logistics and Transportation Management	
SCHM 6213	Global Supply Chain Strategy	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

CONCENTRATION IN SUSTAINABILITY AND BUSINESS

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

Quantitative Finance and Business Administration, MSFMBA

Northeastern University's D'Amore-McKim School of Business positions students to become fintech leaders ready for the rapidly changing financial services industry. The Full-Time MS in Finance/MBA (https://damore-mckim.northeastern.edu/programs/full-time-ms-finance-mba/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=ftmsfmba) combined degree program integrates business knowledge with advanced mathematical and technical skills.

Integrating Classroom and Professional Experiences

Learning by doing is a hallmark of a Northeastern MBA. Students apply their knowledge to actual business challenges through experience-fueled electives and class projects. Students will gain invaluable experience at the intersection of business and finance through a corporate residency, translating ideas into action for three, six, or up to 12 months. Far removed from the typical internship, students work full-time at a leading firm or startup in their field and have significant responsibilities as they work to deliver on organizational goals.

Cultivate Advanced Finance and Fintech Skills

Students pursue a major in quantitative finance that emphasizes the intersection of technology and business analytics with finance. Coursework integrates economics, mathematics, and computer science with financial theory and application. Students have an opportunity to develop mathematically demanding quantitative skills and fintech expertise.

Students can gain valuable experience performing equity research and portfolio management in a student-managed mutual fund, The 360 Huntington Fund. By participating in the Fund, students may earn 1 semester hour per semester with the option to fulfill a 3-semester-hour elective course requirement by participating for three terms.

Select a Finance Concentration

Students specialize their degree by selecting a corporate finance or investments concentration. In the corporate finance concentration, students master a range of financial, analytical, and communication skills for increasing profitability and shareholder value. In the investments concentration, students become knowledgeable managers of assets for individuals or institutions, building their expertise in capital allocation, valuation, or risk management.

Program Requirements

Business Administration Core Requirements

Code	Title	Hours
Marketing		
MKTG 6318	Customer Value and the Enterprise	2
Strategic Decision Making		
ACCT 6318	Analyzing Accounting Data for Strategic Decision Making	2
STRT 6318	Strategic Planning for the Future	2
Management		
FINA 6318	Financial Management	2
HRMG 6318	Managing the Organization	2
SCHM 6318	Managing Operations and the Supply Chain	2
Innovation and Social Impact		
BUSN 6363	Social Impact of Business	2
INNO 6318	Innovation Driven Strategy	2
Career Management		
BUSN 6200	Career Management	0
BUSN 6950	MBA Skills Workshop	0
Corporate Residency		
BUSN 6954	Co-op Work Experience - Half-Time	0
BUSN 6964	Co-op Work Experience	0
BUSN 6970	Professional Projects	0
Three-month, six-month, or two six-month corporate residency placement options		

Quantitative Finance Major Requirements

Code	Title	Hours
FINA 6203	Investment Analysis	3
FINA 6332	Fundamentals of Financial Math and Financial Markets	3
FINA 6333	Data Analytics in Finance	3
FINA 6334	Empirical Methods in Finance	3

FINA 6335	Derivatives and Risk Analytics	3
In consultation with advisor, complete 3 graduate-level semester hours in the FINA department for which prerequisites have been met.		3

Concentration Options

Complete one of the following concentrations:

- Corporate Finance (p. 228)
- Investments (p. 228)

CONCENTRATION IN CORPORATE FINANCE

Code	Title	Hours
Required		
FINA 6320	Advanced Financial Management	3
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
FINA 6203	Investment Analysis	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6203	Investment Analysis	
FINA 6204	International Financial Management	
FINA 6205	Financial Strategy	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6260	Entrepreneurial Finance and Venture Capital	
MECN 6200	Global Competition and Market Dominance	

CONCENTRATION IN INVESTMENTS

Code	Title	Hours
Required		
FINA 6203	Investment Analysis	3
FINA 6320	Advanced Financial Management	3
Electives		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
FINA 6207	Financial Modeling	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6260	Entrepreneurial Finance and Venture Capital	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
MECN 6200	Global Competition and Market Dominance	

Electives

Code	Title	Hours
Experiential Requirement		
In consultation with advisor, complete 3 semester hours from the following:		3
BUSN 6351	Experiential Education	
BUSN 6945	Washington Campus Seminar	
ENTR 5000	New Venture Development	
FINA 6360	Fund Management for Analysts	
FINA 6361	Fund Management for Managers	
INTB 6230	Global Field Study	
INTB 6238	Global Project	
MKTG 6606	Digital, Analytics, Technology, and Automation Advanced Research Practicum	
Open Electives		
In consultation with advisor, complete 12 graduate-level semester hours from the following for which prerequisites have been met:		12
ACCT, BUSN, ENTR, FINA, HRMG, INNO, INTB, MECN, MGMT, MKTG, SCHM, and STRT		
Interdisciplinary Requirements		
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met, offered in partnership with other Northeastern University colleges:		6
AACE 6000	Arts and Culture Organizational Leadership	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5151	Information Design Critique Seminar	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5620	Notational Systems for Experience	
ARTG 5640	Prototyping for Experience Design	
ARTG 6110	Information Design Theory and Critical Thinking	
ARTG 6310	Design for Behavior and Experience	
ARTG 6330	Information Design Mapping Strategies	
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOT 5120	Foundations in Biotechnology	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 6214	Experimental Design and Biostatistics	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DS 5110	Introduction to Data Management and Processing	
ECON 5140	Applied Econometrics	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5105	The American Healthcare System	
HINF 6202	Business of Healthcare Informatics	
HINF 6205	Creation and Application of Medical Knowledge	
IE 5617	Lean Concepts and Applications	

IE 5640	Data Mining for Engineering Applications
IE 6200	Engineering Probability and Statistics
IE 6600	Computation and Visualization for Analytics
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7374	Special Topics in Industrial Engineering
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
JRNL 5311	Design for Storytelling
JRNL 5400	Media and Advocacy in Theory and Practice
JRNL 6305	Topics
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
ME 5645	Environmental Issues in Manufacturing and Product Use
PHIL 5001	Global Justice
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Program Credit/GPA Requirements

67 total semester hours required

Minimum 3.000 GPA required

Dual Degrees

Northeastern University's D'Amore-McKim School of Business prepares leaders with deep business expertise. Our interdisciplinary dual degree programs offer a powerful opportunity for students to build their future-forward business skills through an MBA and a deep foundation in a nonbusiness area. Dual degree students earn two degrees simultaneously—an MBA and a second degree in a nonbusiness field from another Northeastern school or college.

At Northeastern, experience is at the heart of everything we do. Our experience-powered educational model fuses robust classroom education with real-world application. Northeastern students benefit from opportunities to apply what they've learned in the classroom to real challenges in business and the industry of their second degree.

Dual degree programs merge many core requirements from a D'Amore-McKim MBA with a specialized master's degree, allowing students to finish their program in less time than it would take to earn the two degrees separately. This distinctive blend of knowledge and skill positions dual degree students to lead in two sectors.

Students enroll in dual degree programs for full-time study.

Programs

- Law, JD / Accounting and Business Administration, MSAMBA (p. 232)
- Law, JD / Business Administration, MBA—Full-Time (p. 233)
- Law, LLM / Business Administration, MBA—Full-Time (p. 234)

Law, JD / Accounting and Business Administration, MSAMBA

The Northeastern University School of Law and the D'Amore-McKim School of Business offer a combined degree that results in a Juris Doctor and Master of Science in Accounting and Business Administration. Students without a previous accounting background study how to operate effectively in specialized fields such as taxation law, corporate finance, or mergers and acquisitions. Students have an opportunity to gain advanced legal expertise alongside future-forward accounting and business knowledge.

Our combined degree program is a full-time, four-year course of study. Students usually complete two years of the law curriculum, followed by 15 months of the combined accounting and business administration curriculum, before returning to finish their studies at the School of Law.

Students gain valuable work experience in law and public accounting before they graduate. They can make a real impact during two co-ops in legal departments, law firms, government agencies, judges' chambers, or other legal settings. Students also experience working as an accounting associate during the busy tax season through a corporate residency at Big 4 or other globally known accounting firms.

Students concurrently pursue the two degrees and may count 12 semester hours of nonlaw coursework from the accounting and business administration curriculum toward the law curriculum. The corporate residency at an accounting firm may fulfill the requirement for the third co-op required for the law curriculum. Students are encouraged to consult their law advisor to select accounting and business classes that satisfy JD requirements.

Law, JD / Business Administration, MBA—Full-Time

The JD/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to operate in increasingly interdependent legal and business spheres. As new technology disrupts industries and data availability and sophisticated use shifts the business landscape, our JD/MBA (https://damore-mckim.northeastern.edu/programs/jd-mba/) students prepare to guide corporate-level strategy and become the leaders businesses need.

Our JD/MBA program is a full-time, four-year course of study that includes three semester-long co-op work experiences arranged through Northeastern Law. Students complete three years of law school, taking a break after either year one or two to complete a year of business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they may add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may count 9 semester hours of nonlaw coursework from the JD curriculum toward the interdisciplinary and elective requirements of the MBA degree and up to 12 semester hours from the MBA curriculum toward the JD degree. Students should work with their MBA advisor to select JD courses that will fulfill MBA requirements and with their law advisor to choose MBA courses that will satisfy JD requirements.

Law, LLM / Business Administration, MBA—Full-Time

Law, LLM / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to harness legal and business skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, 20-month course of study. Students start taking classes in business school, take law courses next, and finish with business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by choosing an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

Law, LLM—Experiential / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern Law and the D'Amore-McKim School of Business to position students to harness business and legal skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, two-year course of study that includes a semester-long co-op work experience arranged through Northeastern Law. During the course of their studies, students take classes in business school and the School of Law and complete a law co-op.

Students specialize their degree by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students will concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

Graduate Certificates

Northeastern University's D'Amore-McKim School of Business helps professionals quickly develop the knowledge they need through short-term programs focused on a specific business area. Students in D'Amore-McKim's graduate certificates may choose to fill in gaps in their business knowledge or strengthen their skills in market-aligned areas to expand their career potential.

Here, students will have the opportunity to learn from our respected business faculty, many of whom are consultants, respected management leaders, and startup founders. Students will study alongside classmates with diverse backgrounds who share their passions and interests.

Students enroll in our 12–15 credit graduate certificate programs for full-time, part-time, or online study.

Programs

- Accounting and Financial Decision Making, Graduate Certificate (p. 236)
- Brand Management, Graduate Certificate (p. 237)
- Business Administration, Graduate Certificate (p. 238)
- Business Administration, Graduate Certificate—Online (p. 240)
- Business Analytics, Graduate Certificate (p. 242)
- Business Management for Healthcare, Graduate Certificate (p. 243)
- Corporate Finance, Graduate Certificate (p. 244)
- Corporate Innovation, Graduate Certificate (p. 245)
- Corporate Renewal, Graduate Certificate (p. 246)
- Entrepreneurship, Graduate Certificate (p. 247)
- International Business, Graduate Certificate (p. 248)
- Investments, Graduate Certificate (p. 249)
- Leading People and Organizations, Graduate Certificate (p. 250)
- Marketing, Graduate Certificate (p. 251)
- Marketing Analytics, Graduate Certificate (p. 252)
- Mutual Fund Management, Graduate Certificate (p. 253)
- Supply Chain Management, Graduate Certificate (p. 254)
- Sustainability and Business, Graduate Certificate (p. 255)

Accounting and Financial Decision Making, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Accounting and Financial Decision Making (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/accounting/?utm_medium=website&utm_source=catalog&utm_campaign=gcafdm) helps students build critical skills for essential financial practices, positioning them for a managerial role. Students learn to see business problems clearly, identify the strategic implications of potential solutions, and develop innovative ways to achieve organizational goals.

In just five courses—with the option to take a sixth to deepen their learning—students will advance their understanding of critical financial practices and build the skills necessary to analyze financial statements, assess risk, and make informed decisions. Depending on the electives they choose, they'll explore critical topics in greater depth, such as resource acquisition, capital budgeting, and information technology.

Students may enroll in the Graduate Certificate in Accounting and Financial Decision Making for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
ACCT 6200 and ACCT 6201	Financial Reporting and Managerial Decision Making 1 and Financial Reporting and Managerial Decision Making 2	4.5
FINA 6219	Portfolio Management	3
MGSC 6200	Information Analysis	3

Elective

Code	Title	Hours
In consultation with advisor, complete one graduate-level course for which prerequisites have been met. Some courses may fulfill requirements of the MBA program.		1.5-3
HRMG 6200	Managing People and Organizations	
INNO 6200	Enterprise Growth and Innovation	
INTB 6200	Managing the Global Enterprise	
MECN 6200	Global Competition and Market Dominance	
MGSC 6204	Managing Information Resources	
MKTG 6200	Creating and Sustaining Customer Markets	
STRT 6200	Strategic Decision Making in a Changing Environment	

Program Credit/GPA Requirements

12 total semester hours required; may complete a maximum of 15 semester hours
Minimum 3.000 GPA required

Brand Management, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Brand Management (https://damore-mckim.northeastern.edu/programs/brand-management-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=GCBM) helps students create and manage brands that resonate with consumers. Students develop a strategic mindset and specialized skills equipped for today's dynamic digital marketing environment.

In just four courses—with an option to take a fifth to deepen your learning—you'll learn how to develop an integrated brand strategy that helps position an organization for growth. Your coursework will explore the brand-building process across platforms, and you'll choose electives that take a deeper look at topics such as consumer behavior, marketing research, and innovation.

Students may enroll in our Graduate Certificate in Brand Management for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
MKTG 6200	Creating and Sustaining Customer Markets	3
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6214	New Product Development	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours

Minimum 3.000 GPA required

Business Administration, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Business Administration (https://damore-mckim.northeastern.edu/programs/business-administration-certificate/?utm_medium=content&utm_source=catalog&utm_campaign=dmsb-melt-evg-glo-comp-bos-bus-gcbaa-con-2022_02_25-gcba_catalog) helps students gain forward-thinking, relevant, in-demand business skills.

There are four ways to earn this graduate certificate:

Part-Time MBA Path Curriculum
Students take six foundational quantitative and business classes from the D'Amore-McKim MBA curriculum in the Part-Time MBA Path (https://damore-mckim.northeastern.edu/programs/business-administration-certificate/academic-details/part-time-mba-path-curriculum/).

Build-Your-Own Curriculum
Students can align their courses to their professional goals by choosing one area of focus or widening their scope and building expertise on all business fundamentals as they build their curriculum (https://damore-mckim.northeastern.edu/programs/business-administration-certificate/academic-details/build-your-own-curriculum/).

Eight-Month International Student Cohort Curriculum
Students take five courses as a part of an international student cohort. Students expand their business knowledge in financial reporting, managerial decision making, information analysis, and managing information resources.

Accelerated Four-Month Curriculum
Students build business expertise in just one semester through our four-month certificate (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/business-administration/academics/accelerated/?utm_medium=website&utm_source=catalog&utm_campaign=gcba). Students can select any graduate-level business courses offered that semester, provided they meet course prerequisites.

Students may enroll in the Graduate Certificate in Business Administration for full-time or part-time study.

Program Requirements

Part-Time MBA Path Curriculum

Code	Title	Hours
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
ACCT 6201	Financial Reporting and Managerial Decision Making 2	1.5
FINA 6200	Value Creation through Financial Decision Making	3
HRMG 6200	Managing People and Organizations	3
MGSC 6200	Information Analysis	3
MGSC 6204	Managing Information Resources	1.5

Eight-Month International Student Cohort Curriculum

Code	Title	Hours
ACCT 6200	Financial Reporting and Managerial Decision Making 1	3
HRMG 6200	Managing People and Organizations	3
INNO 6200	Enterprise Growth and Innovation	3
INTB 6200	Managing the Global Enterprise	3
MKTG 6200	Creating and Sustaining Customer Markets	3

Build-Your-Own Curriculum

Code	Title	Hours
In consultation with advisor, complete 12–15 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

Accelerated Four-Month Curriculum

Code	Title	Hours
In consultation with advisor, complete 12–15 graduate-level semester hours for which prerequisites have been met. Choose from the following subject codes:		
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MECN, MGMT, MKTG, SCHM, STRT, and TECE		

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.000 GPA required

Business Administration, Graduate Certificate—Online

Northeastern University D'Amore-McKim School of Business' Online Graduate Certificate in Business Administration (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/business-administration/?utm_medium=website&utm_source=catalog&utm_campaign=gcba) helps students gain forward-thinking, in-demand business skills. Students can align their interests with their goals by choosing one area of focus, or they may choose to widen their scope and build expertise on all business fundamentals.

Students select four classes from finance, marketing, sustainability, entrepreneurship, investments, management, healthcare, or supply chain management.

Program Requirements

Core Requirements

Code	Title	Hours
In consultation with advisor, complete 12 graduate-level semester hours for which prerequisites have been met:		12
ACCT 6272	Financial Statement Preparation and Analysis	
ACCT 6273	Identifying Strategic Implications in Accounting Data	
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6211	Entrepreneurship: Services and Retail Business Creation	
ENTR 6212	Business Planning for New Ventures	
ENTR 6216	Global Social Entrepreneurship and Innovation	
FINA 6200	Value Creation through Financial Decision Making	
FINA 6203	Investment Analysis	
FINA 6204	International Financial Management	
FINA 6205	Financial Strategy	
FINA 6211	Financial Risk Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
HRMG 6200	Managing People and Organizations	
HRMG 6217	Virtual, Vicious Teams: Building and Leading High-Performance Teams	
INNO 6200	Enterprise Growth and Innovation	
INTB 6200	Managing the Global Enterprise	
INTB 6212	Cultural Aspects of International Business	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6200	Global Competition and Market Dominance	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6222	Healthcare Industry	
MGMT 6223	Strategic Decision Making for Healthcare Professionals	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
MGSC 6200	Information Analysis	
MGSC 6204	Managing Information Resources	
MGSC 6221	Introduction to Health Informatics and Health Information Systems	
MKTG 6200	Creating and Sustaining Customer Markets	
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6223	Brand and Advertising Management	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6211	Logistics and Transportation Management	

MKTG 6212	International Marketing
SCHM 6213	Global Supply Chain Strategy
SCHM 6214	Sourcing and Procurement
SCHM 6221	Sustainability and Supply Chain Management

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Business Analytics, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Business Analytics (https://damore-mckim.northeastern.edu/programs/business-analytics-certificate/?utm_medium=content&utm_source=catalog&utm_campaign=dmsb-melt-evg-glo-comp-bos-bus-gcba-con-2022_02_25-gcbanalytics_catalog) is designed to equip students to use data to analyze information, generate insights, and translate them into sound strategy. Students build expertise in up-to-the-moment methods for using analytics in business.

In just four courses—with the option to take a fifth to deepen their knowledge base—students view the business world through a datacentric lens. Depending on their chosen electives, students explore critical topics in greater depth, such as advanced data mining techniques, visual dashboards, artificial intelligence, and programming languages.

Students may enroll in the Graduate Certificate in Business Analytics for full-time study.

Program Requirements

Core Requirements

Code	Title	Hours
MISM 6200	Introduction to Business Analytics	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
MISM 6202	Foundations of Data Analysis for Business	
MISM 6205	Data Wrangling for Business	
MISM 6210	Information Visuals and Dashboards for Business	
MISM 6212	Data Mining and Machine Learning for Business	
MISM 6213	Business Information Design, Quality, and Strategy	
SCHM 6215	Supply Chain Analytics	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours

Minimum 3.000 GPA required

Business Management for Healthcare, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Business Management for Healthcare (https://damore-mckim.northeastern.edu/programs/business-management-healthcare-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcbmh) helps students gain critical business knowledge, up-to-the-moment technical skills, and a core understanding of key healthcare issues.

In just four courses—with an option to take a fifth to deepen their learning—students study the fundamentals of the American healthcare system and identify its unique challenges and opportunities. Depending on the electives they choose, students can take a deeper look at health policy, health informatics, and supply chain management for healthcare.

Students enroll in the Graduate Certificate in Business Management for Healthcare for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
HINF 5105	The American Healthcare System	3
HRMG 6220	Health Organization Management	3
STRT 6220	Strategic Management for Healthcare Organizations	3

Electives

Code	Title	Hours
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
HINF 5101	Introduction to Health Informatics and Health Information Systems	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
SCHM 6223	Managing Healthcare Supply Chain Operations	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Corporate Finance, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Corporate Finance (https://damore-mckim.northeastern.edu/programs/corporate-finance-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gccf) helps students advance their finance careers by building cutting-edge business planning, financial analysis, and investment management skill sets.

In just four courses—with the option to take a fifth course to further their learning—students have an opportunity to develop a deeper understanding of domestic and international markets, building a rich context for effective financial decision making. Depending on their chosen electives, students explore critical topics in greater depth, such as investment banking, mergers and acquisitions, and business turnarounds.

Students enroll in the Graduate Certificate in Corporate Finance for part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
FINA 6205	Financial Strategy	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met. Some courses may also apply to requirements of the MBA program.		9
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
FINA 6204	International Financial Management	
FINA 6213	Investment Banking	
FINA 6214	Mergers and Acquisitions	
FINA 6215	Business Turnarounds	
FINA 6216	Valuation and Value Creation	
FINA 6260	Entrepreneurial Finance and Venture Capital	
HRMG 6200	Managing People and Organizations	
INTB 6200	Managing the Global Enterprise	
MECN 6200	Global Competition and Market Dominance	
MKTG 6200	Creating and Sustaining Customer Markets	
STRT 6200	Strategic Decision Making in a Changing Environment	

Program Credit/GPA Requirements

12 semester hours required; may complete a maximum of 15 semester hours
Minimum 3.000 GPA required

Corporate Innovation, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Corporate Innovation (https://damore-mckim.northeastern.edu/programs/corporate-innovation-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcci) prepares students with an agile, curious mindset and expertise in proven innovation practices.

In just four courses—with the option to take a fifth course to deepen their knowledge—students learn essential innovation tools for improving processes, products, and services, emphasizing driving growth through innovation. Depending on the electives chosen, students explore critical topics in greater depth, such as social enterprise, business model design, or corporate entrepreneurship.

Students may enroll in the Graduate Certificate in Corporate Innovation for full-time and part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
INNO 6200	Enterprise Growth and Innovation	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6212	Business Planning for New Ventures	
ENTR 6300	Managing a Technology-Based Business	
ENTR 6340	The Technical Entrepreneur as Leader	
GE 5100	Product Development for Engineers	
INNO 6217	Lean Innovation	
INNO 6222	Competing in Dynamic, Innovation-Driven Markets	
INNO 6225	Acquisitions, Alliances, and Growth	
HRMG 6212	Creating an Innovative Organization	
HRMG 6280	The Human Side of Innovation	
MGMT 6280	Innovation for Next-Generation Products and Systems	
MKTG 6214	New Product Development	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Corporate Renewal, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Corporate Renewal (https://damore-mckim.northeastern.edu/programs/corporate-renewal-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gccr) is designed to prepare students with the skills and knowledge to reinvent troubled companies. Students develop an agile and strategic mindset—and a portfolio of skills from multiple disciplines.

In just four courses—with the option to take a fifth course to expand their learning—students have an opportunity to develop a deeper understanding of the management and financial issues companies face when they're in crisis and to build skills to facilitate the process of reinvention and restructuring. They study the essentials of guiding companies through workouts, bankruptcies, liquidations, and restructuring—and help them find success on the other side. Depending on their chosen electives, students explore critical topics in greater depth, such as strategic planning, innovation, and negotiation.

Students may enroll in our Graduate Certificate in Corporate Renewal for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
FINA 6200	Value Creation through Financial Decision Making	3
HRMG 6200	Managing People and Organizations	3
MKTG 6200	Creating and Sustaining Customer Markets	3

Electives

Code	Title	Hours
In consultation with advisor, complete 3 graduate-level semester hours from the following for which prerequisites have been met:		3
FINA 6216	Valuation and Value Creation	
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	

Program Credit/GPA Requirements

12 total semester hours required; may complete a maximum of 15 semester hours
Minimum 3.000 GPA required

Entrepreneurship, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Entrepreneurship (https://damore-mckim.northeastern.edu/programs/entrepreneurship-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gce) is designed to help students learn how to launch a cutting-edge venture and develop a business plan for a high-potential idea. Students have an opportunity to build a strong foundation of business knowledge that includes product development, planning, and competitive strategies.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students study core business skills and essential best practices for commercializing innovation in a digital economy. Depending on their chosen electives, students explore critical topics in greater depth, such as disruptive technologies, lean design, or financing.

Students may enroll in the Graduate Certificate in Entrepreneurship for full-time or part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
INNO 6200	Enterprise Growth and Innovation	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6212	Business Planning for New Ventures	
ENTR 6214	Social Enterprise	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
FINA 6260	Entrepreneurial Finance and Venture Capital	
GE 5030	Iterative Product Prototyping for Engineers	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

International Business, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in International Business (https://damore-mckim.northeastern.edu/programs/international-business-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcib) helps students cultivate a global mindset and develop the cultural agility required to lead in an increasingly globalized business world.

In just four courses—with the option to take a fifth to deepen their knowledge base—students study international trade issues, legal and political considerations for decision making, international currency markets, and significant cultural and ethical issues. Depending on their chosen electives, students explore critical topics in greater depth, such as competing in emerging markets or issues affecting global supply chain design.

Students may enroll in the Graduate Certificate in International Business for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
INTB 6200	Managing the Global Enterprise	3
INTB 6212	Cultural Aspects of International Business	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
FINA 6204	International Financial Management	
INNO 6200	Enterprise Growth and Innovation	
INTB 6226	Becoming a Global Leader	
INTB 6230	Global Field Study	
INTB 6249	Digitization of International Business	
MECN 6200	Global Competition and Market Dominance	
MKTG 6212	International Marketing	
SCHM 6213	Global Supply Chain Strategy	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Investments, Graduate Certificate

Northeastern University D'Amore-McKim School of Business's Graduate Certificate in Investments (https://damore-mckim.northeastern.edu/programs/investments-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gci) is designed to equip students with a deep understanding of global markets, financial best practices, and quantitative and analytical tools.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students have an opportunity to learn cutting-edge theories and quantitative tools for identifying, valuing, and analyzing investment choices. Depending on their chosen electives, students explore critical topics in greater depth, such as real estate investing, personal financial planning, risk management, and insurance.

Students enroll in our Graduate Certificate in Investments for part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
FINA 6203	Investment Analysis	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met. Some courses may also apply to requirements of the MBA program.		9
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
HRMG 6200	Managing People and Organizations	
INTB 6200	Managing the Global Enterprise	
MECN 6200	Global Competition and Market Dominance	
MKTG 6200	Creating and Sustaining Customer Markets	
STRT 6200	Strategic Decision Making in a Changing Environment	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Leading People and Organizations, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Leading People and Organizations (https://damore-mckim.northeastern.edu/programs/leading-people-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gclpo) helps students develop cutting-edge skills for developing and leading successful teams.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students learn essential principles for building and leading high-performing and collaborative teams. Depending on the electives chosen, students explore critical topics in greater depth, such as health organization management, negotiating, or leading for environmental sustainability.

Students may enroll in our Graduate Certificate in Leading People and Organizations for full-time and part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
HRMG 6200	Managing People and Organizations	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
HRMG 6212	Creating an Innovative Organization	
HRMG 6218	Great Companies	
HRMG 6220	Health Organization Management	
HRMG 6223	Global Talent Management	
MGMT 6214	Negotiations	
STRT 6210	Workforce Metrics and Analytics	

Program Credit/GPA Requirements

12 semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Marketing, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Marketing (https://damore-mckim.northeastern.edu/programs/marketing-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcm) prepares students to leverage digital marketing tools to capitalize on trends and communicate powerfully with an audience.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students learn how technology transforms the ways companies engage their customers. They dive into topics such as social media, marketing research, consumer behavior, marketing analysis, planning and strategy, and innovation.

Students may enroll in our Graduate Certificate in Marketing for full-time or part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
MKTG 6200	Creating and Sustaining Customer Markets	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours from the following for which prerequisites have been met:		9
MKTG 6210	Marketing Research	
MKTG 6212	International Marketing	
MKTG 6214	New Product Development	
MKTG 6216	Market Focused Strategy	
MKTG 6218	Managing Customer Engagement in a Service World	
MKTG 6222	Digital Marketing	
MKTG 6223	Brand and Advertising Management	
MKTG 6224	B2B and Strategic Sales	
MKTG 6226	Consumer Behavior	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	
MKTG 6234	Marketing Analytics	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Marketing Analytics, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Marketing Analytics (https://damore-mckim.northeastern.edu/programs/marketing-analytics-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcma) empowers students with the skills they need to turn data into smart marketing strategies.

In just four courses—with the option to take a fifth course to further their learning—students focus on the role of data and technology in a modern marketing strategy, from customer relationship management to performance measurement. They develop analytical, computational, and strategic thinking skills that will help them link the insights they generate to the marketing results they want.

Students enroll in our Graduate Certificate in Marketing Analytics for part-time study.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
MKTG 6200	Creating and Sustaining Customer Markets	3
MKTG 6234	Marketing Analytics	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours from the following for which prerequisites have been met:		6
MKTG 6210	Marketing Research	
MKTG 6216	Market Focused Strategy	
MKTG 6222	Digital Marketing	
MKTG 6230	Driving Marketing Performance: Measure, Analyze, Profit	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours

Minimum 3.000 GPA required

Mutual Fund Management, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Mutual Fund Management (http://www.damore-mckim.northeastern.edu/academic-programs/certificates/mutual-fund-management/?utm_medium=website&utm_source=catalog&utm_campaign=gcmfm) helps students build the skills to become knowledgeable asset managers that create value by spotting opportunities and capitalizing on growth.

In just four courses—with the option to take a fifth course to deepen your knowledge base—students learn the essentials of managing funds, including allocating assets, managing risk, and complying with regulations. Depending on the electives chosen, students explore critical topics in greater depth, such as market analysis or fixed-income securities.

Students may enroll in our Graduate Certificate in Mutual Fund Management for part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
FINA 6202	Analysis of Financial Institutions and Markets	
FINA 6203	Investment Analysis	
FINA 6212	Fixed Income Securities and Risk	
FINA 6219	Portfolio Management	
FINA 6360	Fund Management for Analysts (Complete 3 semester hours through our student managed mutual fund. Each course is 1 semester hour and may be taken multiple times.)	

Electives

Code	Title	Hours
In consultation with advisor, complete 3 graduate-level semester hours for which prerequisites have been met:		3
FINA 6202	Analysis of Financial Institutions and Markets	
FINA 6203	Investment Analysis	
FINA 6211	Financial Risk Management	
FINA 6212	Fixed Income Securities and Risk	
FINA 6213	Investment Banking	
FINA 6217	Real Estate Finance and Investment	
FINA 6219	Portfolio Management	
FINA 6360	Fund Management for Analysts (Complete 3 semester hours through our student managed mutual fund. Each course is 1 semester hour and may be taken multiple times.)	

Program Credit/GPA Requirements

12 total semester hours required; may take a maximum of 15 semester hours
Minimum 3.000 GPA required

Supply Chain Management, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Supply Chain Management (https://damore-mckim.northeastern.edu/programs/supply-chain-management-certificate/?utm_source=internal-referral&utm_medium=nu-catalog&utm_campaign=gcscm) helps students become skilled supply chain leaders who can respond to disruption with agility and confidence.

In just four courses—with the option to take a fifth course to deepen their knowledge base—students build a strong portfolio of skills for optimizing supply chains from end to end, advancing their knowledge of sourcing, logistics, inventory management, and process control. They also have the opportunity to explore elective topics important to their professional goals, such as creating and managing sustainable supply chains.

Students may enroll in our Graduate Certificate in Supply Chain Management for full-time or part-time study.

Program Requirements

Core Requirements

Code	Title	Hours
SCHM 6201	Operations and Supply Chain Management	3
SCHM 6213	Global Supply Chain Strategy	3

Electives

Code	Title	Hours
In consultation with advisor, complete 6 graduate-level semester hours for which prerequisites have been met:		6
SCHM 6211	Logistics and Transportation Management	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
SCHM 6224	Demand Planning and Forecasting	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sustainability and Business, Graduate Certificate

Northeastern University D'Amore-McKim School of Business' Graduate Certificate in Sustainability and Business (https://damore-mckim.northeastern.edu/programs/sustainability-business-certificate/?utm_medium=content&utm_source=catalog&utm_campaign=dmsb-melt-evg-glo-comp-bos-bus-gcsb-con-2022_02_25-gcsb_catalog) helps students build the skills to increase efficiency, drive value, and build trust through sustainable practices.

In just four courses—with the option to take a fifth course to expand their learning—students learn to implement sustainable business strategies to create a competitive edge for organizations. Depending on the electives chosen, students may dive into social entrepreneurship, public policy, and sustainable supply chain management.

Students may enroll in our Graduate Certificate in Sustainability and Business for part-time study.

Program Requirements

Core Requirement

Code	Title	Hours
MECN 6200	Global Competition and Market Dominance	3

Electives

Code	Title	Hours
In consultation with advisor, complete 9 graduate-level semester hours for which prerequisites have been met:		9
ENTR 6214	Social Enterprise	
ENTR 6216	Global Social Entrepreneurship and Innovation	
INTB 6217	Creating Sustainable Competitive Advantage through Global Innovation	
MECN 6205	Sustainability and the Economics of Markets	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
SCHM 6221	Sustainability and Supply Chain Management	

Program Credit/GPA Requirements

A total of 12 semester hours is required

Minimum 3.000 GPA required

Khoury College of Computer Sciences

Website (https://khoury.northeastern.edu)

Elizabeth Mynatt, PhD, Dean

Ben Hescott, PhD, Teaching Professor, Senior Associate Dean of Academic Programs and Student Experience

Jodi Tims, PhD, Associate Dean of Khoury College in the Global Network
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At the Khoury College of Computer Sciences, we are inspired by our information-driven world and strive to make it a better place. Our students engage in rigorous learning and real-world co-op experiences. Our renowned faculty shapes minds, sparks innovation, and inspires ideas. Our interdisciplinary research breaks new ground to solve everyday problems.

Khoury maintains a strong research program with significant funding from the major federal research agencies and private industry. With a substantial increase in faculty strength and research funding in recent years, we are actively seeking highly motivated, bright, hardworking students who are interested in pursuing a PhD degree in computer science or in the interdisciplinary field of cybersecurity, network science, or personal health informatics. Graduate students and faculty members are involved in exciting projects in a wide range of research areas, including programming languages, software engineering, distributed and parallel computing, cryptography, network security, health informatics, network science, databases, information retrieval, robotics, visualization, and artificial intelligence. Colloquia and weekly research seminars contribute to the vibrant research atmosphere in the college.

Our curriculum encompasses both the breadth and depth needed for graduate school. Specialized, advanced courses for PhD students in computer science, cybersecurity, and personal health informatics are designed to prepare all students for research early in their doctoral education.

The Master of Science in Computer Science curriculum combines the study of basic algorithms and theoretical computer science principles with advanced programming and software design methods. It offers students the opportunity to develop the analytical and problem-solving skills needed to pursue challenging professional careers.

Khoury also offers the Master of Science in Artificial Intelligence, which provides a comprehensive framework of theory and practice in this emerging field and incorporates elements of data science, robotics, and machine learning; and the Master of Science in Cybersecurity focuses on information technology and incorporates the understanding of the social sciences, law, criminology, and management needed to prevent and combat cyberattacks.

In addition, we offer four interdisciplinary master's degree programs: the Master of Science in Health Informatics with Bouvé College of Health Sciences, which seeks to prepare graduates to use information technology to improve healthcare delivery and outcomes; the Master of Science in Data Science with the College of Engineering, which is designed to give students a comprehensive framework for processing, modeling, analyzing, and reasoning about data; the Master of Science in Robotics with the College of Engineering, which offers students an opportunity to obtain a comprehensive understanding of the algorithms, sensors, control systems, and mechanisms used in robotics; and the Master of Science in Game Science and Design with the College of Arts, Media and Design, which seeks to provide students with a comprehensive understanding of how successful game products are created in a player-centric environment.

The Align program enables intellectually curious students to earn a Master of Science in Computer Science or Data Science without a background in the field. Regardless of undergraduate major or prior programming experience, Align's custom curricula is designed to prepare students for high-demand industries.

Khoury College is a tightly knit community, and the faculty, staff, and students interact regularly through town hall meetings, social gatherings, lectures, and seminars. A diverse, multicultural graduate student body and faculty encourage rich extracurricular interaction. The Master's Council organizes a number of social events to promote friendship and camaraderie within the Khoury community.

Academic Policies and Procedures

- Absenteeism (p. 258)
- Academic Integrity (p. 259)
- Academic Probation and Dismissal (p. 260)
- Certificates (p. 261)
- Pass / Fail Policy (p. 262)
- Transfer of Credit (p. 263)

Absenteeism

Students are expected to attend all classes and lab sections for their registered courses. Any student who anticipates missing a class due to illness or emergency situations is expected to contact their professor as soon as possible.

While students are welcome to travel over winter and summer breaks, the Khoury College of Computer Sciences expects students to return to campus in a timely manner and to be present for the first week of classes each term. Students who do not arrive back to campus on time may be dropped from their classes until they return to campus. The Office of the University Registrar posts current and future academic calendars (https://registrar.northeastern.edu/group/calendar/) on their website so travel plans can be made accordingly.

Students who are hired as teaching assistants are to be present and fulfill all expected employment responsibilities for the entirety of the semester. The scope of employment will include but not be limited to first class welcome/orientation through the grading of final examinations or final projects. Any violation or neglect of these requirements will be considered a violation of the Student Code of Conduct.

Academic Integrity

Violation Submission and Review Process

In the event a faculty member finds a student in violation of the Academic Integrity Policy, faculty will be asked to submit a report to the Khoury College Academic Integrity Committee. The Academic Integrity Committee will convene on a regular basis to review all proposals and appeals. Students will be notified of the determination made by the Academic Integrity Committee after the nearest meeting takes place. Students will have the opportunity to appeal all decisions made by the college.

Violations by Khoury College Master's Students

Students found in violation of the Academic Integrity Policy will be placed on deferred suspension by the college. A deferred suspension is the most serious formal warning for a violation of the Academic Integrity Policy and remains with the student for the remainder of their time in the program. Based on the severity of the violation, the Academic Integrity Committee may recommend one or more of the following sanctions:

- Removal of co-op privilege for the remainder of time in the MS program
- Suspension or deferral of co-op for one to two semesters
- Disqualification from paid graduate student positions within the college (i.e., graders, course assistants, TA/RA appointments)
- No further consequence beyond assignment of a deferred suspension

Students deemed to be in violation of the Academic Integrity Policy for a second instance may be terminated from their respective graduate program.

In accordance with university policy, the college maintains the right to override decisions issued by the Office of Student Conduct and Conflict Resolution in the area of academic performance.

Students will have the right to appeal any and all decisions issued by the Master's Academic Integrity Committee. The appeals process is outlined below.

Appeals Process

Students are entitled to appeal all decisions made by the college's Academic Integrity Appeals Committee. The appeals committee will be comprised of a graduate co-op faculty member, the associate director of graduate student services, and one Khoury faculty member. Cases submitted concerning students from interdisciplinary programs will be reviewed by an appeals committee that includes a member of the partner college administration at the associate dean or faculty level. Student appeals will first be heard by the committee itself and then by the college dean. In the event the appeal is denied at both college levels, the student will have the right to have their appeal heard by a provost review committee. Appeals will be heard on a monthly basis, in accordance with the Academic Integrity Committee meeting schedule.

Details regarding the university appeal process can be found in the graduate catalog here (p. 70).

Academic Probation and Dismissal

A student whose overall GPA falls below 3.000 will be automatically placed on academic probation and will be notified by the college. Once on probation, a student has one academic semester (summer excluded) to achieve a 3.000 GPA. If the GPA is still unsatisfactory at the end of that semester, the student will be eligible for dismissal from the graduate program. In programs that require prerequisite or Align bridge courses, these courses count toward the GPA for academic standing.

Students should refer to their program's requirements page regarding any applicable core GPA requirement.

Appeals Process

Students are entitled to appeal dismissal and dismissal override decisions made by the college's Academic Standing Committee. Appeals should be submitted within five business days of dismissal notification. All appeals to the college should be submitted in writing. The appeals committee will be comprised of the associate dean of graduate programs, the associate dean of graduate program administration, the director of graduate operations, and an academic advisor. Cases submitted concerning students from interdisciplinary programs will be reviewed by an appeals committee that includes a member of the partner college administration at the associate dean or faculty level. Student appeals will first be heard by the committee itself and then by the college dean. Appeals will be reviewed within five business days of submission by the Academic Standing Committee. In the event the appeal is denied at both college levels, the student will have the right to have their appeal heard by a provost review committee.

Details regarding the university appeal process can be found in the graduate catalog here (p. 70).

Certificates

Admission Requirements

INTERNAL APPLICANTS/CURRENT GRADUATE STUDENTS AT NORTHEASTERN UNIVERSITY

Current Northeastern students will be required to submit an online application in order to have the certificate program added to their transcript. Please contact Khoury graduate admissions with any questions.

In order to be admitted to Khoury graduate certificate programs, current Northeastern students must be in good academic standing. Students on academic probation will not be admitted into a graduate certificate program. Students must apply for admission to a certificate program prior to their final term of study. Requests for admission in the final term will not be considered.

EXTERNAL APPLICANTS

To apply for admission to the Graduate Certificate in Data Analytics program, you must submit an online application that includes:

- PDF or scanned copies of unofficial undergraduate transcripts (you can submit official transcripts from colleges/universities attended at the time of admission)
- Statement of purpose including description of relevant work experience
- Three confidential letters of reference from individuals that know your academic record and/or potential for graduate study
- Official TOEFL examination scores (international students only)

Acceptance to Khoury is granted upon recommendation of the college graduate committee after a review of the completed application.

Visa Compliance

Please note that the data analytics certificate is not an F-1-eligible program. International students enrolled in MS programs at the university are required to comply with all enrollment visa regulations regarding online course enrollment. Please contact the Office of Global Services if you have questions regarding your enrollment status.

Certificate Coursework Applied to Khoury Graduate Degrees

Certificate coursework completed by graduate students may be used in some cases toward a Khoury graduate degree.

- Graduate Certificate in Data Analytics: With approval from the health informatics program director, selected students can substitute one course from the Graduate Certificate in Data Analytics for a technical core requirement in the Master of Science in Health Informatics degree, and up to two more courses from the Graduate Certificate in Data Analytics can be counted as electives for the Master of Science in Health Informatics degree.
- Graduate Certificate in Computer Science: Object-Oriented Design (CS 5004) is only eligible to be counted toward the MSCS degree provided that the student is enrolled in the MSCS-Align program; it is not eligible for inclusion in the MSCS program as a stand-alone elective.
- Graduate Certificate in Cloud Software Development: All four courses (16 credits) of the Graduate Certificate in Cloud Software Development are eligible to count toward the eight-course (32-credit) MSCS degree requirement.

Academic Standing

In order to maintain good standing in the certificate programs, students must have a B average or better at the conclusion of each semester. A student whose overall grade-point average falls below 3.000 will be automatically placed on academic probation and will be notified by the college. Once on probation, a student has one academic semester (summer excluded) to achieve a 3.000 GPA. If the GPA is still unsatisfactory at the end of that semester, the student will be eligible for dismissal from the graduate certificate program. In programs that require a prerequisite, these courses count toward the GPA for academic standing.

If a student receives an F grade in any of the certificate courses, the student will be required to retake and pass that course in order to qualify for completion of the program.

Graduation Requirements

Students must have an average GPA of 3.000 overall in the certificate course in order to complete the certificate program.

Co-op

Students in the certificate program are not eligible to participate in the Khoury graduate co-op program.

Pass / Fail Policy

Pass/Fail Policy

Khoury College of Computer Sciences does not allow Khoury graduate students to elect a pass/fail grading basis for courses normally letter graded.

Transfer of Credit

A maximum of 9 semester hours of credit obtained at another institution may be accepted toward the degree, provided the credits meet the following criteria:

- Work is completed at the graduate level for graduate credit
- Student received a grade of 3.000 or better
- Credits were earned at an accredited institution
- Credits have not been used toward any other degree

Transfer credit will be offered only for courses that match a course offered at Northeastern University and that have been approved by the graduate committee. However, no transfer credit will be given for courses listed as interdisciplinary courses.

Students can submit a request for transfer of credit after they have begun taking courses in the Khoury College of Computer Sciences. Please see your academic advisor for the procedure to submit a request.

Computer Science

At the Khoury College of Computer Sciences, we are inspired by an increasingly interconnected society, informed by a rapidly changing job market, and focused on addressing the challenges of a complex world. Our goal is to equip students with knowledge as diverse as it is deep. Our programs provide a strong technical foundation and an essential understanding of computing concepts while integrating computer and data sciences across disciplines and industries.

Our master's degrees are advanced programs that are designed to prepare students to be job ready through a rigorous curriculum, innovative research, experiential learning, and a collaborative environment rich in faculty expertise.

Our research-driven doctoral programs offer students an opportunity to engage in exciting projects, a vibrant community, and a challenging curriculum that offers breadth and depth in areas both within computer science and across disciplines throughout Northeastern University.

Graduate education in computer science also features the top-ranked Northeastern co-op program, enabling students to supplement their classroom education with real-world experience in the field.

Doctor of Philosophy in Computer Science

The PhD program in computer science is designed to prepare students for careers in academia and industry—from conducting research to developing systems to publishing and presenting papers. The rigorous curriculum provides a broad background in the fundamentals of computer science and advanced courses in a wide range of focus areas.

The past decade has witnessed a dramatic increase in Northeastern's international reputation for research and innovative educational programs. Since 2012, the Khoury College of Computer Sciences has hired 30 outstanding faculty members and plans to continue this strategic growth in the coming years, advancing its position (http://csrankings.org/) among the nation's top research universities. Today, the college has a diverse faculty (https://www.ccis.northeastern.edu/role/tenured-and-tenure-track-faculty/) of 75, working in a wide range of research areas (https://www.ccis.northeastern.edu/research/research-areas/). Twenty-two faculty members have joint appointments with other colleges and schools, including engineering, science, business, social sciences and humanities, health sciences, law and arts, and media and design.

Master of Science in Artificial Intelligence

The Master of Science program in artificial intelligence is designed to give students a comprehensive framework for AI with specialization in one of five areas: vision, intelligent interaction, robotics and agent-based systems, machine learning, and knowledge management and reasoning. Students will engage in an extensive core intended to develop depth in all core concepts that build a foundation for AI theory and practice. Students will also be given the opportunity to build on the core knowledge of AI by taking a variety of elective courses selected from colleges throughout campus to explore key contextual areas or more complex technical applications. Program graduates will be well positioned to attain research and development positions in a rapidly growing field or to progress into doctoral-degree-related fields.

Master of Science in Data Science

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science program in data science. This program is designed to give students a comprehensive framework for reasoning about data. Students will engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students will also be able to choose elective courses from a variety of offerings in Khoury, the College of Engineering , and throughout the campus to explore areas that generate data or specialized data science applications. Students in the MS program in data science will complete a capstone course, working with real-world data and applying what they have learned during the program. Successful program graduates will be well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

Align Master of Science in Data Science

Students in the Align MS-DS program come from a variety of backgrounds, where they merge their existing knowledge with data science skills. Students will learn theoretical foundations and gain extensive experience with practical problems in the discipline, including data acquisition, storage, analysis, probabilistic modeling, model deployment, and presentation.

Master of Science in Robotics

The Master of Science in Robotics program, offered jointly by the College of Engineering and the Khoury College of Computer Sciences at Northeastern, looks at this fundamentally interdisciplinary field from three connected angles: mechanical engineering, electrical engineering, and computer science.

Through a technically challenging curriculum, hands-on learning, and industry co-op placements, students have an opportunity to gain a comprehensive understanding of the algorithms, control systems, and mechanisms used in robotics to help them stand out in the field and make a transformative impact on society.

For more information on the program, please visit the College of Engineering program page here (p. 290).

Master of Science in Computer Science

Northeastern's Master of Science in Computer Science is designed to prepare students for a variety of careers in computer science. The program combines both computing and important application domains—enabling students to increase their broad-based knowledge in the field while focusing

on one curricular concentration selected from a range of options including artificial intelligence, computer-human interaction, graphics, programming languages, software engineering, data science, networks, theory, game design, systems, and information security.

Align Master of Science in Computer Science

MSCS-Align students come from a wide variety of backgrounds—with undergraduate majors ranging from math, biology, history, engineering, and classics. In this program, students have an opportunity to acquire both the knowledge needed to transition into a new career and the practical skills to build the next great app.

MSCS-Align Online—Take online courses from anywhere, with the flexibility to complete the courses fully online or transfer to one of our strategically located campuses after you've completed the bridge portion of the program. Align Online students will also have three in-person campus visits during the first two semesters to form peer and professional connections. The MSCS-Align Online option is not an F-1 compliant program.

Graduate Certificate in Cloud Software Development

The Graduate Certificate in Cloud Software Development provides students of all backgrounds with the foundational skills needed to pursue a career in cloud computing. Through a four-course program that emphasizes hands-on, industry-facing experiential learning—via Khoury College's partnerships with leading cloud platform companies like AWS, Google, and Microsoft—you'll gain the technical ability, exposure, and experience to work on any cloud computing platform, as well as the career-building resources to put you on the fast track in this growing field.

Graduate Certificate in Computer Science

The postbaccalaureate certificate is designed to give students a solid foundation in the mathematical and theoretical underpinnings of computer science, including the areas of discrete mathematics, basic programming, data structures, object-oriented programming, algorithms, and computer systems. The goal of the certificate is to provide foundational knowledge in computer science that is valuable in both the workplace for career advancement as well as to those looking to move into graduate programs within the discipline.

The Graduate Certificate in Computer Science will serve as the foundational premaster's courses in the Align program.

Graduate Certificate in Data Analytics

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

Graduate Certificate in Inclusive Computer Science Education

The Graduate Certificate in Inclusive Computer Science Education is designed to prepare students to teach computer science principles and concepts in the context of a K–12 environment. Building on the successful Computer Science—Align program, this certificate assumes no prior computer science experience. Through coursework and project-based learning, students have an opportunity to obtain the foundational knowledge necessary to teach basic computing concepts and programming at a variety of educational levels both as stand-alone courses and integrated into other disciplines. The certificate emphasizes how teachers can create an inclusive classroom environment, actively work to dispel stereotypes, and build student confidence. Students who finish this certificate will be well positioned to obtain K–12 certification in computer science.

Programs

Doctor of Philosophy (PhD)

- Computer Science (p. 267)
- Network Science (p. 273)

Master of Science (MS)

- Artificial Intelligence (p. 277)
- Data Science (p. 279)
- Data Science—Align (p. 281)
- Game Science and Design (p. 133)
- Internet of Things (p. 286)
- Robotics (p. 290)

Master of Science in Computer Science (MSCS)

- Computer Science (p. 293)
- Computer Science—Align (p. 295)

Graduate Certificate

- Cloud Software Development (p. 297)
- Computer Science (p. 298)

- Data Analytics (p. 299)
- Inclusive Computer Science Education (p. 300)

Computer Science, PhD

The PhD in Computer Science is designed to prepare students for careers in academia, industrial and national research labs, and technical leadership in industry and government. The rigorous curriculum provides a broad background in the fundamentals of computer science, advanced courses in a wide range of focus areas, and opportunity to make an impact at the forefront of computing. The program provides training in conducting research, publishing and presenting papers, developing systems, and establishing science and technology policy.

Coursework

A minimum of 48 semester hours of coursework beyond the BS/BA degree is required of all students.

All students must demonstrate sufficient knowledge in the fundamentals of computer science, as well as the ability to carry out research in an area of computer science.

The student must maintain a minimum grade-point average of 3.500 among the six core courses and receive a grade of B or better in each of these courses. Students who have taken equivalent courses in other institutions may petition to be exempted from the course(s) (subject to the approval of the PhD computer science curriculum committee). Each student may repeat a course once for no more than three out of the six courses if they do not receive a B or better in the course. Students with a Master of Science in Computer Science may petition to the PhD computer science curriculum committee for an exemption from these courses. Petition forms are available on the college website.

The fields listed do not necessarily represent areas of specialization or separate tracks within the PhD program. Rather, they attempt to delineate areas on which the student must be examined in order to measure their ability to complete the degree. Therefore, they may be adjusted in the future to reflect changes in the discipline of computer science and in faculty interests within the Khoury College of Computer Sciences. Similarly, these fields do not represent the only areas in which a student may write their dissertation. They are, however, intended to serve as a basis for performing fundamental research in computer science.

Paper Requirement

To demonstrate research ability, the student is required to submit to the PhD committee a research or a survey paper in an area of specialty under the supervision of a faculty advisor. A submitted paper from a student is considered to have fulfilled the paper requirement if:

1. The paper has been accepted by a selective conference.
2. The student has made a substantial contribution to the paper.
3. The advisor has endorsed the paper with a written statement indicating the student's contribution.
4. The PhD computer science curriculum committee has voted on a positive recommendation. The committee may require a presentation from the student before making a recommendation.

Admission to Candidacy

Upon completion of the course and the research paper requirements, the student is admitted to candidacy for the PhD degree. It is highly recommended that the student complete the candidacy requirement by the end of their second year but no later than the third year.

Residency

One year of continuous full-time study is required after admission to the PhD candidacy. It is expected that during this period the student will make substantial progress in preparing for the comprehensive examination.

Teaching Requirement

All computer science PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment, or quiz, or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

Comprehensive Examination/Dissertation Proposal

After the student has achieved sufficient depth in a field of study, they prepare a proposal for the PhD dissertation. This process should take place no later than the end of the fifth year in residence. The student prepares a dissertation proposal, which describes the proposed research, including the relevant background materials from the literature. The proposal should clearly specify the research problems to be attacked, the techniques to be used, and a schedule of milestones toward completion.

The dissertation proposal must be approved by the dissertation committee. With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD computer science curriculum committee. The four members must include the advisor, two internal members, and an external member.

Upon approval of the written proposal, the student has to present the proposed work orally in a public forum, followed by a closed-door oral examination from the dissertation committee. The student may take the dissertation proposal examination twice, at most.

Doctoral Dissertation

Upon successful completion of solving the research proposed in the dissertation proposal, the candidate has an opportunity to prepare the dissertation for approval by the dissertation committee. The dissertation must contain results of extensive research and make an original contribution to the field of computer science. The work should give evidence of the candidate's ability to carry out independent research. It is expected that the dissertation should be of sufficient quality to merit publication in a reputable journal in computer science.

Doctoral Committee

With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD computer science curriculum committee. The four members must include the advisor, two internal members, and an external member.

Dissertation Defense

The dissertation defense is held in accordance with the regulations of the University Graduate Curriculum Committee. It consists of a lecture given by the candidate on the subject matter of the dissertation. This is followed by questions from the dissertation committee and others in attendance concerning the results of the dissertation as well as any related matters. The defense is chaired by the PhD advisor.

Time and Time Limitation

After the establishment of degree candidacy, a maximum of five years will be allowed for the completion of the degree requirements, unless an extension is granted by the college graduate committee.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Coursework
Paper requirement
Admission to candidacy
Residency
Teaching requirement
Comprehensive examination/dissertation proposal
Doctoral dissertation
Doctoral committee
Dissertation defense

Course Area Requirements

A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Code	Title	Hours
Complete a total of six courses. Courses must cover at least four of the five areas, and a maximum of two courses may be at the 5000 level.		24
At least two courses must be 7000-level seminar courses.		
At least two courses must be 7000-level nonseminar courses.		
Artificial Intelligence and Data Science		
Seminar Courses		
CS 7170	Seminar in Artificial Intelligence	
CS 7270	Seminar in Database Systems	
Nonseminar Courses		
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7240	Principles of Scalable Data Management: Theory, Algorithms, and Database Systems	
CS 7280	Special Topics in Database Management	
CS 7290	Special Topics in Data Science	
CS 7380	Special Topics in Graphics/Image Processing	
Other Courses		

CS 5100	Foundations of Artificial Intelligence
CS 5150	Game Artificial Intelligence
CS 5170	Artificial Intelligence for Human-Computer Interaction
CS 5180	Reinforcement Learning and Sequential Decision Making
CS 5200	Database Management Systems
CS 5330	Pattern Recognition and Computer Vision
CS 5335	Robotic Science and Systems
CS 5850	Building Game Engines
CS 6120	Natural Language Processing
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
CS 6240	Large-Scale Parallel Data Processing
CY 6720	Machine Learning in Cybersecurity and Privacy
DS 5110	Introduction to Data Management and Processing
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
Human-Computer Interaction	
Nonseminar Courses	
CS 7250	Information Visualization: Theory and Applications
CS 7260	Visualization for Network Science
CS 7295	Special Topics in Data Visualization
CS 7300	Empirical Research Methods for Human Computer Interaction
CS 7340	Theory and Methods in Human Computer Interaction
CS 7390	Special Topics in Human-Centered Computing
Other Courses	
CS 5097	Mixed Reality
CS 5170	Artificial Intelligence for Human-Computer Interaction
CS 5340	Computer/Human Interaction
CS 6350	Empirical Research Methods
Software	
Seminar Courses	
CS 7470	Seminar in Programming Languages
CS 7575	Seminar in Software Engineering
Nonseminar Courses	
CS 7400	Intensive Principles of Programming Languages
CS 7430	Formal Specification, Verification, and Synthesis
CS 7480	Special Topics in Programming Language
CS 7485	Special Topics in Formal Methods
CS 7580	Special Topics in Software Engineering
Other Courses	
CS 5310	Computer Graphics
CS 5400	Principles of Programming Language
CS 5500	Foundations of Software Engineering
CS 5520	Mobile Application Development
CS 5610	Web Development
CS 6410	Compilers
CS 6510	Advanced Software Development
Systems and Security	
Seminar Courses	
CS 7670	Seminar in Computer Systems
CS 7770	Seminar in Computer Networks
CS 7775	Seminar in Computer Security
Nonseminar Courses	

CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CS 7680	Special Topics in Computer Systems
CY 7790	Special Topics in Security and Privacy
Other Courses	
CS 5600	Computer Systems
CS 5700	Fundamentals of Computer Networking
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 6710	Wireless Network
CS 6760	Privacy, Security, and Usability
CY 5130	Computer System Security
CY 5150	Network Security Practices
CY 5770	Software Vulnerabilities and Security
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
Theory	
Seminar Courses	
CS 7870	Seminar in Theoretical Computer Science
NonSeminar Courses	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
CS 7810	Foundations of Cryptography
CS 7880	Special Topics in Theoretical Computer Science
Other Courses	
CS 5800	Algorithms
CY 5120	Applied Cryptography

Electives

Code	Title	Hours
Complete 24 semester hours in the following:		24
Note: Consult faculty advisor for the other acceptable courses.		
CS 5100 to CS 5850, except CS 5340		
CS 6110 to CS 6810		
CS 7340	Theory and Methods in Human Computer Interaction	
CS 7930	Effective Scientific Writing in Computer Science	
CS 8982	Readings	

Dissertation

Code	Title	Hours
Upon achieving PhD candidacy, complete the following courses for two consecutive semesters:		
CS 9990	Dissertation Term 1	
CS 9991	Dissertation Term 2	
For remaining semester(s), complete the following (repeatable) course until graduation:		
CS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum overall 3.000 GPA required

Plan of Study

Sample Curriculum

Year 1

Fall	Hours	Spring	Hours
Area course	4	Area course	4
Readings	4	Readings	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
Area course	4	Area course	4
Readings	4	Readings	4
	8		**8**

Year 3

Fall	Hours	Spring	Hours
Area course	4	Area course	4
Readings	4	Readings	4
	8		**8**

Year 4

Fall	Hours	Spring	Hours
CS 9990	0	CS 9991	0
	0		**0**

Year 5

Fall	Hours	Spring	Hours
CS 9996		CS 9996	
	0		**0**

Year 6

Fall	Hours	Spring	Hours
CS 9996		CS 9996	
	0		**0**

Total Hours: 48

Advanced Entry Program Requirements

Coursework

Incoming PhD in Computer Science students who have already completed a Master of Science in Computer Science or an adjacent field may petition to the PhD in Computer Science program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that advanced standing does not waive by itself any part of the PhD coursework requirements.

As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each course.

Paper Requirement

Refer to the Computer Science, PhD, overview (p. 267), for research/survey paper requirements.

Admission to Candidacy

Refer to the Computer Science, PhD, overview, (p. 267) for admission to candidacy requirements.

Residency

Refer to the Computer Science, PhD, overview, (p. 267) for residency requirements.

Teaching Requirement

Refer to the Computer Science, PhD, overview, (p. 267) for the teaching requirement.

Comprehensive Examination/Dissertation Proposal

Refer to the Computer Science, PhD, overview, (p. 267) for comprehensive examination requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Course requirements
Paper requirement
Comprehensive exam
Teaching requirement
Doctoral candidacy
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each course.

Code	Title	Hours
Consult your faculty advisor for acceptable courses.		16

Dissertation

Code	Title	Hours
Upon achieving PhD candidacy, complete the following courses for two consecutive semesters:		
CS 9990	Dissertation Term 1	
CS 9991	Dissertation Term 2	
For remaining semester(s), complete the following (repeatable) course until graduation:		
CS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

16 total semester hours required
Minimum overall 3.500 GPA required

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Artificial Intelligence, MS

The Master of Science in Artificial Intelligence program is designed to give students a comprehensive framework for AI with specialization in one of five areas: vision, intelligent interaction, robotics and agent-based systems, machine learning, and knowledge management and reasoning. Students may choose from three options: specialization, thesis, or coursework only. Students will engage in an extensive core intended to develop depth in all core concepts that build a foundation for AI theory and practice. Students will also be given the opportunity to build on the core knowledge of AI by taking a variety of elective courses, selected from colleges throughout campus, to explore key contextual areas or more complex technical applications. Program graduates will be well positioned to attain research and development positions in a rapidly growing field or to progress into doctoral-degree-related fields.

The Master of Science in Artificial Intelligence is comprised of eight courses: five core courses, two electives to be chosen from one of five specialization areas or coursework option, and one elective. The core courses are designed and developed by Khoury College faculty. Elective courses consist of graduate courses offered in Khoury and other partner colleges, including College of Arts, Media and Design; College of Engineering; College of Science; and College of Social Sciences and Humanities.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses:

Code	Title	Hours
Intelligence		
CS 5100	Foundations of Artificial Intelligence	4
Programming and Algorithms		
CS 5010	Programming Design Paradigm	4
CS 5800	Algorithms	4
Machine Learning		
CS 6140	Machine Learning	4
Interaction		
CS 5170	Artificial Intelligence for Human-Computer Interaction	4

Options

Complete one of the following options:

SPECIALIZATION OPTION

Code	Title	Hours
Complete two courses from one of the following specializations:		8
Vision		
CS 5330	Pattern Recognition and Computer Vision	
CS 7180	Special Topics in Artificial Intelligence	
EECE 5639	Computer Vision	
EECE 7370	Advanced Computer Vision	
Intelligent Interaction		
CS 5150	Game Artificial Intelligence	
CS 5340	Computer/Human Interaction	
CS 7340	Theory and Methods in Human Computer Interaction	
PSYC 5010	Human Cognitive Processes	
Robotics and Agent-Based Systems		
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
EECE 5550	Mobile Robotics	
EECE 5554	Robotics Sensing and Navigation	
Machine Learning		
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 6220	Data Mining Techniques	
CS 7140	Advanced Machine Learning	
or EECE 7397	Advanced Machine Learning	

CS 7150	Deep Learning	
DS 5230	Unsupervised Machine Learning and Data Mining	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
MATH 7340	Statistics for Bioinformatics	
Knowledge Management and Reasoning		
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 7290	Special Topics in Data Science	
Complete one course from the electives list below or an additional course chosen from the specialization area above, outside of the student's selected specialization area.		4

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the electives or specialization course lists. Students can take up to one course from any Khoury College 5000–6000-level course.		12

THESIS OPTION

Code	Title	Hours
CS 7990	Thesis	4
CS 8674	Master's Project	4
Complete 4 semester hours from the electives or specialization course lists.		4

Electives List

Code	Title	Hours
CS 7180	Special Topics in Artificial Intelligence	
CS 8674	Master's Project	
EECE 7337	Information Theory	
GSND 5110	Game Design and Analysis	
PHIL 5010	AI Ethics	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Science, MS

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science (p. 281)— (p.)Align (p. 281) fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses.

Code	Title	Hours
Complete 20 semester hours from the following:		
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
Khoury College of Computer Sciences		
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5610	Web Development	
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6240	Large-Scale Parallel Data Processing	
CS 6350	Empirical Research Methods	
CS 6620	Fundamentals of Cloud Computing	
CS 6650	Building Scalable Distributed Systems	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7250	Information Visualization: Theory and Applications	
CS 7280	Special Topics in Database Management	

CS 7290	Special Topics in Data Science
DS 7990	Thesis
DS 7995	Project
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 semester hours (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative semester hours to 4. In order to earn this additional credit, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Data Science, MS—Align

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science—Align fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

The Master of Science in Data Science—Align curriculum is specifically designed to prepare incoming students without any prior programming experience. During the first semester of year one, students are expected to take foundational courses in computer science fundamentals, as well as a course in data structures/discrete mathematics. During their second semester, students will take coursework in programming for data science, as well as linear algebra and probability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Align Bridge Coursework

Students are required to complete all bridge courses unless otherwise determined by the program.

A grade of B or higher is required in each course.

Code	Title	Hours
Fundamentals		
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
Discrete Structures		
CS 5002	Discrete Structures	4
Programming for Data Science		
DS 5010	Introduction to Programming for Data Science	4
Additional Align Coursework		
DS 5020	Introduction to Linear Algebra and Probability for Data Science	4

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses:

Code	Title	Hours
Complete 20 semester hours from the following:		
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives [1]

Code	Title	Hours
Complete 12 semester hours from the following:		12
Khoury College of Computer Sciences		

CS 5100	Foundations of Artificial Intelligence
CS 5180	Reinforcement Learning and Sequential Decision Making
CS 5200	Database Management Systems
CS 5330	Pattern Recognition and Computer Vision
CS 5340	Computer/Human Interaction
CS 5610	Web Development
CS 6120	Natural Language Processing
CS 6200	Information Retrieval
CS 6240	Large-Scale Parallel Data Processing
CS 6350	Empirical Research Methods
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 7140	Advanced Machine Learning
CS 7150	Deep Learning
CS 7180	Special Topics in Artificial Intelligence
CS 7200	Statistical Methods for Computer Science
CS 7250	Information Visualization: Theory and Applications
DS 7990	Thesis
DS 7995	Project
CS 7280	Special Topics in Database Management
CS 7290	Special Topics in Data Science
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

40–48 total semester hours required

Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 SH (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative SH to 4. In order to earn this additional 1 SH, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Game Science and Design, MS

The **Master of Science (MS) in Game Science and Design** is a program that seeks to give students a comprehensive understanding of how successful game products are created in a player-centric environment. Successful graduates who wish to become professional game developers or game user research experts should be able to collaborate effectively in this dynamic and burgeoning field of practice and research. Focusing on the science of game development, students have an opportunity to learn the design and technological skills needed to build a game and develop a deep understanding of playability and analytics that makes products successful in an increasingly competitive marketplace.

The game industry has expanded to include social and mobile gaming; augmented and virtual reality; as well as games in health, education, and training. Rapid innovations are happening in player psychology, middleware, graphics and authoring tools, game mechanics, and artificial intelligence and narrative techniques. It has become an increasingly competitive space.

The selectiveness of the industry and the diversity of the skills required mean that students seeking entry need both broad and deep skills. As an emergent industry using diverse technology and collaborative practices, the game industry needs professionals with interdisciplinary skill sets who can blend knowledge about development with knowledge about evaluation methods and players' behavior and psychology.

Jointly offered by Northeastern's College of Arts, Media and Design and Khoury College of Computer Sciences (https://www.khoury.northeastern.edu/), the **Master of Science in Game Science and Design** is a one-of-a-kind interdisciplinary program that seeks to prepare students to meet this need by weaving together science and design. This is a two-year, 34-credit-hour program.

All admitted students will be assigned to an advisor who will help them select a pathway with a coherent set of electives depending on their career goals. The advisor will also monitor their progress through the master's degree.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5122	Business Models in the Game Industry	1
GSND 5130 and GSND 5131	Mixed Research Methods for Games and Recitation for GSND 5130	4
Thesis		
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	4
GSND 7990	Thesis	4

Electives

Code	Title	Hours
Game Design or Development		
Complete one of the following:		4
CS 5150	Game Artificial Intelligence	
CS 5850	Building Game Engines	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	
Game User Research or Analytics		
Complete one of the following:		4
CS 5340	Computer/Human Interaction	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Code	Title	Hours
Other Electives List		
Complete any two of the previously listed courses or from the following (courses not listed below may be completed in consultation with your program coordinator).		8
If ARTG 5000 or GSND 6000 or GSND 6001 is completed more than once, the additional completions may be allowed toward the electives.		
Elective courses outside of CAMD are subject to availability and registration policy of the home college.		
ARTG 5000	Topics in Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5310	Visual Cognition	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
GSND 6000	Advanced Topics in Game Design	
GSND 6001	Advanced Topics in Game Science	
INSH 5302	Information Design and Visual Analytics	
JRNL 6341	Telling Your Story with Data	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
GSND 5110 and GSND 5111 and GSND 5112	5	Elective	4	Co-op (optional)	0
GSND 5130 and GSND 5131	4	Elective	4		
	9		**8**		**0**

Year 2

Fall	Hours	Spring	Hours
GSND 5122	1	GSND 7990	4
GSND 6330 and GSND 6331	4	Elective	4
Elective	4		
	9		**8**

Total Hours: 34

Note: Co-op or Thesis Co-op is optional in consultation with faculty advisor.

Internet of Things, MS

The Master of Science in Internet of Things is an interdisciplinary program administered by the Institute for the Wireless Internet of Things, the Department of Electrical and Computer Engineering, and the Khoury College of Computer Sciences. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the development of a globally interconnected continuum of untethered devices and objects interacting with the physical environment, people, and each other. The program will provide students with the necessary knowledge and skills to understand, design, and implement autonomous wireless networked systems of tomorrow operating in uncertain, challenging, extreme environments, through a combination of coursework, master project research, and/or industry experience.

Program Requirements

Core Requirements

Code	Title	Hours
EECE 5155	Wireless Sensor Networks and the Internet of Things	4
Complete one of the following:		4
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
Complete one of the following:		4
CS 5800	Algorithms	
CS 7800	Advanced Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Complete one of the following:		4
CS 6140	Machine Learning	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5698	Special Topics in Electrical and Computer Engineering	
Complete one of the following:		4
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7368	High-Level Design of Hardware-Software Systems	
Complete two courses from the following for a total of 4 semester hours:		
EECE 7400	Special Problems in Electrical and Computer Engineering	1
INNO 6230	Platform Innovation	3
or MGMT 6280	Innovation for Next-Generation Products and Systems	
Complete one of the following:		4
CY 5120	Applied Cryptography	
CY 5150	Network Security Practices	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
EECE 5641	Introduction to Software Security	
EECE 5699	Computer Hardware and System Security	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 4 semester hours from the course list below. (p. 286)		4

MASTER'S PROJECT OPTION

Code	Title	Hours
EECE 7674	Master's Project	4

Course List

Code	Title	Hours
Courses in College of Engineering		
Electrical and Computer Engineering		
EECE 5360	Combinatorial Optimization	
EECE 5550	Mobile Robotics	

EECE 5554	Robotics Sensing and Navigation
EECE 5606	Micro- and Nanofabrication
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5645	Parallel Processing for Data Analytics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5699	Computer Hardware and System Security
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7240	Analog Integrated Circuit Design
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7275	Antennas and Radiation
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7390	Computer Hardware Security
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances on Deep Learning)
Bioengineering	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design
Civil and Environmental Engineering	
CIVE 5280	Remote Sensing of the Environment
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering
CIVE 7151	Urban Informatics and Processing
CIVE 7380	Performance Models and Simulation of Transportation Networks

Courses Outside College of Engineering	
Khoury College of Computer Science	
Computer Science	
CS 5700	Fundamentals of Computer Networking
CS 6140	Machine Learning
CS 7150	Deep Learning
Cybersecurity	
CY 5120	Applied Cryptography
CY 5150	Network Security Practices
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
CY 6760	Wireless and Mobile Systems Security
D'Amore-McKim School of Business	
Entrepreneurship and Innovation	
INNO 6200	Enterprise Growth and Innovation
INNO 6222	Competing in Dynamic, Innovation-Driven Markets
Management	
MGMT 6280	Innovation for Next-Generation Products and Systems
Entrepreneurship Technological	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
Bouvé College of Health Sciences	
Health Informatics	
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5301	Evaluating Health Technologies
HINF 6400	Introduction to Health Data Analytics
Nursing	
NRSG 6306	Health Informatics
College of Arts, Media and Design	
Communication Studies	
COMM 6605	Youth and Communication Technology
School of Law	
LW 6101	Introduction to Legal Studies 1: Law and Legal Reasoning
LW 6102	Introduction to Legal Studies 2
LW 6140	Data Regulation and Compliance
LW 6231	Identifying and Securing Intellectual Property Rights
LW 6232	Intellectual Property and Media
LW 6400	Law, Policy and Legal Argument
LW 7369	Intellectual Property
LW 7669	Law and Technology
College of Social Sciences and Humanities	
Law and Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change
Public Policy and Urban Affairs	
PPUA 5262	Big Data for Cities
Political Science	
POLS 7341	Security and Resilience Policy
POLS 7346	Resilient Cities
POLS 7441	Cyberconflict
Philosophy	

PHIL 5005	Information Ethics
College of Science	
Physics	
PHYS 5116	Network Science 1

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Robotics, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academic-programs/ms-robo/).

The multidisciplinary Master of Science program in robotics is offered by the College of Engineering and the Khoury College of Computer Sciences. The program is designed to provide students comprehensive training in algorithms, sensors, control systems, and mechanisms used in robotics.

Gordon Institute of Engineering Leadership

Master's Degree in Robotics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Robotics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved robotics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mechanical Engineering		
Complete one of the following:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Electrical and Computer Engineering		
Complete one of the following:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Computer Science		
Complete one of the following:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	

Concentrations

Complete one of the following concentrations:

- Mechanical Engineering (p. 290)
- Electrical and Computer Engineering (p. 291)
- Computer Science (p. 291)

MECHANICAL ENGINEERING

Code	Title	Hours
Students in the mechanical engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional ME course not used to fulfill the core requirements:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
ME 7945	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		

ME 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

ELECTRICAL AND COMPUTER ENGINEERING

Code	Title	Hours
Students in the electrical and computer engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional EECE course not used to fulfill the core requirements:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
EECE 7674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
EECE 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

COMPUTER SCIENCE

Code	Title	Hours
Students in the computer science concentration follow the Khoury College of Computer Sciences co-op policies.		
Required Course		
Complete one additional CS course not used to fulfill the core requirements:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
CS 8674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
CS 8674	Master's Project	4
CS 7990	Thesis	4
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

Elective Course List

Code	Title	Hours
CS 5097	Mixed Reality	
CS 5100	Foundations of Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6350	Empirical Research Methods	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
DS 5220	Supervised Machine Learning and Learning Theory	
EECE 5550	Mobile Robotics	

EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5580	Classical Control Systems
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7150	Autonomous Field Robotics
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
IE 6500	Human Performance
IE 7280	Statistical Methods in Engineering
IE 7315	Human Factors Engineering
IE 7615	Neural Networks and Deep Learning
ME 5240	Computer Aided Design and Manufacturing
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7247	Advanced Control Engineering

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Computer Science, MSCS

Northeastern University's Master of Science in Computer Science is designed to prepare students for a variety of careers in computer science. The program combines both computing and important application domains—enabling you to increase your broad-based knowledge in the field while allowing you to delve deeper in specific areas through elective courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

Code	Title	Hours
Programming		
CS 5010	Programming Design Paradigm	4
Algorithms		
CS 5800	Algorithms	4

Breadth Areas

Code	Title	Hours
Complete three courses from two of the following breadth areas:		12
Systems and Software		
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6650	Building Scalable Distributed Systems	
CS 6710	Wireless Network	
Theory and Security		
CS 6760	Privacy, Security, and Usability	
CS 7805	Complexity Theory	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
Artificial Intelligence and Data Science		
CS 5100	Foundations of Artificial Intelligence	
CS 5150	Game Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6240	Large-Scale Parallel Data Processing	
CS 7140	Advanced Machine Learning	

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
CS 5097	Mixed Reality	
CS 5100 to CS 7980		
CS 7990	Thesis	

CS 8674	Master's Project
CS 8982	Readings
CY 5010	Foundations of Information Assurance
CY 5130	Computer System Security
CY 5210	Information System Forensics
DS 5110	Introduction to Data Management and Processing
DS 5230	Unsupervised Machine Learning and Data Mining

[1] Specific electives such as CS 7980 Research Capstone, CS 7990 Thesis, or CS 8674 Master's Project may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Computer Science, MSCS—Align

Master of Science in Computer Science—Align students come from a wide variety of backgrounds, with undergraduate majors including math, biology, history, engineering, and classics. The program begins with a two-semester introductory sequence, which provides the foundational knowledge for students from nontechnical backgrounds to succeed. Students have an opportunity to acquire both the knowledge needed to transition into a new career and the practical skills to build the next great app.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Align Bridge Coursework

Students are required to take all bridge courses unless otherwise determined by the program.

A grade of B or higher is required in each course.

Code	Title	Hours
Fundamentals		
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
Discrete Structures		
CS 5002	Discrete Structures	4
Object-Oriented Design		
CS 5004 and CS 5005	Object-Oriented Design and Recitation for CS 5004	4
Additional ALIGN courses		
CS 5008 and CS 5009	Data Structures, Algorithms, and Their Applications within Computer Systems and Recitation for CS 5008	4

Core Requirements

Code	Title	Hours
Algorithms		
CS 5800	Algorithms	4

Breadth Areas

Code	Title	Hours
Select three courses from two of the three following breadth areas:		12
Systems and Software		
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6650	Building Scalable Distributed Systems	
CS 6710	Wireless Network	
Theory and Security		
CS 6760	Privacy, Security, and Usability	
CS 7805	Complexity Theory	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
Artificial Intelligence and Data Science		
CS 5100	Foundations of Artificial Intelligence	
CS 5150	Game Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	

CS 6120	Natural Language Processing
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
CS 6240	Large-Scale Parallel Data Processing
CS 7140	Advanced Machine Learning

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
CS 5097	Mixed Reality	
CS 5100 to CS 7980		
CS 7990	Thesis	
CS 8674	Master's Project	
CS 8982	Readings	
CY 5010	Foundations of Information Assurance	
CY 5130	Computer System Security	
CY 5210	Information System Forensics	
DS 5110	Introduction to Data Management and Processing	
DS 5230	Unsupervised Machine Learning and Data Mining	

[1] Specific electives such as CS 7980 Research Capstone, CS 7990 Thesis, or CS 8674 Master's Project may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

36-44 total semester hours required
Minimum 3.000 GPA required

Cloud Software Development, Graduate Certificate

The Graduate Certificate in Cloud Software Development is designed to give students a strong foundation for working with cloud computing platforms like Amazon Web Services, Google Cloud, and Microsoft Azure. Through coursework and project-based learning, students gain the exposure needed to work across these platforms and also in hybrid platform environments. Cloud skills are in higher demand than ever before. However, there is a significant lack of qualified, skilled professionals to support this growth, especially for deployment in non-tech-related industries—such as manufacturing, transportation, travel, entertainment, and education—that rely increasingly on cloud platforms as part of their day-to-day operations. This certificate is aimed at addressing this skills gap utilizing the Khoury Align program's innovative curriculum and student support model, as well as course-based experiential learning opportunities to train students for in-demand and high-paying jobs.

Prerequisite

To ensure that all students have the foundation necessary to be successful in this program, each incoming student must demonstrate that they have taken undergraduate or graduate coursework in computer science or that they have comparable professional experience. This admission requirement can also be fulfilled by successful completion of Intensive Foundations of Computer Science (CS 5001).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CS 5004	Object-Oriented Design	4
CS 5610	Web Development	4
CS 6510	Advanced Software Development	4
CS 6620	Fundamentals of Cloud Computing	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Computer Science, Graduate Certificate

The postbaccalaureate certificate is designed to give students a solid foundation in the mathematical and theoretical underpinnings of computer science, including the areas of discrete mathematics, basic programming, data structures, object-oriented programming, algorithms, and computer systems. The goal of the certificate is to provide foundational knowledge in computer science that is valuable in both the workplace for career advancement, as well as to those looking to move into graduate programs within the discipline.

The courses in the Postbaccalaureate Certificate in Computer Science will serve as the foundational premaster's courses in the Align program. Students that successfully complete the five certificate courses with a B in each course or better will be eligible to matriculate into the Master of Science in Computer Science program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
CS 5002	Discrete Structures	4
CS 5004 and CS 5005	Object-Oriented Design and Recitation for CS 5004	4
CS 5008 and CS 5009	Data Structures, Algorithms, and Their Applications within Computer Systems and Recitation for CS 5008	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Data Analytics, Graduate Certificate

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

For more information on the certificate, refer to the program's website (https://www.northeastern.edu/graduate/program/graduate-certificate-in-data-analytics-boston-14423/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning	4
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Inclusive Computer Science Education, Graduate Certificate

Overview

This program is offered at the Portland, Maine campus.

The Graduate Certificate in Inclusive Computer Science Education is designed to prepare students to teach computer science principles and concepts in the context of a K–12 environment. Building on the successful Computer Science—Align program, this certificate assumes no prior computer science experience. Through coursework and project-based learning, students have an opportunity to obtain the foundational knowledge necessary to teach basic computing concepts and programming at a variety of educational levels both as stand-alone courses and integrated into other disciplines. The certificate emphasizes how teachers can create an inclusive classroom environment, actively work to dispel stereotypes, and build student confidence. Students who finish this certificate will be well positioned to obtain K–12 certification in computer science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CS 5001	Intensive Foundations of Computer Science	4
CS 5002	Discrete Structures	4
CS 5933	Advanced Computer Science Topics for Teachers	4
CS 5934	Introduction to Inclusive Computer Science Teaching	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Cybersecurity

Students can apply for admission to two distinct degree programs.

Doctor of Philosophy (PhD) in Cybersecurity

A research-based, interdisciplinary PhD in cybersecurity spans theory and systems, from hardware to software security, from cryptography to policy, and from malware to wireless security. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Master of Science (MS) in Cybersecurity

An industry-focused, interdisciplinary Master of Science in Cybersecurity combines knowledge of information security technology and cybersecurity hands-on tools with relevant knowledge from law, the social sciences, criminology, and management. The Master of Science in Cybersecurity is designed for students focused on cybersecurity careers in companies or government agencies, thus applying their knowledge to their workplaces to assess security threats and manage information security risks and technical and policy controls.

Northeastern University designations by the National Security Agency and the Department of Homeland Security:

- NSA/DHS Center of Academic Excellence in Cybersecurity—Cyber Defense Education
- NSA/DHS Center of Academic Excellence in Cybersecurity—Research
- NSA/DHS Center of Academic Excellence in Cybersecurity—Cyber Operations

Align Master of Science (MS) in Cybersecurity

Without exception, every organization needs to protect their information system. Every day cyber risks are becoming more complex, and the sophistication and number of threats is growing continuously. For these reasons, cybersecurity professionals need to become more prepared, with a very solid background and with the capacity to evolve and adapt to the current and future information systems challenges.

Organizations are looking for well-rounded cybersecurity professionals, who, beside their understanding of information technologies, can also comprehend the many other dimensions that contribute to effective and efficient information systems security. Professionals with diversified backgrounds are particularly interesting because they are able to provide different approaches to complex cybersecurity problems.

Align-MSCY students are perfect cybersecurity professionals, because they have proven their adaptability to the cybersecurity field and also because they bring an invaluable experience and knowledge from other areas to contribute to a global perspective of an organization's cybersecurity posture.

Programs

Doctor of Philosophy (PhD)

- Cybersecurity (p. 302)

Master of Science

- Cybersecurity (p. 308)
- Cybersecurity—Align (p. 310)

Graduate Certificate

- Cybersecurity (p. 313)

Cybersecurity, PhD

A research-based, interdisciplinary Doctor of Philosophy (PhD) in Cybersecurity combines a strong security technical foundation with a security policy and social sciences perspective. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Students who choose the PhD in Cybersecurity program have a strong desire to pursue academic research solving critical cybersecurity challenges facing today's society. The PhD program is a natural path for students in the college's Master of Science in Cybersecurity (http://www.ccs.neu.edu/graduate/degree-programs/m-s-in-information-assurance/)program who want to pursue research and students with bachelor's degrees and an interest in research-focused careers. Students who pursue careers in advancing the state of the art of cybersecurity have an opportunity to gain:

- A strong technical foundation in cybersecurity and an interdisciplinary perspective based on policy and social science
- A path to a research-focused career coupled with depth in information assurance research at a leading institution, one of the earliest designees by NSA/DHS as a National Center of Academic Excellence in Information Assurance Research, Information Assurance/Cyber Defense, and Cyber Operations
- The opportunity to work with and learn from faculty who are recognized internationally for their expertise and contributions in information assurance from Northeastern University's Khoury College of Computer Sciences, the Department of Electrical and Computer Engineering, and the College of Social Sciences and Humanities
- Access to research projects at Northeastern's research centers focused on security:
  - The Cybersecurity and Privacy Institute (https://cyber.ccis.northeastern.edu/about/): The mission of Northeastern's Cybersecurity and Privacy Institute is to safeguard critical technology. Forging partnerships with experts in industry, government, and academia worldwide, the Institute's faculty and students develop, protect, and enhance technologies on which the world relies—from mobile devices and "smart" IoT applications to tomorrow's self-driving cars and delivery drones. Their expertise spans algorithm auditing; cloud security; cryptography; differential privacy; embedded device security; internet-scale security measurements; machine learning; big data; security, malware, and advanced threats; network protocols and security; web and mobile security; and wireless network security.
  - The International Secure Systems Lab (http://www.iseclab.org/), affiliated with Northeastern, a collaborative effort of European and U.S. researchers focused on web security, malware, and vulnerability analysis; intrusion detection; and other computer security issues.
  - The ALERT Center (http://www.northeastern.edu/alert/), where Northeastern is the lead institution, a multiuniversity Department of Homeland Security Center of Excellence involved in research, education, and technology related to threats from explosives.

The benefits of the Boston area:

- World-renowned for academic and research excellence, the Boston area is also home to some of the nation's largest Department of Defense contractors and government and independent labs such as MIT Lincoln Lab, MITRE, and Draper Lab.

Degree Requirements

The PhD in Cybersecurity degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need four to five years to complete the program, and they will be awarded a master's degree en route to the PhD.

Doctoral Degree Candidacy

A student is considered a PhD degree candidate after completing the core courses with at least a 3.500 GPA, with no grades lower than a B in the core courses, and either publishing a paper in a strong conference or journal or passing an oral exam that is conducted by a committee of three cybersecurity faculty members and based on paper(s) written by the student.

RESIDENCY

One year of continuous full-time study is required after admission to the PhD candidacy. During this period, the student will be expected to make substantial progress in preparing for the comprehensive examination.

TEACHING REQUIREMENT

All cybersecurity PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment or quiz or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
The doctoral dissertation advising team for each student consists of two cybersecurity faculty members, one in a technical area. When appropriate, the second faculty advisor will be from the policy/social science area.

DISSERTATION COMMITTEE
With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD cybersecurity curriculum committee. The four members must include the advisor, two internal members, and an external member.

COMPREHENSIVE EXAMINATION
A PhD student must submit a written dissertation proposal and present it to the dissertation committee. The proposal should identify the research problem, the research plan, and the potential impact of the research on the field. The presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee after the public presentation.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in cybersecurity.

AWARDING OF MASTER'S DEGREES
Students who enter the PhD in Cybersecurity program with a bachelor's degree have the option of obtaining a master's degree from one of the departments participating in the program. To do so, they must meet all of the department's degree requirements.

Program Requirements
Bachelor's Degree Entrance
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each core course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	
EECE 7390	Computer Hardware Security	
Machine Learning		
CS 6140	Machine Learning	
CS 7150	Deep Learning	
CY 6720	Machine Learning in Cybersecurity and Privacy	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	

EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Degree Requirements

Incoming PhD in cybersecurity students who have already completed a Master of Science in an adjacent field may petition to the graduate program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that

advanced entry does not waive by itself any part of the PhD coursework requirements. As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Doctoral Degree Candidacy

Refer to the PhD Cybersecurity overview (p. 302) for admission to candidacy requirements.

Residency

Refer to the PhD Cybersecurity overview (p. 302) for residency requirements.

Teaching Requirement

Refer to the PhD Cybersecurity overview (p. 302) for teaching requirements.

Dissertation Advising

Refer to the PhD Cybersecurity overview (p. 302) for dissertation advising requirements.

Dissertation Committee

Refer to the PhD Cybersecurity overview (p. 302) for dissertation committee requirements.

Comprehensive Examination

Refer to the PhD Cybersecurity overview (p. 302) for comprehensive examination requirements.

Dissertation Defense

Refer to the PhD Cybersecurity overview (p. 302) for dissertation defense and completion requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirement

Students are required to take all core courses unless otherwise determined by the program. Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each core course.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Students are required to take all courses unless otherwise determined by the program.

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	

EECE 7390	Computer Hardware Security
Machine Learning	
CS 6140	Machine Learning
CS 7150	Deep Learning
CY 6720	Machine Learning in Cybersecurity and Privacy
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

Minimum 16 semester hours required
Minimum 3.000 GPA required

Cybersecurity, MS

Our Master of Science in Cybersecurity combines a solid understanding of information security technology with relevant knowledge from law, the social sciences, criminology, and management. The MS program is designed for working professionals and also recent graduates who want knowledge they can apply in workplaces to assess and manage information security risks effectively.

The cybersecurity program provides graduates with both the theoretical and experimental skills to perform professional cybersecurity duties. Due to the broad variety of positions that cybersecurity professionals may hold in the industry, our curriculum is designed to provide enough flexibility to our students to tailor their own careers appropriately.

The cybersecurity curriculum is intended to provide a comprehensive approach to cybersecurity, which includes both the technical skills and the contextual understanding that are fundamental to cybersecurity professions.

Concentration in Criminology

Cybercrime has evolved into more advanced techniques and sophisticated structures. Cybersecurity professionals are of vital importance in crime investigations, and for that reason, they need to have a well-rounded background and knowledge. The Master of Science in Cybersecurity provides an interdisciplinary foundation that includes computer science technical courses, complemented with the contextual knowledge courses required for a proper holistic approach to cybercrime. The optional concentration in criminology and criminal justice will offer MSCY students an opportunity to obtain the fundamental principles and the most important practices that criminal justice professionals use.

Gordon Institute of Engineering Leadership

MASTER'S DEGREE IN CYBERSECURITY WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a Master of Science in Cybersecurity in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The certificate program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour master's degree and certificate require 24 hours from the Master of Science in Cybersecurity (MS required courses, technical track, and contextual track).

Program Requirements

Core Requirements

Code	Title	Hours
Foundations		
CY 5001	Cyberspace Technology and Applications [1]	4
CY 5010	Foundations of Information Assurance	4
Technical Track		
Complete 8 semester hours from the following:		8
CY 5120	Applied Cryptography	
CY 5130	Computer System Security	
CY 5150	Network Security Practices	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
Contextual Track		
Complete 8 semester hours from the following:		8
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance	
CY 6240	Special Topics in Privacy Law	
Capstone		
CY 7900	Capstone Project	4

Electives

Code	Title	Hours
Complete 4 semester hours from the following:		4
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	

CRIM 6262	Evidence-Based Crime Policy
CS 5200	Database Management Systems
CS 5500	Foundations of Software Engineering
CS 5600	Computer Systems
CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7580	Special Topics in Software Engineering
CS 7805	Complexity Theory
CY 5061	Cloud Security
CY 5062	Introduction to IoT Security
CY 5120	Applied Cryptography
CY 5130	Computer System Security
CY 5150	Network Security Practices
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
CY 5770	Software Vulnerabilities and Security
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance
CY 6240	Special Topics in Privacy Law
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
CY 6760	Wireless and Mobile Systems Security
CY 7790	Special Topics in Security and Privacy
POLS 7341	Security and Resilience Policy
PPUA 6503	Managing People in Public and Nonprofit Sectors

Concentration in Criminology

This optional concentration's required courses may count toward the contextual track, and its elective may count toward the major's elective area.

Code	Title	Hours
Required		
CRIM 6200	Criminology	4
CRIM 6202	The Criminal Justice Process	4
Complete one of the following:		4
CRIM 6262	Evidence-Based Crime Policy	
CY 5250	Decision Making for Critical Infrastructure	
CRIM elective [2]		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

1 A student who demonstrates prior mastery of the learning outcomes for Cyberspace Technology and Applications (CY 5001) may replace the course with elective coursework to meet the semester hours required for the degree. See the electives list for options.

2 CRIM elective to be approved by director/associate director of MSCY.

Cybersecurity, MS—Align

The Master of Science in Cybersecurity—Align program is designed for students with a BS/BA degree from all backgrounds. During the first semester of year one, students are expected to take foundational courses in computer science fundamentals, as well as a course in data structures/discrete mathematics. During their second semester, students take coursework in object-oriented design, as well as introductions to algorithms and computer systems.

Our Master of Science in Cybersecurity combines a solid understanding of information security technology with relevant knowledge from law, the social sciences, criminology, and management. The MS program is designed for working professionals and also recent graduates who want knowledge they can apply in workplaces to assess and manage information security risks effectively.

The cybersecurity program provides graduates with both the theoretical and experimental skills to perform professional cybersecurity duties. Due to the broad variety of positions that cybersecurity professionals may hold in the industry, our curriculum is designed to provide enough flexibility to our students to tailor their own careers appropriately.

The cybersecurity curriculum is intended to provide a comprehensive approach to cybersecurity, which includes both the technical skills and the contextual understanding that are fundamental to cybersecurity professions.

Concentration in Criminology

Cybercrime has evolved into more advanced techniques and sophisticated structures. Cybersecurity professionals are of vital importance in crime investigations, and for that reason, they need to have a well-rounded background and knowledge. The Master of Science in Cybersecurity provides an interdisciplinary foundation that includes computer science technical courses, complemented with the contextual knowledge courses required for a proper holistic approach to cybercrime. The optional concentration in criminology and criminal justice will offer MSCY students an opportunity to obtain the fundamental principles and the most important practices that criminal justice professionals use.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Align Bridge Coursework

A grade of B or higher is required in each course.

Code	Title	Hours
Fundamentals		
CS 5001 and CS 5003	Intensive Foundations of Computer Science and Recitation for CS 5001	4
Discrete Structures		
CS 5002	Discrete Structures	4
Cybersecurity		
CY 5001	Cyberspace Technology and Applications	4
Additional Align Courses		
CS 5008 and CS 5009	Data Structures, Algorithms, and Their Applications within Computer Systems and Recitation for CS 5008	4

Core Requirements

Code	Title	Hours
Foundations		
CY 5010	Foundations of Information Assurance	4
Technical Track		
Complete 8 semester hours from the following:		8
CY 5120	Applied Cryptography	
CY 5130	Computer System Security	
CY 5150	Network Security Practices	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
Contextual Track		
Complete 8 semester hours from the following:		8
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	

CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance	
CY 6240	Special Topics in Privacy Law	
Capstone		
CY 7900	Capstone Project	4

Electives

Code	Title	Hours
Complete 4 semester hours from the following:		4
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	
CRIM 6262	Evidence-Based Crime Policy	
CS 5200	Database Management Systems	
CS 5500	Foundations of Software Engineering	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 6710	Wireless Network	
CS 7580	Special Topics in Software Engineering	
CS 7805	Complexity Theory	
CY 5061	Cloud Security	
CY 5062	Introduction to IoT Security	
CY 5120	Applied Cryptography	
CY 5130	Computer System Security	
CY 5150	Network Security Practices	
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5770	Software Vulnerabilities and Security	
CY 6200	Special Topics in IT Security Governance, Risk, and Compliance	
CY 6240	Special Topics in Privacy Law	
CY 6720	Machine Learning in Cybersecurity and Privacy	
CY 6740	Network Security	
CY 6750	Cryptography and Communications Security	
CY 6760	Wireless and Mobile Systems Security	
POLS 7341	Security and Resilience Policy	
PPUA 6503	Managing People in Public and Nonprofit Sectors	

Concentration in Criminology

This optional concentration's required courses may count toward the contextual track, and its elective may count toward the major's elective area.

Code	Title	Hours
Required		
CRIM 6200	Criminology	4
CRIM 6202	The Criminal Justice Process	4
Complete one of the following:		4
CRIM 6262	Evidence-Based Crime Policy	
CY 5250	Decision Making for Critical Infrastructure	
CRIM elective [1]		

Program Credit/GPA Requirements

36–44 total semester hours required
Minimum 3.000 GPA required

[1] CRIM elective to be approved by director/associate director of MSCY.

Cybersecurity, Graduate Certificate

The certificate is designed to give students a solid foundation in cybersecurity. In the course work, students have the opportunity to be exposed to fundamental cybersecurity principles and information security concepts related to information systems, to explore issues involved in the security of computer systems, and to explore the techniques used in computer forensic examination. The goal of the certificate is to provide prospective cybersecurity professionals with an entry point to industry positions within eight months from admission and with reduced financial investment.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CY 5010	Foundations of Information Assurance	4
CY 5130	Computer System Security	4
CY 5210	Information System Forensics	4

Elective

Code	Title	Hours
Complete one of the following:		4
CY 5150	Network Security Practices	
CY 5200	Security Risk Management and Assessment	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Health Informatics, MS

Northeastern University's interdisciplinary Master of Science in Health Informatics was the first MS in the field and is now one of the few that is fully interdisciplinary between health science and computer science.

The program seeks to prepare students to address the combined clinical, technical, and business needs of health-related professionals. Students may opt to select a concentration to deepen their knowledge in a particular area. Successful students graduate with the knowledge of how technology, people, health, and the healthcare system interrelate; the ability to use technology and information management to improve healthcare delivery and outcomes; and the skills to communicate effectively among healthcare practitioners, administrators, information technology professionals, and patients.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B– or higher is required in each course.

Core Requirements

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5105	The American Healthcare System	3

Program Options

Choose one of the following options:

- Health Informatics (Without Concentration) (p. 314)
- Health Informatics with Health Informatics Analytics Concentration (p. 315)
- Health Informatics with Personal Health Informatics Concentration (p. 316)

Program Credit/GPA Requirements

Minimum 33 total semester hours required
Minimum 3.000 GPA required

HEALTH INFORMATICS (WITHOUT CONCENTRATION)

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	

HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
Complete two of the following:		6
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
HINF 6400	Introduction to Health Data Analytics	
PHTH 5202	Introduction to Epidemiology	
PHTH 5210	Biostatistics in Public Health	
PHTH 6210	Applied Regression Analysis	
PHTH 6400	Principles of Population Health 1	
PHTH 6440	Advanced Methods in Biostatistics	
One course from the following may count toward the technical core requirement:		
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
Capstone		
HINF 7701	Health Informatics Capstone Project	3
Electives		
Complete two of the following:		6
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
HINF 6345	Design for Usability in Healthcare	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

HEALTH INFORMATICS ANALYTICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	
HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Capstone		
HINF 7701	Health Informatics Capstone Project	3
Elective		
Complete one of the following:		4
IE 5137	Computational Modeling in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	

PERSONAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Health Informatics		
HINF 6205	Creation and Application of Medical Knowledge	3
Technical		
CS 5340	Computer/Human Interaction	4
Complete one of the following. Students must petition to take electives outside the approved list.		4
CS 5010	Programming Design Paradigm	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 6200	Information Retrieval	
Complete one of the following:		3
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
Theory and Evaluation		
PHTH 5210	Biostatistics in Public Health [1]	3
Complete one of the following:		4
CS 6350	Empirical Research Methods (On campus only)	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Culminating Experience		
Complete one of the two options below.		6
Thesis Option		
Students must enroll in HINF 7990 for two semesters for a total of 6 semester hours with director approval only and under supervision of Personal Health Informatics faculty.		
HINF 7990	Thesis	
Capstone Option		
HINF 7701	Health Informatics Capstone Project	
Complete any course for a minumum of 3 semester from the Health Informatics (without concentration) curriculum, that has not been used in previous requirements.		

[1] Student may petition director to take a more advanced stats course, such as Applied Regression Analysis (PHTH 6210).

Interdisciplinary Programs

Doctor of Philosophy (PhD)

- Network Science (p. 273)
- Personal Health Informatics (p. 322)

Master of Science (MS)

- Data Science (p. 279)
- Game Science and Design (p. 133)
- Health Informatics (p. 314)
- Internet of Things (p. 286)
- Robotics (p. 290)

Graduate Certificate

- Data Analytics (p. 299)

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Personal Health Informatics, PhD

Northeastern University's Doctor of Philosophy in Personal Health Informatics is a transdisciplinary doctoral program focused on educating top researchers in the theoretical underpinnings, design, evaluation, and dissemination of consumer- and patient-focused health systems. Personal health technologies are those that non–health professionals interact with *directly*, both in and out of a clinical setting and in various life stages of illness and wellness.

Examples include:

- Assistive technologies that aid persons with disabilities
- Consumer wellness promotion technologies
- Patient education and counseling systems
- Interfaces for reviewing personal health records
- Advanced ambulatory monitoring for supporting health
- Automated elder care systems that monitor health and support independent living
- Social networking systems connecting families and their social and medical support networks

Developing personal health interface technologies requires that professionals have skills and experience designing systems for individual patients and consumers with a wide range of backgrounds in different contexts using a variety of media, while ensuring that fielded technologies are effective, reliable, and responsive to the needs of at-risk and patient populations. Critical skills and knowledge include needs assessment, theories of interface design and health behavior, rapid prototyping and implementation, experimental design with human subjects in challenging settings, and statistical data analysis and validation. Moreover, these skills must be deployed while working with, or leading, transdisciplinary teams.

The interdisciplinary nature of the program targets students who are interested in improving health and wellness using novel technologies that directly impact the lives of consumers and patients. This is a program for students who are not only technically strong but also socially conscious, design oriented, and interested in rigorously evaluating the technologies they imagine and build. The program provides a path for technical students to acquire more experience in the deployment and evaluation of health technologies in the field but also a path for students with health backgrounds to develop the technical skills needed to prototype and assess creative ideas they envision for improving care. The expected length of study is five years after the bachelor's degree.

Admission Requirements

Students will be accepted with either of the following:

- A bachelor's or higher degree in a technical discipline (e.g., computer science or information science, computer systems engineering) with either academic or work experience demonstrating a commitment to working in health.
- A bachelor's or higher degree in a health science discipline (e.g., nursing, medicine, physical therapy, pharmacy, public health) with either some academic coursework in technology, such as a course in programming or design, or work experience where the applicant participated in the development, adaptation, or evaluation of consumer- or patient-facing health technology. (Otherwise outstanding applicants without programming skills may be advised to take an introductory programming course prior to entry; otherwise outstanding applicants without any formal experience working in health settings may be advised to spend some time volunteering in a medical or community health setting prior to entry.)

Applicants will be expected to have:

- A minimum 3.000 undergraduate GPA
- A minimum total GRE score of 300 or equivalent
- A minimum GRE academic writing score of 3.5
- For international applicants, a minimum TOEFL score of 105

Minimum Academic Standards and Requirements

RESIDENCY REQUIREMENT

The residency requirement will follow the university's residency requirement for PhD programs (https://catalog.northeastern.edu/graduate/general-admission-transfer-credit/regulations-phd-programs/).

TEACHING REQUIREMENT

All personal health informatics PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment, or quiz, or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
Each student will have one primary advisor from the personal health informatics doctoral program faculty.

DISSERTATION COMMITTEE
The committee will consist of at least three members: the dissertation advisor, one additional personal health informatics doctoral program faculty member, and one member external to Northeastern who is an expert in the specific personal health informatics topic of research. The dissertation committee shall include experts with both health and technology backgrounds. The dissertation advisor must be a full-time member of the Northeastern faculty.

QUALIFYING EXAMINATION
The qualifying examination consists of a three-part exam conducted by a committee of three personal health informatics doctoral program faculty members, each overseeing one part of the exam. The research core of the exam is fulfilled with submission of a high-quality paper to a strong peer-reviewed conference or journal. The health component of the exam is fulfilled when the student passes a written exam developed by a faculty member with a health sciences background, and the technical component of the exam is fulfilled when the student passes an exam developed by a faculty member with a technical background. The content of the written exams and the paper topic are developed in consultation with each faculty member.

DEGREE CANDIDACY
A student is considered a PhD degree candidate upon meeting these conditions:

- Completion of core courses with a minimum GPA of 3.000 overall on the core courses
- Completion of the qualifying examination

COMPREHENSIVE EXAM
A PhD student must submit a written dissertation proposal to the dissertation committee. The proposal should identify the research problem, the research plan, and its potential impact on the field. A presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in personal health informatics.

Curriculum Requirements
REQUIRED AND ELECTIVE COURSES
The curriculum is designed to provide all PhD students with a strong foundation in principles critical to the design and evaluation of personal health interfaces. All students take six core courses (24 semester hours) and the user-interface practicum (1 semester hour).The student must maintain a minimum GPA of 3.500 among the six core courses and receive a grade of B or better in each of these courses. All students must also fulfill the programming fundamentals requirement (4 semester hours) and the statistics fundamentals requirement (4 semester hours), where some flexibility in course selection allows tailoring based on background and experience. Two additional research electives (8 semester hours) are selected based on research interests from the personal health informatics electives list. Students are also expected to participate in the personal health informatics seminar series during semesters when it is run.

Program Requirements
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Qualifying examination
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
HINF 5200	Theoretical Foundations in Personal Health Informatics	4
Program Design and Development		
CS 5010	Programming Design Paradigm (or another programming course)	4
CS 7340	Theory and Methods in Human Computer Interaction	4
HINF 5300	Personal Health Interface Design and Development	4
Methods and Statistics		
CS 7300	Empirical Research Methods for Human Computer Interaction	4
Complete one of the following:		3-4
CAEP 7712	Intermediate Statistical Data Analysis Techniques	

CS 7200	Statistical Methods for Computer Science	
PHTH 5210	Biostatistics in Public Health	
PHTH 6440	Advanced Methods in Biostatistics	
Evaluation		
HINF 5301	Evaluating Health Technologies	4
HINF 8982	Readings	1-8

Electives

Code	Title	Hours
Complete 12–17 semester hours in the following subject areas to fulfill the minimum program hours (see faculty advisor for other acceptable elective courses):		12-17
CAEP		
CS		
HINF		
PHTH		

Dissertation

Code	Title	Hours
HINF 9990	Dissertation Term 1	
HINF 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study

Code	Title	Hours
Year 1		
Fall Semester		
CS 7340	Theory and Methods in Human Computer Interaction	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Spring Semester		
CS 5010	Programming Design Paradigm	
or CS 5520	Mobile Application Development	
CS 7300	Empirical Research Methods for Human Computer Interaction	
Year 2		
Fall Semester		
HINF 5300	Personal Health Interface Design and Development	
PHTH 5210	Biostatistics in Public Health	
or PHTH 6440	Advanced Methods in Biostatistics	
or CAEP 7712	Intermediate Statistical Data Analysis Techniques	
or CS 7200	Statistical Methods for Computer Science	
Spring Semester		
HINF 5301	Evaluating Health Technologies	
Personal health informatics electives		
Year 3		
Fall Semester		
HINF 9990	Dissertation Term 1	
HINF 8982	Readings	
Spring Semester		
HINF 9991	Dissertation Term 2	
Personal health informatics electives		
Year 4		
Fall Semester		

HINF 9996	Dissertation Continuation
Spring Semester	
HINF 9996	Dissertation Continuation
Year 5	
Fall Semester	
HINF 9996	Dissertation Continuation
Spring Semester	
HINF 9996	Dissertation Continuation

Data Science, MS

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science (p. 281)— (p.)Align (p. 281) fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses.

Code	Title	Hours
Complete 20 semester hours from the following:		
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
Khoury College of Computer Sciences		
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5610	Web Development	
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6240	Large-Scale Parallel Data Processing	
CS 6350	Empirical Research Methods	
CS 6620	Fundamentals of Cloud Computing	
CS 6650	Building Scalable Distributed Systems	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7250	Information Visualization: Theory and Applications	
CS 7280	Special Topics in Database Management	

CS 7290	Special Topics in Data Science
DS 7990	Thesis
DS 7995	Project
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 semester hours (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative semester hours to 4. In order to earn this additional credit, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Game Science and Design, MS

The **Master of Science (MS) in Game Science and Design** is a program that seeks to give students a comprehensive understanding of how successful game products are created in a player-centric environment. Successful graduates who wish to become professional game developers or game user research experts should be able to collaborate effectively in this dynamic and burgeoning field of practice and research. Focusing on the science of game development, students have an opportunity to learn the design and technological skills needed to build a game and develop a deep understanding of playability and analytics that makes products successful in an increasingly competitive marketplace.

The game industry has expanded to include social and mobile gaming; augmented and virtual reality; as well as games in health, education, and training. Rapid innovations are happening in player psychology, middleware, graphics and authoring tools, game mechanics, and artificial intelligence and narrative techniques. It has become an increasingly competitive space.

The selectiveness of the industry and the diversity of the skills required mean that students seeking entry need both broad and deep skills. As an emergent industry using diverse technology and collaborative practices, the game industry needs professionals with interdisciplinary skill sets who can blend knowledge about development with knowledge about evaluation methods and players' behavior and psychology.

Jointly offered by Northeastern's College of Arts, Media and Design and Khoury College of Computer Sciences (https://www.khoury.northeastern.edu/), the **Master of Science in Game Science and Design** is a one-of-a-kind interdisciplinary program that seeks to prepare students to meet this need by weaving together science and design. This is a two-year, 34-credit-hour program.

All admitted students will be assigned to an advisor who will help them select a pathway with a coherent set of electives depending on their career goals. The advisor will also monitor their progress through the master's degree.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
GSND 5110 and GSND 5111 and GSND 5112	Game Design and Analysis and Seminar for GSND 5110 and Recitation for GSND 5110	5
GSND 5122	Business Models in the Game Industry	1
GSND 5130 and GSND 5131	Mixed Research Methods for Games and Recitation for GSND 5130	4
Thesis		
GSND 6330 and GSND 6331	Player Experience and Recitation for GSND 6330	4
GSND 7990	Thesis	4

Electives

Code	Title	Hours
Game Design or Development		
Complete one of the following:		4
CS 5150	Game Artificial Intelligence	
CS 5850	Building Game Engines	
GSND 6000	Advanced Topics in Game Design	
GSND 6240	Exploratory Concept Design	
GSND 6250	Spatial and Temporal Design	
GSND 6460	Generative Game Design	
Game User Research or Analytics		
Complete one of the following:		4
CS 5340	Computer/Human Interaction	
GSND 6001	Advanced Topics in Game Science	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
GSND 6350	Data-Driven Player Modeling	

Code	Title	Hours
Other Electives List		
Complete any two of the previously listed courses or from the following (courses not listed below may be completed in consultation with your program coordinator).		8
If ARTG 5000 or GSND 6000 or GSND 6001 is completed more than once, the additional completions may be allowed toward the electives.		
Elective courses outside of CAMD are subject to availability and registration policy of the home college.		
ARTG 5000	Topics in Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5310	Visual Cognition	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
GSND 6000	Advanced Topics in Game Design	
GSND 6001	Advanced Topics in Game Science	
INSH 5302	Information Design and Visual Analytics	
JRNL 6341	Telling Your Story with Data	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Two Years, One Co-op (Optional) Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
GSND 5110 and GSND 5111 and GSND 5112	5	Elective	4	Co-op (optional)	0
GSND 5130 and GSND 5131	4	Elective	4		
	9		**8**		**0**

Year 2

Fall	Hours	Spring	Hours
GSND 5122	1	GSND 7990	4
GSND 6330 and GSND 6331	4	Elective	4
Elective	4		
	9		**8**

Total Hours: 34

Note: Co-op or Thesis Co-op is optional in consultation with faculty advisor.

Robotics, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academic-programs/ms-robo/).

The multidisciplinary Master of Science program in robotics is offered by the College of Engineering and the Khoury College of Computer Sciences. The program is designed to provide students comprehensive training in algorithms, sensors, control systems, and mechanisms used in robotics.

Gordon Institute of Engineering Leadership

Master's Degree in Robotics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Robotics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved robotics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mechanical Engineering		
Complete one of the following:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Electrical and Computer Engineering		
Complete one of the following:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Computer Science		
Complete one of the following:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	

Concentrations

Complete one of the following concentrations:

- Mechanical Engineering (p. 290)
- Electrical and Computer Engineering (p. 291)
- Computer Science (p. 291)

MECHANICAL ENGINEERING

Code	Title	Hours
Students in the mechanical engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional ME course not used to fulfill the core requirements:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
ME 7945	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		

ME 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

ELECTRICAL AND COMPUTER ENGINEERING

Code	Title	Hours
Students in the electrical and computer engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional EECE course not used to fulfill the core requirements:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
EECE 7674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
EECE 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

COMPUTER SCIENCE

Code	Title	Hours
Students in the computer science concentration follow the Khoury College of Computer Sciences co-op policies.		
Required Course		
Complete one additional CS course not used to fulfill the core requirements:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
CS 8674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
CS 8674	Master's Project	4
CS 7990	Thesis	4
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

Elective Course List

Code	Title	Hours
CS 5097	Mixed Reality	
CS 5100	Foundations of Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6350	Empirical Research Methods	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
DS 5220	Supervised Machine Learning and Learning Theory	
EECE 5550	Mobile Robotics	

EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5580	Classical Control Systems
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7150	Autonomous Field Robotics
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
IE 6500	Human Performance
IE 7280	Statistical Methods in Engineering
IE 7315	Human Factors Engineering
IE 7615	Neural Networks and Deep Learning
ME 5240	Computer Aided Design and Manufacturing
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7247	Advanced Control Engineering

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Analytics, Graduate Certificate

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

For more information on the certificate, refer to the program's website (https://www.northeastern.edu/graduate/program/graduate-certificate-in-data-analytics-boston-14423/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning	4
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

College of Engineering

Website (http://www.coe.neu.edu/academics/graduate-school-engineering/)

Gregory D. Abowd, **PhD,** Dean

Akram Alshawabkeh, **PhD,** Senior Associate Dean for Research and Global University Campus

Sagar Kamarthi, PhD, Associate Dean for Graduate Education

130 Snell Engineering Center
617.373.2711

The Graduate School of Engineering offers research and professional degree programs organized around a core curriculum that equips students with a solid foundation for technical and leadership positions in industry organizations, government laboratories, research laboratories, and educational institutions. By involving students in many levels of research, encouraging collaboration across departments, and partnering with outside institutions and organizations globally, Northeastern University engineering graduate students have the opportunity to gain a rich and experiential education in their chosen discipline.

Master of Science and doctoral degree programs are offered, as well as numerous graduate certificate programs that can be applied toward master's degree programs for lifelong learning. The GSE offers traditional full-time day and part-time evening master's and doctoral degree programs and part-time evening certificate programs. Programs are offered in Boston, Arlington, Seattle, Silicon Valley, Oakland, Portland (ME), Toronto, and Vancouver. A number of courses and degree programs are also available in a flexible online or hybrid format, which are well suited for distance learners. Innovative programs, such as interdisciplinary degrees, business/entrepreneurship pathways, and the Academic Link program for students without an undergraduate engineering degree (or who need additional preparatory coursework), enable students to personalize their learning experience.

Academic Policies

- Academic Dismissal Policy (p. 336)
- Academic Integrity Policy (p. 337)
- Academic Standing Policy (p. 338)
- Appeals Policy (p. 339)
- Attendance Policy (p. 340)
- Course Registration (p. 341)
- Course Selection (p. 342)
- Dissertation Committee (p. 343)
- Grievance Policy (p. 344)
- PhD Student Progress and Review (p. 345)
- Program Completion (p. 346)
- Reenrollment Policy for Full-time Students (p. 347)

Academic Dismissal Policy

A student placed on academic probation for a cumulative grade-point average of less than 3.000 will have one academic term to raise the cumulative GPA greater than or equal to 3.000. Students whose cumulative GPA is below 3.000 for two consecutive terms in which they took courses for credit (including Career Management for Engineers (ENCP 6000) or Introduction to Cooperative Education (ENCP 6100), if taken) will automatically be dismissed from their degree program at the end of the second term. Students in this situation may submit an Academic Dismissal Appeal form to the graduate school, *to be reviewed by the student's academic department,* to request a final one-term extension. Students whose cumulative GPA is below 3.000 for three consecutive terms will automatically be dismissed from their degree program.

A student will also be dismissed from their degree program if they do not meet the requirements of their program.

A student who is dismissed from their program may submit an appeal through the college's graduate appeals process.

Students dismissed from their program will receive a written notification from the Graduate School of Engineering.

Academic Integrity Policy

Graduate students are expected to abide by the university's Academic Integrity Policy, as described in the Code of Student Conduct (https://osccr.sites.northeastern.edu/code-of-student-conduct/).

A faculty member who suspects that a graduate student has violated the university's Academic Integrity Policy must offer to meet with the student to discuss the suspected violation. The faculty member may ask the student to provide supporting documentation and may gather information from other students involved in the incident.

If the faculty member finds that the student has violated the Academic Integrity Policy, the faculty member may take action as the faculty member considers appropriate and can include adjusting the student's grade, requiring additional academic work, forfeiture of co-op opportunity, and/or failing the qualifying examination. In this case, the faculty member is encouraged to submit an information-only report about the incident to the university Office of Student Conduct and Conflict Resolution, which handles suspected violations of the Academic Integrity Policy. Any penalties must be imposed by the faculty member within three weeks of the suspected violation.

If the student is not satisfied with the faculty member's decision, the student may appeal to the department by contacting the department head (or designee) who should apply the department's procedures to review the case. If the suspected violation took place in a department or if it involved cooperative education, the appeal should be submitted to that unit. Otherwise, the appeal should be submitted directly to the college. The student should appeal within one week of the imposition of penalties.

The department will either affirm the faculty member's decision or substitute an alternative decision. The department's decision should be made within two weeks of receiving the appeal.

The student may appeal the department decision using the college's academic appeal process. The college will either affirm the department's decision or substitute an alternative decision.

The student may appeal the college decision using the university's academic appeal process.

The faculty member may appeal the department or college decision by submitting a complaint to OSCCR, which will determine whether the student is responsible for the suspected violation. OSCCR will make a recommendation to the senior vice provost for student affairs who will make a final decision.

If the student is found to be responsible for a violation by OSCCR, the faculty member may take action as appropriate. If the student is found to be not responsible for a violation, the faculty member cannot take action and if action was previously taken, the action must be reversed.

The dean (or designee) of the involved college shall take whatever action is necessary to implement the resolution of the case, including reporting a change of grade to the Office of the University Registrar.

Academic Standing Policy

Academic standing at Northeastern University is determined by a student's cumulative grade-point average.

Academic probation is a period of time when a student must address and remediate academic deficiencies.

Full-time Students

Full-time graduate students are expected to maintain a cumulative GPA of 3.000 or higher each term to remain in good academic standing and to progress toward graduation.

Students falling below a cumulative GPA of 3.000 are placed on academic probation for each academic term in which the cumulative GPA is below 3.000 after the completion of at least 8 semester hours. Full-time students must raise the cumulative GPA to 3.000 or higher after completion of at least 8 additional semester hours to regain good academic standing status.

Part-time Students

Graduate students in official part-time status with the university are expected to maintain a cumulative GPA of 3.000 or higher each term to remain in good academic standing and to progress toward graduation.

Students falling below a cumulative GPA of 3.000 after at least 8 semester hours are completed are placed on academic probation. Part-time students must raise the cumulative GPA to 3.000 or higher after completion of at least 8 additional semester hours to regain good academic standing status.

Summer Term

There are three semesters during the summer session: Summer 1, Summer 2, and Full Summer.

Academic standing for the summer terms will be reviewed and evaluated for all students at the end of the Summer 2 term. If students complete fewer than 8 semester hours during any of the summer semesters combined, their academic standing is evaluated after the completion of at least 8 semester hours.

Appeals Policy

It is the policy of the university that all students shall be treated fairly with respect to evaluations made of their academic performance, standing, and progress. This policy provides an appeals mechanism to students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated in an academic determination.

The university presumes that academic judgments by its faculty are fair, consistent, and objective. Substitution of a different academic judgment for that of the original evaluator is a serious intrusion upon academic prerogatives entrusted to the faculty and others involved in academic evaluations.

This policy applies to appeals related to academic determinations in COE graduate courses, regardless of the student's home college, and graduate programs. Appeals related to graduate courses or programs offered by another college should be handled by that college. Appeals related to third-semester dismissals should be submitted directly to the college.

Step 1. The student should first speak with the involved faculty or staff member about any determination about which they have questions and attempt to reach a resolution.

Step 2. If the student is not satisfied with the decision, the student may appeal. If the appeal relates to a course or program offered by a department, the appeal should be submitted to that department. Otherwise, the appeal should be submitted directly to the college. Department appeals should be submitted to the department chair (or designee) who should apply the department's procedures to review the case. The student must appeal within four weeks of the academic determination.

A student shall initiate this appeal of an academic determination by submitting a written statement that specifies the details of the action or judgment that they seek to appeal. This statement must start with a clear description of the basis for the appeal and should include basic facts about the situation leading to the appeal, when the situation occurred, who was involved, and the resolution sought by the student. All relevant supporting materials should be attached as addenda to the statement. Appeals should avoid unsubstantiated, defamatory, or ad hominem accusations regarding the motivations of the faculty member or other persons involved in making the academic determination.

The department will either affirm the original decision or substitute an alternative decision. The department's decision shall be made in writing and include the reasoning behind the decision. The department's decision must be made within two weeks of receiving the appeal.

Step 3. The student may appeal the department's decision to the college. To initiate the college appeal, the student shall submit to the associate dean of graduate education their statement, the department's response, and any additional information the student would like to be considered. Appeals to the college are reviewed by the Graduate Appeals Committee, which makes recommendations to the associate dean for graduate education. The student shall be offered the opportunity to meet with the committee to make a statement, present relevant facts of the case, and respond to clarifying questions the committee may have regarding the case. The chair of the committee reserves the right to end this meeting after 10 minutes if no further relevant facts are forthcoming. The committee may invite faculty and staff members to discuss the case and share relevant information.

The committee will either affirm the original decision, substitute an alternative decision, or refer the case back to the department for additional consideration. The committee's decision shall be made in writing and include the reasoning behind the decision. The committee's decision must be made within two weeks of receiving the appeal.

Step 4. Upon receiving the recommendation of the committee, the associate dean for graduate education shall review the case and make a final decision for the college.

Attendance Policy

In each term, students enrolled in on-ground sections are expected to be on campus and attending class beginning with the first day of classes. Students in online sections are expected to log in and participate in class beginning with the first day of classes.

Students who join a class after the first day of class during the university add period, or who are approved for late registration by the instructor and the Graduate School of Engineering, are responsible for all coursework missed prior to enrolling. Enrolled students who do not attend class during the first week of a semester risk being dropped from the course.

In the interest of students' success, the college does not support the arrival of students to class after the university add deadline. Students should not expect to be added to a class after the university add deadline and will be held responsible for the academic, financial, or immigration consequences due to their late or nonattendance without prior approval.

In cases where an enrolled student cannot arrive to campus by the first day of class due to circumstances beyond their control, it is the student's responsibility to contact the instructor for approval and notify the Graduate School of Engineering.

Course Registration

Full-time students (domestic and international) in the Graduate School of Engineering must register for classes on an ongoing basis and carry a minimum of 8 semester hours of coursework per semester. Any student who is appointed to a stipended graduate assistantship is considered full time for the term(s) of appointment if enrolled for a minimum of 6 semester hours.

All graduate students who are registered for Dissertation Term 1, Dissertation Term 2, Dissertation Continuation, PhD Candidacy Preparation, PhD Exam Preparation, or a 0-semester-hour Research course are considered full time. Registration in these courses is restricted to students who qualify for registration in these courses.

The graduate school does not require part-time students to be enrolled for a certain minimum number of semester hours in any term. However, part-time students who are not enrolled for more than one term (excluding summer terms) should take a leave of absence from the university to maintain active student status to keep their student account active.

The maximum number of semester hours approved for a student in each term varies by the degree program. However, a student can petition their faculty advisor to request permission to register for more than the allowed maximum number of semester hours for a given term. Normally, no more than 12 semester hours (inclusive of transfer credits and advanced standing for MS programs) may be taken outside the College of Engineering, unless otherwise specified in the program requirements.

Registration in classes is mandatory to maintain an active status with the university. Students must be registered in all courses for a given term prior to the university course add deadline. Students should not register for an excessive number of courses or for multiple sections of the same course with the intention of dropping half or more of the courses during the first week of classes.

Students must be registered in their last semester of study. International students should consult with the Office of Global Services (https://international.northeastern.edu/ogs/) if they are intending to complete their program during the summer semester. Domestic students finishing their requirements in the summer semester must be registered either in the full summer, summer 1, or summer 2 term.

Any student who is financially withdrawn by Student Accounts prior to the start of any given semester will not be permitted to register for that semester until they rectify the outstanding financial obligation.

The Graduate School of Engineering will correct registration errors. Corrections may generate a new tuition bill.

Due to last-minute scheduling changes, the Graduate School of Engineering must occasionally substitute faculty or change class schedules after the registration period has begun. Any student registered for the original course will automatically be registered for the updated section should no major schedule conflicts be apparent. Otherwise, the graduate school or the department will contact all affected students for alternatives.

Northeastern University reserves the right to cancel, postpone, combine, or modify any class.

The Graduate School of Engineering does not allow College of Engineering graduate students to elect a pass/fail grading scheme for courses normally letter graded.

Course Selection

Students should formulate a program of study in consultation with their assigned faculty advisor at the beginning of their program, during fall or spring orientation. Students should preselect courses whenever possible and plan to take them when offered, maintaining flexibility with alternate courses in mind. Courses other than the required courses are offered based on demand and are subject to faculty availability. Not all courses are offered every year; however, the graduate school will do everything possible to assure continuity of programs and permit students to make continuous progress toward earning their degrees.

Prerequisite Courses/Undergraduate Courses

Students are not awarded credit toward graduate degree requirements for prerequisite courses unless expressly stated by the student's academic department. Students may occasionally be permitted by their advisor to take undergraduate courses. However, undergraduate courses do not count toward a graduate degree and may affect a student's eligibility to receive federal financial aid. Undergraduate courses do not count toward the graduate-level course load requirement for full-time students.

Dissertation and Dissertation Continuation

Once program requirements are met for the PhD candidacy, PhD candidates must register for Dissertation Term 1 (XXXX 9990) and Dissertation Term 2 (XXXX 9991). Candidates must then register for Dissertation Continuation (XXXX 9996) in each subsequent semester (excluding the summer term) until the dissertation is complete and approved by the Graduate School of Engineering. Students completing their dissertation in the summer term must register for Dissertation Continuation. There is a 1-semester-hour tuition charge for Dissertation Continuation.

MS Thesis and Thesis Continuation

Master's degree students who are completing a thesis must register for a total of 8 semester hours of Thesis. Students who have not completed their thesis but have already registered for the required number of thesis hours, and have no remaining coursework to complete the degree, may register for Thesis Continuation in their last semester (including summer term) . There is a 1-semester-hour tuition charge for Thesis Continuation. Thesis Continuation may be taken only once.

Petitions

Petitions are required in all cases where a student is requesting a change or exception to their current program or student status for the Graduate School of Engineering to maintain a complete and accurate record for all students.

Dissertation Committee

A dissertation committee shall include a minimum of three members, or four members if there are two co-advisors. At least three committee members should hold a doctorate or an appropriate terminal degree for the discipline, and at least two shall be full-time Northeastern University faculty.

At least two committee members shall hold some appointment in the department that offers the degree that the student is seeking. At least one member of the committee must not have a primary appointment in the department that offers the degree that the student is seeking.

The chair of the dissertation committee, who is assumed to be the advisor, shall be a full-time tenured or tenure-track member of the faculty of Northeastern, shall hold some appointment in the department that offers the degree that the student is seeking, and will hold a doctorate or an appropriate terminal degree for the discipline.

Research and teaching faculty may serve as the chair of the dissertation committee with departmental approval. In this case, at least two members of the committee must be tenured or tenure-track full-time Northeastern faculty. Exceptions to this requirement may be granted by the dean (or designee) based on the qualifications and experience of the faculty member who would serve as chair.

Graduate Student Grievance Policy

Introduction

This policy describes steps a graduate student should follow to submit a grievance.

Students should first attempt to resolve an issue through informal means, for example, by communicating with appropriate faculty members or the program director. If the issue is not resolved, students should follow the steps described below.

Students who believe that they have been erroneously, capriciously, inappropriately, or otherwise unfairly treated in an academic or cooperative education determination should follow the appeals procedure described in the COE Graduate Appeals Policy or the COE Cooperative Education Appeals Policy, respectively. Subsequent academic appeals can be submitted by following the University Academic Appeals Policy and Procedure.

Northeastern University is committed to providing a living, learning and work environment that is safe and free from discrimination and harassment. This includes all allegations of discrimination including those based on race, color, religion, religious creed, genetic information, sex (including pregnancy or pregnancy-related condition, sexual assault, sexual harassment, stalking, domestic violence), gender, gender identity, sexual orientation, age, national origin, ancestry, veteran or disability status. If a student makes a claim of discriminatory acts prohibited by law or by university policy, the grievance shall first be pursued through the Office of University Equity and Compliance and its procedures. When this has been completed, any aspects of the grievance that remain unresolved may then be brought to the grievance procedure.

Graduate students can contact the Ombuds for Graduate Students that offers confidential, impartial, and informal assistance to graduate students who have concerns related to their university experience.

Note that the college prohibits retaliation against a student for filing a grievance.

Grievance procedure

A graduate student who would like to complain about their treatment by a College of Engineering employee (faculty or staff) may submit a grievance. A written description of the complaint should be submitted within 60 days of the alleged activity. The description should state the exact nature of the grievance, against whom it is filed, and the remedy sought.

The student should submit the complaint to the chair of the department that houses the student's primary program of study and to the Associate Dean for Graduate Education. The Chair shall review the complaint, shall give any employees named in the grievance an opportunity to share relevant information, may gather additional information, and shall send a written response to the student and the Associate Dean for Graduate Education within two weeks.

If the student is not satisfied by the Department Chair's response, the student may submit the complaint to the Associate Dean for Graduate Education within two weeks. The Associate Dean shall review all available information and submit a written response to the student within two weeks.

If the student is not satisfied by the associate dean's decision, the student may submit the complaint to the dean within two weeks. The dean will review all available information and submit a written response to the student within two weeks.

PhD Student Progress and Review

Formal Requirements

The formal requirements for the PhD degree include the following milestones:

1. Completing required coursework.
2. Achieving candidacy, as determined by degree program. May be achieved through qualifying examinations, comprehensive examination(s), and/or an oral defense of the dissertation proposal.
3. Identifying a faculty research advisor.
4. Forming a dissertation committee.
5. Writing and completing a successful oral defense of the dissertation proposal before the PhD committee.
6. Completing a successful oral defense of dissertation before the PhD committee.
7. Approval of written dissertation by dissertation committee and Graduate School of Engineering.

Time Limits

Departments shall define standards for satisfactory performance progress for PhD students that include the following time limits:

DIRECT-ENTRY PHD STUDENTS

1. Candidacy must be achieved within three years of entering the PhD program.
2. The degree must be completed within seven years of entering the PhD program.

ADVANCED-ENTRY PHD STUDENTS

1. Candidacy must be achieved within three years of entering the PhD program.
2. The degree must be completed within five years of entering the PhD program.

Performance Progress

Departments shall establish a review process by which the performance progress of every PhD student is evaluated not more than once per semester and at least annually. As part of this review, students should submit information **that must include achievement of milestones** and could include descriptions of their plans, achievements, progress toward goals, transcripts, CV, publications, conferences attended, recognition they have received, and awards. The review process must include feedback from the student's faculty advisor.

If a department finds that a PhD student is not making satisfactory progress, the student shall be placed on performance probation. Members of the department shall work with the student to develop a performance improvement plan that includes specific actions the student should take to return to satisfactory progress. The performance progress of each PhD student on performance probation shall be reviewed by their department no earlier than one semester and no later than one year after being placed on probation. If a student on performance probation is again found to be not making satisfactory progress, the student shall be dismissed from their degree program. If a student on performance probation is found to be making satisfactory progress, the student shall leave performance probation status.

A copy of the performance progress review and performance improvement plan, if applicable, shall be submitted to the student. For all students, the result of the performance progress review shall be submitted to the Graduate School of Engineering. For all students who receive an unsatisfactory review, a summary of the performance progress review and performance improvement plan shall be submitted to the Graduate School of Engineering. Students dismissed from their program will be notified by the Graduate School of Engineering. A student who is dismissed from their program may submit an appeal through the college's graduate appeals process.

For the purposes of determining the timing of performance reviews specified by this policy, the summer 1 and summer 2 semesters shall collectively be considered one semester.

Program Completion

In order to earn a degree in the graduate program in which a student is enrolled, a student must complete all program and departmental requirements in a satisfactory manner.

A student must attain a cumulative grade-point average of 3.000 or higher in all courses applied toward that degree. A student must also earn a grade of C or higher in all required core courses. Please note that individual programs may have additional requirements.

Reenrollment Policy for Full-time Students

Students who enroll and complete at least one graduate engineering course can apply to their academic department to take an official leave of absence from the time they complete said course(s) and be automatically readmitted without department review. Automatic readmission applies only to the original program and concentration (if applicable) and only for students who took an official approved leave of absence. Catalog year of entry does not change and students must complete the curriculum requirements outlined in the Northeastern University Graduate Catalog for their original academic year of admission.

If a student without official leave of absence approval does not enroll in classes for two consecutive fall/spring semesters, they will be declared inactive. To return from inactive status, a student must submit an updated application to refresh their student record, and this application will be approved provided the student was in good standing at the time their absence started.

If a student without official leave of absence approval does not enroll in classes for three consecutive fall/spring semesters, or does not indicate their intent in writing to the Graduate School of Engineering by the end of the third consecutive semester, they will be withdrawn from the program. In the case of withdrawal, a student will be required to submit a new admission application for graduate studies without guarantee of readmission. If the student is admitted after being withdrawn, they will be admitted into the current catalog year and must meet the curriculum requirements in the current Graduate Catalog.

In cases where the student has seven or more years of nonenrollment, the graduate advisor in the Graduate School of Engineering shall initiate the process by contacting the graduate studies chair/program director on behalf of the student to confirm the content in the course(s) is still relevant to the current degree program. If the courses are confirmed to still be relevant, the graduate advisor shall submit a Waiver Request form with a copy of the course confirmation, the student's academic transcript, and any additional supporting documents to the graduate studies chair/program director and associate dean for graduate education for review and final approval. If the waiver is approved, the graduate advisor will send the waiver to the Office of the University Registrar for the course(s) to be applied to the student's degree audit.

Bioengineering

Website (http://www.bioe.neu.edu)

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The Department of Bioengineering is driven by the conviction that the interface of engineering and medicine will be one of the great intellectual adventures of the 21st century. To prepare students for this adventure, the department strives to create an atmosphere of innovation and creativity that fosters excellence in instruction and research and provides a foundation for programs that drive forward the cutting edge of knowledge while establishing translational collaborations with clinical and industrial researchers.

Bioengineering is a relatively new field built on the recognition that engineering of biological systems or systems that interface with living systems requires a multidisciplinary approach that takes into account the mechanical, electrical, chemical, and materials properties of the biological system. Students with backgrounds from biochemistry to computer science and many fields in between are attracted to bioengineering as a field with the potential to make a great impact on human health. The MS and PhD programs are designed to integrate students with very different backgrounds and provide them with the coursework and research experience that will take advantage of their unique backgrounds and, where appropriate, fill in gaps in their backgrounds to help them grow into a more broadly informed student.

Recognizing the breadth of disciplines that contribute to bioengineering projects, the MS program allows students to choose one of four concentrations (biomechanics; biomedical devices and bioimaging; cell and tissue engineering; or systems, synthetic, and computational bioengineering) to develop deep expertise in an area of particular interest and encourages individual research through a one-semester master's project or two-semester master's thesis.

The PhD program spans four core research areas for which the department has particular strengths: biomedical devices and bioimaging; biomechanics, biotransport, and mechanobiology; molecular, cell, and tissue engineering; and systems, synthetic, and computational bioengineering. Coursework is designed to strengthen student backgrounds in those areas most relevant to the interests of each student.

Mission of the Department

The mission of the Department of Bioengineering is the education of students in the fundamental principles and practice of bioengineering and, through basic and applied research, the creation of new knowledge at the interface of engineering and medicine to support development of new technologies for improvement of human health and healthcare.

Overview of Programs Offered

The Department of Bioengineering offers a Master of Science and a Doctor of Philosophy in Bioengineering. The MS and PhD degree programs are only offered as full-time programs.

Candidates pursuing an MS or PhD are able to select thesis topics from a diverse range of faculty research. New graduate students may learn about ongoing research topics from individual faculty members, faculty websites, and bioengineering seminars.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the MS degree.

Programs

Doctor of Philosophy (PhD)

- Bioengineering (p. 349)
- Interdisciplinary Engineering (p. 357)

Master of Science in Bioengineering (MSBioE)

- Bioengineering (p. 360)

Bioengineering, PhD

Biology can inspire engineering. Increasingly, discoveries in the life sciences reveal processes, complexity, and control without analogy in the world of traditional engineering. Current methods of producing nanoscale control over molecules cannot reproduce the organization found in even the simplest organisms. Energy capture, robust control, remediation, and self-assembly are all employed by biosystems with efficiency unparalleled by anything in today's laboratories. At the same time, traditional engineering disciplines struggle to find new approaches to the complex challenges of 21st-century technology. The last 50 years of basic life science research have gradually revealed the layers of complexity intrinsic to biological processes, unmasking the fundamental underpinnings on which biological systems are constructed. Bioinspired engineering has the potential to transform the technological landscape of the 21st century. Astonishingly, it represents merely one of the myriad opportunities presented at the interface of biology and engineering.

The field of bioengineering is broad and includes all research at the interface of engineering and biology—this includes bioprocesses, environmental microbiology, biomaterials and tissue engineering, bioelectricity, biomechanics, biomedical and biological imaging, nanotechnology in medicine and the environment, and engineering design for human interfacing. At Northeastern University, bioengineering PhD students have an opportunity to be trained to appreciate advances in bioengineering across a wide range of disciplines while they perform highly focused and cutting-edge bioengineering research with one of our faculty members.

The interdisciplinary PhD in Bioengineering program reflects departmental research strengths in multiple areas. Students accepted to the bioengineering program will undertake a rigorous core curriculum in basic bioengineering science, followed by a flexible selection of electives tailored to their dissertation research.

Research Areas

There are four key areas of research strength in our department.

AREA 1— BIOMEDICAL DEVICES AND BIOIMAGING

The Biomedical Devices and Bioimaging track reflects Northeastern's outstanding research profile in developing transformative and translational instrumentation and algorithms to help understand biological processes and disease. Our department has active federally funded research spanning across a broad spectrum of relevant areas in instrument design, contrast agent development, and advanced computational modeling and reconstruction methods. Example research centers and laboratories include theInstitute for Chemical Imaging of Living Systems (https://coe.northeastern.edu/coe-research/research-centers-institutes/institute-for-chemical-imaging-of-living-systems/), theTranslational Biophotonics Cluster (https://sites.google.com/view/tbpclusternu/home/), and theB-SPIRAL signal processing group (https://web.northeastern.edu/spiral/).

AREA 2—BIOMECHANICS, BIOTRANSPORT, AND MECHANOBIOLOGY

Motion, deformation, and flow of biological systems in response to applied loads elicit biological responses at the molecular and cellular levels that support the physiological function of tissues and organs and drive their adaptation and remodeling. To study these complex interactions, principles of solid, fluid, and transport mechanics must be combined with measures of biological function. The Biomechanics, Biotransport, and Mechanobiology track embraces this approach and leverages the strong expertise of Northeastern faculty attempting to tie applied loads to biological responses at multiple length and time scales.

AREA 3—MOLECULAR, CELL, AND TISSUE ENGINEERING

Principles for engineering living cells and tissues are essential to address many of the most significant biomedical challenges facing our society today. These application areas include engineering biomaterials to coax and enable stem cells to form functional tissue or to heal damaged tissue; designing vehicles for delivering genes and therapeutics to reach specific target cells to treat a disease; and uncovering therapeutic strategies to curb pathological cell behaviors and tissue phenotypes. At a more fundamental level, the field is at the nascent stages of understanding how cells make decisions in complex microenvironments and how cells interact with each other and their surrounding environment to organize into complex three-dimensional tissues. Advances will require multiscale experimental, computational, and theoretical approaches spanning molecular-cellular-tissue levels and integration of molecular and physical mechanisms, including the role of mechanical forces.

AREA 4—SYSTEMS, SYNTHETIC, AND COMPUTATIONAL BIOENGINEERING

Research groups in systems, synthetic, and computational bioengineering apply engineering principles to model and understand complex biological systems, including differentiation and development, pathogenesis and cancer, and learning and behavior. This involves designing and implementing methods for procuring quantitative and sometimes very large data sets, as well as developing theoretical models and computational tools for interpreting these data. Deciphering the workings of a biological system allows us to identify potential biomarkers and drug targets, to develop protocols for personalized medicine, and more. In addition, we use the design principles of biological systems we discover to engineer and refine new synthetic biological systems for clinical, agricultural, environmental, and energy applications.

Degree Requirements

Completion of the PhD degree requires students to successfully complete the following requirements:

CURRICULUM

The curriculum comprises a strong core of fundamental courses that is coupled with flexible choices of restricted and unrestricted technical electives to provide depth in a particular field of study. The detailed course requirements are outlined below.

For students possessing a baccalaureate in a suitable quantitative or technical field before entering the PhD program, the required course distribution is shown in the table below:

Requirements	Credits
Required core courses	12
Restricted technical electives	8
Unrestricted technical electives	12
Advanced seminar (four semesters)	
Dissertation	
Minimum semester hours required	32

The curriculum for PhD students with "advanced standings," i.e., students with an MS degree in relevant engineering areas awarded at a qualified institution, will be selected from the available core and elective courses under the guidance of the program director and the student's primary advisor. Completion of the PhD degree with an advanced standing requires a minimum of 16 semester hours of coursework to be approved by the graduate director and a completed PhD dissertation.

Requirements	Credits
Required core courses	8
Advisor-approved coursework	8
Advanced seminar (four semesters)	
Dissertation	
Minimum semester hours required	16

QUALIFYING EXAM (WRITTEN AND ORAL)

To qualify to continue in the PhD program, students must pass the bioengineering qualifying examination in the most relevant of the four department research areas. Students will prepare a six-page written document that will be distributed to the committee before the oral examination. Details of the formal qualification exam procedure and timing are available in the Graduate Handbook (https://bioe.northeastern.edu/community/resources-for-current-students/). In addition, satisfactory research progress and academic standing are required to pass the exam. The qualifying exam is normally taken in the first semester of the student's second year.

QUALIFYING EXAM COMMITTEE

The qualifying examination committee is composed of three members of the Department of Bioengineering faculty. At least two of three committee members will be from the student's research area. The student's primary research advisor may not sit on the qualifying exam committee.

PHD DISSERTATION COMMITTEE

Students normally form their dissertation committee within two years of joining the PhD program. The dissertation committee is composed of a minimum of three members, two of whom must be core faculty from the Department of Bioengineering. The student's primary advisor will be a member of and chair the dissertation committee. This advisor must be a member of the core bioengineering faculty or a faculty member from another department who has an affiliation with the bioengineering department. Students are required to meet annually with their PhD dissertation committee to ensure satisfactory research progress.

ANNUAL COMMITTEE MEETINGS AND DISSERTATION PROPOSALS

PhD students must hold their first committee meetings no later than their third year. The first committee meeting requires the student to write a dissertation proposal in the form of an NIH-style R21 proposal research plan that will be distributed to their dissertation committee at least one week prior to the meeting. Thereafter, students are expected to hold annual progress updates with their committee. At the penultimate committee meeting (which must be held at least four months prior to the dissertation defense), the student will prepare and present a final proposal document to the committee. Successful defense of this proposal will allow the student to progress to the PhD dissertation defense.

PHD DISSERTATION DEFENSE

PhD candidates must satisfactorily complete and defend a dissertation describing original research in bioengineering in an open presentation to the Northeastern bioengineering community, followed by a closed meeting with their dissertation committee in which they are expected to defend their work and answer all relevant questions regarding that work, its significance, and its relationship to ongoing work across the broader research community.

DISSERTATION COURSE REQUIREMENTS

After achieving PhD candidacy by passing the qualifying exam, the doctoral candidate, in consultation with their research advisor, must register in two consecutive semesters (may include full summer term) for Dissertation Term 1 (BIOE 9990) and Dissertation Term 2 (BIOE 9991). Upon completion of this sequence, the student must then register for Dissertation Continuation (BIOE 9996) every semester (in each fall and spring term and also in the summer term if summer is the student's last semester) until the dissertation is completed. Students may not register for Dissertation Continuation (BIOE 9996) until they fulfill the two-semester sequence of Dissertation Term 1 (BIOE 9990) and Dissertation Term 2 (BIOE 9991).

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Exam Preparation—Doctoral (BIOE 8960) in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination (within two years of entry)
Dissertation committee
Annual committee meetings
Area examination (dissertation prospectus/proposal)
Dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
BIOE 7390	Seminar (Register and complete two semesters)	0
BIOE 7391	Student Seminar (Register and complete once in second year and once in fourth year)	0
Required Core		
BIOE 6100	Medical Physiology	4
BIOE 6200	Mathematical Methods in Bioengineering	4
BIOE 7000	Principles of Bioengineering	4
Restricted Bioengineering Technical Electives		
Complete 8 semester hours from the following:		8
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5410	Molecular Bioengineering	
BIOE 5411	Applied Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5648	Biomedical Optics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5710	Experimental Systems and Synthetic Bioengineering	
BIOE 5720	Physical Bioengineering	
BIOE 5750	Modeling and Inference in Bioengineering	
BIOE 5810	Design of Biomedical Instrumentation	
BIOE 5820	Biomaterials	
ME 5665	Musculoskeletal Biomechanics	
Technical Electives		
Complete 12 semester hours from the electives listed below.		12

Electives Course List

Code	Title	Hours
BINF 6400	Genomics in Bioinformatics	
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5630	Physiological Fluid Mechanics	

BIOE 5640	Computational Biomechanics
BIOE 5648	Biomedical Optics
BIOE 5650	Multiscale Biomechanics
BIOE 5710	Experimental Systems and Synthetic Bioengineering
BIOE 5720	Physical Bioengineering
BIOE 5750	Modeling and Inference in Bioengineering
BIOE 5760	Method and Logic in Systems Biology and Bioengineering
BIOE 5800	Systems, Signals, and Controls for Bioengineers
BIOE 5810	Design of Biomedical Instrumentation
BIOE 5820	Biomaterials
BIOE 5850	Design of Implants
BIOE 5860	Engineering Approaches to Precision Medicine I
BIOE 5870	Engineering Approaches to Precision Medicine II
BIOE 5880	Computational Methods in Systems Bioengineering
BIOL 5543	Stem Cells and Regeneration
BIOL 5601	Multidisciplinary Approaches in Motor Control
BIOL 6299	Molecular Cell Biology for Biotechnology
BIOL 6300	Biochemistry
BIOL 6301	Molecular Cell Biology
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology
CAEP 6202	Research, Evaluation, and Data Analysis
CHEM 5612	Principles of Mass Spectrometry
CHEM 5620	Protein Chemistry
CHEM 5621	Principles of Chemical Biology for Chemists
CHEM 5638	Molecular Modeling
CHEM 7317	Analytical Biotechnology
CHME 5630	Biochemical Engineering
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CS 5310	Computer Graphics
CS 5330	Pattern Recognition and Computer Vision
CS 5335	Robotic Science and Systems
CS 5400	Principles of Programming Language
CS 5600	Computer Systems
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6410	Compilers
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
EECE 5606	Micro- and Nanofabrication
EECE 5642	Data Visualization
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7271	Computational Methods in Electromagnetics
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory

EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
IE 7315	Human Factors Engineering
ME 5650	Advanced Mechanics of Materials
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5657	Finite Element Method 1
ME 5658	Continuum Mechanics
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7238	Finite Element Method 2
ME 7275	Essentials of Fluid Dynamics
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market
OR 6205	Deterministic Operations Research
PHSC 5100	Concepts in Pharmaceutical Science
PHSC 6290	Biophysical Methods in Drug Discovery
PHYS 5116	Network Science 1
PHYS 7301	Classical Mechanics/Math Methods
PHYS 7321	Computational Physics
PHYS 7741	Biological Physics 2
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems
PT 5138	Neuroscience
PT 5139	Lab for PT 5138
PT 5150	Motor Control, Development, and Learning
PT 5151	Lab for PT 5150

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination (within two years of entry)
Dissertation committee
Area examination (dissertation prospectus/proposal)
Dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
BIOE 7390	Seminar (Register and complete two semesters)	0

BIOE 7391	Student Seminar (Register and complete once in second year and once in fourth year)	0
Required Core		
BIOE 6200	Mathematical Methods in Bioengineering	4
BIOE 7000	Principles of Bioengineering	4
Approved Coursework		
Complete 8 semester hours from the Elective Course List.		8

Elective Course List

Code	Title	Hours
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5648	Biomedical Optics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5710	Experimental Systems and Synthetic Bioengineering	
BIOE 5720	Physical Bioengineering	
BIOE 5750	Modeling and Inference in Bioengineering	
BIOE 5760	Method and Logic in Systems Biology and Bioengineering	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOE 5820	Biomaterials	
BIOE 5850	Design of Implants	
BIOE 5860	Engineering Approaches to Precision Medicine I	
BIOE 5870	Engineering Approaches to Precision Medicine II	
BIOE 5880	Computational Methods in Systems Bioengineering	
BIOE 6100	Medical Physiology	
BINF 6400	Genomics in Bioinformatics	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
BIOL 6300	Biochemistry	
BIOL 6301	Molecular Cell Biology	
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology	
CAEP 6202	Research, Evaluation, and Data Analysis	
CHEM 5620	Protein Chemistry	
CHEM 5621	Principles of Chemical Biology for Chemists	
CHEM 5638	Molecular Modeling	
CHEM 7317	Analytical Biotechnology	
CHME 5630	Biochemical Engineering	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5330	Pattern Recognition and Computer Vision	
CS 5335	Robotic Science and Systems	
CS 5400	Principles of Programming Language	

CS 5600	Computer Systems
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6410	Compilers
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
EECE 5606	Micro- and Nanofabrication
EECE 5642	Data Visualization
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7271	Computational Methods in Electromagnetics
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
IE 7315	Human Factors Engineering
ME 5650	Advanced Mechanics of Materials
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5657	Finite Element Method 1
ME 5658	Continuum Mechanics
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7238	Finite Element Method 2
ME 7275	Essentials of Fluid Dynamics
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market
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PHSC 6290	Biophysical Methods in Drug Discovery
PHYS 5116	Network Science 1
PHYS 7301	Classical Mechanics/Math Methods
PHYS 7321	Computational Physics
PHYS 7741	Biological Physics 2
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems
PT 5138	Neuroscience
PT 5139	Lab for PT 5138
PT 5150	Motor Control, Development, and Learning
PT 5151	Lab for PT 5150

Dissertation

Code	Title	Hours
Complete the following two courses:		
BIOE 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Interdisciplinary Engineering, PhD

130 Snell Engineering Center
617.373.2711

The College of Engineering offers an interdisciplinary engineering Doctor of Philosophy degree involving substantial work in two or more academic departments or disciplines. This is an individually designed program for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. In such cases, that student may design, in consultation with their faculty advisor(s), an interdisciplinary program. The program will correspond in scope and depth to Northeastern University's established degree standards but need not agree exactly with the regulations of individual units. Individually designed interdisciplinary degree programs must be approved by the appropriate graduate office(s).

The interdisciplinary engineering program admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements as well as all the required coursework.

Program Requirements

In order to pursue an individually designed interdisciplinary engineering graduate program, a student must have been accepted into an approved graduate program that will serve as the administrative home unit for the interdisciplinary engineering program:

- Department of Bioengineering (p. 348)
- Department of Chemical Engineering (p. 364)
- Department of Civil and Environmental Engineering (p. 380)
- Department of Electrical and Computer Engineering (p. 409)
- Department of Mechanical and Industrial Engineering (p. 473)

Students who have been dismissed from any of the COE departments will not be able to enroll into the interdisciplinary engineering PhD program with the department from which they were dismissed as either home or participating department. Successful application for admission to an individually designed interdisciplinary program consists of a written proposal describing the areas of proposed study and research. Part of this proposal will be a list of courses to be taken, a description of the qualifying and comprehensive examination process to be used, a timeline, and any other requirements of the program.

The interdisciplinary engineering PhD requires the commitment by a faculty member at Northeastern to be the advisor of the student and chair of the interdisciplinary committee for the student. This faculty member may or may not be a member of the administrative home unit. The committee must be assembled within the first semester of the program and must include faculty members from all of the participating units. At least two units must be represented on the committee. This committee will be responsible for overseeing the completion of the degree requirements. It will also be responsible for the administrative elements of the program, such as the monitoring of satisfactory progress; the design and grading of the preliminary and comprehensive exams, if applicable; graduation clearance; etc. This interdisciplinary committee is also responsible for an annual review of the progress of the student and for reporting this progress to the administrative home unit on an annual basis.

Qualifying Examination and Degree Candidacy

Interdisciplinary engineering PhD students must register for and pass the doctoral qualifying examination of their home department. In some cases, if deemed necessary by the interdisciplinary committee, students may be required to take some part of the doctoral qualifying examinations of the other department(s) involved with the student's program of study. To qualify as an interdisciplinary engineering doctoral candidate, students must successfully complete the doctoral qualifying examinations in addition to all their required coursework.

Dissertation

Students must present their dissertation proposal no more than 12 months after successfully completing their doctoral qualifying examinations. In addition, the presentation of the dissertation proposal and the actual dissertation defense shall be no less than six months apart. Interdisciplinary engineering PhD students must follow the dissertation guidelines of their home department.

Residency Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residency. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Direct Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 48 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		48

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	
or CHME 9991	Dissertation Term 2	
or CIVE 9991	Dissertation Term 2	
or EECE 9991	Dissertation Term 2	
or IE 9991	Dissertation Term 2	
or ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 20 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		20

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

or CHME 9991	Dissertation Term 2
or CIVE 9991	Dissertation Term 2
or EECE 9991	Dissertation Term 2
or IE 9991	Dissertation Term 2
or ME 9991	Dissertation Term 2

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Bioengineering, MSBioE

Bioengineering is engineering in a biological context such as the human body, an ecosystem, or a bioreactor. In every case, the interface between engineered and biological systems places unique constraints on the design and implementation of devices, instruments, or implants. These depend on the properties of the biological system involved and the functionality that is being created.

The interface of engineering and medicine as embodied in bioengineering will be one of the most exciting endeavors and greatest adventures of the 21st century. Job opportunities are expected to expand dramatically with a focus on development of entirely new classes of products, instrumentation, and implants. The impact to human health will be extraordinary.

Bioengineering is intrinsically multidisciplinary and it is essential that students learn the languages used by multidisciplinary teams. To that end, our curriculum is structured around a core of six courses that analyze biological systems from every possible quantitative point of view. On the completion of the core, students choose one of four concentrations, which provides the opportunity to develop a deep level of expertise in a specific area of bioengineering.

Bioengineering students will have unique opportunities in the classroom, research labs, and experiential learning. The projects that they may be able to contribute to include bio-bandages that monitor bacterial growth or that help damaged ligaments heal faster; sheets of cells folded like origami to form a working kidney; and new materials that—like a leaf in the sun—automatically sense and adapt to changes in the environment.

Our graduate program includes four concentrations, including:

- Biomechanics
- Biomedical Devices and Bioimaging
- Cell and Tissue Engineering
- Systems, Synthetic, and Computational Bioengineering

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Bioengineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Bioengineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 33-semester-hour degree and certificate will require 17 hours of advisor-approved bioengineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. *Note:* This major requires a concentration: Biomechanics; Biomedical Devices and Bioimaging; Cell and Tissue Engineering; or Systems, Synthetic, and Computational Bioengineering. Consult your college administrator.

Core Requirements

Code	Title	Hours
Seminar		
BIOE 7390	Seminar [1]	0
Required Core		
A grade of C or higher is required in each course:		
BIOE 6000	Principles of Bioengineering [1]	1
BIOE 6100	Medical Physiology	4

Concentrations

Complete one of the following four concentrations:

- Biomechanics (p. 361)
- Biomedical Devices and Bioimaging (p. 361)
- Cell and Tissue Engineering (p. 362)
- Systems, Synthetic, and Computational Bioengineering (p. 363)

BIOMECHANICS CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
Complete two of the following courses:		8
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5650	Multiscale Biomechanics	
ME 5665	Musculoskeletal Biomechanics	
Coursework Option		
Complete 20 semester hours from the course list.		20
Project Option		
BIOE 7890	Master's Project	4
Complete 16 semester hours from the course list.		16
Thesis Option		
Complete the following (repeatable) course twice:		8
BIOE 7990	Thesis	
Complete 12 semester hours from the course list.		12
Course List		
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CHME 5632	Advanced Topics in Biomaterials	
EECE 7200	Linear Systems Analysis	
EECE 7203	Complex Variable Theory and Differential Equations	
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5658	Continuum Mechanics	
ME 5659	Control Systems Engineering	
ME 5665	Musculoskeletal Biomechanics	
ME 7238	Finite Element Method 2	

BIOMEDICAL DEVICES AND BIOIMAGING CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
BIOE 5235	Biomedical Imaging	4
or BIOE 5648	Biomedical Optics	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	4
BIOE 5810	Design of Biomedical Instrumentation	4
Coursework Option		
Complete 16 semester hours from the course list.		16
Project Option		
BIOE 7890	Master's Project	4
Complete 12 semester hours from the course list.		12
Thesis Option		
Complete the following (repeatable) course twice:		8

BIOE 7990	Thesis	
Complete 8 semester hours from the course list.		8
Course List		
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5648	Biomedical Optics	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
BIOE 5850	Design of Implants	
CHME 5632	Advanced Topics in Biomaterials	
EECE 5606	Micro- and Nanofabrication	
EECE 7105	Optics for Engineers	
EECE 7200	Linear Systems Analysis	
EECE 7203	Complex Variable Theory and Differential Equations	
EECE 7204	Applied Probability and Stochastic Processes	
ME 5657	Finite Element Method 1	
NNMD 5274	Nanomedicine Seminar 2	
NNMD 5370	Nanomedicine Research Techniques	

CELL AND TISSUE ENGINEERING CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
BIOE 5410	Molecular Bioengineering	4
or BIOE 5411	Applied Molecular Bioengineering	
BIOE 5420	Cellular Engineering	4
Coursework Option		
Complete 19–20 semester hours from the course list.		19-20
Project Option		
BIOE 7890	Master's Project	4
Complete 15–16 semester hours from the course list.		15-16
Thesis Option		
Complete the following (repeatable) course twice:		8
BIOE 7990	Thesis	
Complete 11–12 semester hours from the course list.		11-12
Course List		
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5411	Applied Molecular Bioengineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
BIOL 5543	Stem Cells and Regeneration	
BIOL 6301	Molecular Cell Biology	
CHME 5632	Advanced Topics in Biomaterials	
NNMD 5370	Nanomedicine Research Techniques	
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	

SYSTEMS, SYNTHETIC, AND COMPUTATIONAL BIOENGINEERING CONCENTRATION

Code	Title	Hours
Required Coursework		
A grade of C or higher is required.		
BIOE 5710	Experimental Systems and Synthetic Bioengineering	4
BIOE 5720	Physical Bioengineering	4
Complete one of the following courses:		4
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5750	Modeling and Inference in Bioengineering	
Coursework Option		
Complete 16 semester hours from the course list.		16
Project Option		
BIOE 7890	Master's Project	4
Complete 12 semester hours from the course list.		12
Thesis Option		
Complete the following (repeatable) course twice:		8
BIOE 7990	Thesis	
Complete 8 semester hours from the course list.		8
Course List		
BINF 6400	Genomics in Bioinformatics	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5640	Computational Biomechanics	
BIOE 5750	Modeling and Inference in Bioengineering	
BIOE 5760	Method and Logic in Systems Biology and Bioengineering	
BIOE 5860	Engineering Approaches to Precision Medicine I	
BIOE 5870	Engineering Approaches to Precision Medicine II	
BIOE 5880	Computational Methods in Systems Bioengineering	
BIOL 6299	Molecular Cell Biology for Biotechnology	
CHEM 5638	Molecular Modeling	
CHME 5630	Biochemical Engineering	
DS 5110	Introduction to Data Management and Processing	
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHTH 5202	Introduction to Epidemiology	
PHYS 5116	Network Science 1	

PROGRAM CREDIT/GPA REQUIREMENTS

32 total semester hours required
Minimum 3.000 GPA required

[1] Principles of Bioengineering (BIOE 6000) and Seminar (BIOE 7390) are not required for students in a PlusOne bioengineering pathway.

Chemical Engineering

Website (http://www.che.neu.edu)

Rebecca Kuntz Willits, PhD
Professor and Chairperson

201 Cullinane
617.373.2989
617.373.2209 (fax)

Mission of the Department

The mission of the Department of Chemical Engineering at Northeastern University is to educate and train students in chemical engineering practice through integrating an inclusive classroom environment with hands-on and cooperative education experiences while solving research problems that impact our world.

Co-op enables students to integrate practical workplace knowledge with classroom learning so the educational experiences are synergistic and deepen the learning process. The chemical engineering community encourages professional development through active participation and leadership in student organizations, professional societies, and departmental activities.

The graduate programs in the Department of Chemical Engineering offer students the opportunity to work on cutting-edge research that tackles pressing challenges facing our society and our planet in areas such as biomedicine, energy, security, and sustainability. Students develop an in-depth understanding of the principles of chemical engineering through core coursework and applied electives, while gaining career experience through laboratory research or co-op. The overarching goal of the rich research and educational experience is to mentor and to equip our students to become future leaders in engineering and science, while simultaneously promoting scholarly achievement for both the faculty and students.

Academic Programs

The department offers graduate programs in both chemical engineering and pharmaceutical engineering:

- MS in Chemical Engineering
  - MS in Chemical Engineering students can select either a research-based (thesis) or a coursework-based (nonthesis) degree option
- MS in Pharmaceutical Engineering
- PhD in Chemical Engineering
- PhD in Interdisciplinary Engineering

Many graduate-level courses are in the late afternoon or early evening to make them accessible to part-time students with full-time industrial careers. A full-time student may apply for participation in the co-op plan. MS or PhD students pursuing research should first gain the consent of their advisor(s) prior to participating in the co-op plan. Any deviations from the curriculum must be addressed by petition to the graduate committee and will be considered on a case-by-case basis.

Graduate students pursuing a thesis MS or a PhD degree are able to select research topics from a diverse range of faculty interests. The department's research areas include biomolecular and biomedical systems, complex and computational systems, energy and sustainability, engineering education and pedagogy, and materials and nanotechnology. New graduate students can learn about ongoing research from individual faculty members, faculty websites, and graduate student seminars. Graduate student seminars are held on a regular basis and provide an interactive forum for learning and exchanging research ideas.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the your degree. Students should consult their faculty advisor regarding these options (p. 567).

GRADUATE CERTIFICATE IN PROCESS SAFETY ENGINEERING

The Process Safety Engineering Graduate Certificate program focuses on the integration of chemical engineering skills with the knowledge of process safety and regulation with specific attention on designing and developing solutions for industrial firms with the goal of creating environments that are safer and in compliance with regulatory rules and regulations.

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the MS degree.

Programs

Doctor of Philosophy (PhD)

- Chemical Engineering (p. 366)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Pharmaceutical Engineering (p. 374)

Master of Science in Chemical Engineering (MSChE)

- Chemical Engineering (p. 376)

Graduate Certificate

- Process Safety Engineering (p. 379)

Chemical Engineering, PhD

Each student admitted to the PhD program in chemical engineering will initially be designated a doctoral student. Upon successful completion of the requirements for doctoral candidacy as described below, a student is reclassified as a doctoral candidate. After establishing candidacy, a student must complete a program of academic coursework and a dissertation under the direction of a dissertation advisor. All doctoral candidates must also pass a final oral examination.

Doctoral Candidacy for Direct Entry

To qualify for doctoral candidacy, the student must demonstrate mastery of four core courses of chemical engineering (thermodynamics or statistical thermodynamics, kinetics, transport, and mathematics). To become a doctoral candidate, students must maintain a grade-point average of 3.250 or above in the four core courses and have no individual grade below a B– in the four core courses.

In addition, each student must complete 4 semester hours of Research (CHME 9984) and demonstrate critical thinking, analysis, and experimental planning skills related to their dissertation research topic through a written candidacy proposal and an oral defense of this proposal. The student must pass, as determined by the student's dissertation committee, this candidacy proposal defense in order to advance to doctoral candidacy. If the student fails, they may resubmit their proposal and retake the defense one time within four months, unless an extension is granted by the primary research advisor and the department graduate committee. The student earns the classification of doctoral candidate upon successful completion of these requirements.

Doctoral Candidacy for Advanced Entry

To become a doctoral candidate, advanced-entry students who have already completed a graduate degree in chemical engineering or a closely related discipline must petition the graduate committee of the Department of Chemical Engineering and demonstrate that the mastery has been attained through coursework either at Northeastern University or during a previous graduate degree from another institution (typically granted when the student has achieved a grade of at least A– in an equivalent course). The student must demonstrate mastery of the four core areas of chemical engineering (thermodynamics or statistical thermodynamics, kinetics, transport, and mathematics) through course performance.

The graduate committee may require a student to take or retake any or all of the core courses before achieving doctoral candidacy. Incoming advanced-entry students should form a plan of coursework in consultation with the associate chair for graduate studies and have this approved by the graduate committee. For the core courses taken at Northeastern, students should maintain a GPA of 3.250 or above and have no individual grade below a B–.

In addition, each student must complete 4 semester hours of Research (CHME 9984) and demonstrate critical thinking, analysis, and experimental planning skills related to their dissertation research topic through a written candidacy proposal and a defense of this proposal. The student must pass, as determined by the student's dissertation committee, this oral candidacy proposal defense in order to advance to doctoral candidacy. If the student fails, they may resubmit their proposal and retake the defense one time within four months, unless an extension is granted by the primary research advisor and the department graduate committee. The student earns the classification of doctoral candidate upon successful completion of these requirements.

Course Requirements

DIRECT ENTRY

A minimum of 32 semester hours of academic coursework, **not including any independent study credits,** beyond the bachelor's degree is required. The 32 semester hours must include at least 24 semester hours of academic coursework (exclusive of thesis or dissertation) taken at Northeastern. All four of the core courses (see table under Program Requirements), the 4 semester hours of research, and the 4 semester hours of professional development courses must be included in the student's academic graduate coursework.

ADVANCED ENTRY

A **minimum** of 20 semester hours of academic coursework, **not including any independent study credits,** beyond the master's degree is required. At least 16 semester hours of academic coursework (exclusive of thesis or dissertation) must be taken at Northeastern. At least one of the core courses (see table under Program Requirements), 4 semester hours of Research (CHME 9984), and 4 semester hours of professional development courses must be included in the student's academic graduate coursework. At least 8 semester hours of noncore electives must also be included. If the graduate committee requires additional core courses to achieve doctoral candidacy, these are in addition to the 20-semester-hour minimum.

GENERAL REQUIREMENTS

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Candidacy Preparation—Doctoral (CHME 8960), in a section for which their research or academic advisor is listed as the instructor in the online registration system.

After obtaining PhD candidacy, students are required to register for Dissertation Term 1 (CHME 9990) and Dissertation Term 2 (CHME 9991) for two consecutive semesters. This is then followed by registration for Dissertation Continuation (CHME 9996) in each semester thereafter until the dissertation has been completed and defended. Note: No course credits are awarded for Dissertation Term 1 (CHME 9990),Dissertation Term 2 (CHME 9991), or Dissertation Continuation (CHME 9996); however, a student is considered full time if registered for these courses.

All students pursuing a doctoral degree must enroll in the department's Seminar (CHME 7390) course for each semester they are working toward their degree.

Students will be advised on their courses for the first semester by the associate chair for graduate studies. After the first semester, students will work with their dissertation adviser to determine appropriate courses and course schedule to meet their educational needs and aspirations. Upon consultation with the dissertation advisor, a student may take up to 44 semester hours of course credit without additional financial penalty. Students and dissertation advisors should keep in mind that the university residency requirement requires two semesters of academic studies after becoming a doctoral candidate.

Language Requirement

There is no foreign language requirement for the PhD degree. However, each candidate must be proficient in technical writing and oral presentation in the English language. The graduate committee may require additional coursework to improve language proficiency, if necessary.

Residence Requirement

A student satisfies the residence requirement by completing one academic year of full-time graduate studies during two consecutive academic semesters after qualifying for doctoral candidacy. Additional required coursework (exclusive of seminars) may be completed during this period. Students are required to be continually enrolled while pursuing the completion of the dissertation.

Dissertation

After a student establishes doctoral candidacy, they must complete a dissertation that embodies the results of extended original research and includes material suitable for publication. The student is responsible for proposing a dissertation committee to be approved by the dissertation advisor at least one month prior to the dissertation defense. The committee must have a minimum of four members, including the primary advisor. At least two committee members must be faculty members in the Department of Chemical Engineering. Additionally, one of the committee members must be external to the Department of Chemical Engineering. Committee membership is not limited to faculty at Northeastern or to engineering faculty. The student is encouraged to consider experts in the dissertation topic and to work with the dissertation advisor to create a meaningful and helpful committee. The dissertation committee will approve the dissertation in its final form. The graduate school requirements for dissertation formatting and electronic submittal instructions can be found on the College of Engineering's webpage (https://coe.northeastern.edu/academics-experiential-learning/graduate-school-of-engineering/graduate-student-services/dissertation-thesis-instructions/). Students are responsible for contacting the Graduate School of Engineering for any updates to dissertation requirements and appropriate deadlines.

Dissertation Defense and Final Oral Examination

This comprehensive examination includes the public dissertation defense as well as a final oral examination to include the subject matter of the doctoral dissertation and significant developments in the field of the dissertation work. The oral presentation will be open to the public, including students, faculty, and the student's committee.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Biannual review
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A minimum of 32 semester hours of academic coursework is required, plus 2 optional semester hours for cooperative education and mentoring in chemical engineering. Independent study credits do not count toward the 32 required semester hours.

Code	Title	Hours
Core Courses		
A cumulative 3.250 GPA, with no individual class lower than a B–, is required for the following:		
CHME 7320	Chemical Engineering Mathematics	4
or ME 6200	Mathematical Methods for Mechanical Engineers 1	
CHME 7330	Chemical Engineering Thermodynamics	4
CHME 7340	Chemical Engineering Kinetics	4
CHME 7350	Transport Phenomena	4
Research		
CHME 9984	Research	4
Professional Development		
CHME 7391	Professional Development and Communication in Chemical Engineering 1	1
CHME 7392	Professional Development and Communication in Chemical Engineering 2	1
CHME 7393	Professional Development and Communication in Chemical Engineering 3	1
CHME 7394	Professional Development and Communication in Chemical Engineering 4	1
Seminar		

Complete the following (repeatable) course each semester:	
CHME 7390	Seminar
Recommended but optional:	
CHME 7395	Mentoring in Chemical Engineering
ENCP 6100	Introduction to Cooperative Education

Electives

Code	Title	Hours
Complete 8 semester hours. Consult your faculty advisor for acceptable courses:		8
BIOE 5410	Molecular Bioengineering	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5105	Materials Characterization Techniques	
CHME 5137	Computational Modeling in Chemical Engineering	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5179	Complex Fluids and Everyday Materials	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5510	Fundamentals in Process Safety Engineering	
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	
CHME 5621	Electrochemical Engineering	
CHME 5630	Biochemical Engineering	
CHME 5631	Biomaterials Principles and Applications	
CHME 5632	Advanced Topics in Biomaterials	
CHME 5683	Introduction to Polymer Science	
CHME 5699	Special Topics in Chemical Engineering	
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling	
CHME 7262	Special Topics in Process Safety	
CHME 7600	Pharmaceutical Engineering I	
CHME 7601	Pharmaceutical Engineering II	
CHME 7602	Pharmaceutical Engineering Laboratory	
CHME 7973	Special Topics in Chemical Engineering	
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ME 5620	Fundamentals of Advanced Materials	
NNMD 5270	Foundations in Nanomedicine: Therapeutics	
NNMD 5370	Nanomedicine Research Techniques	
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	

Dissertation

Code	Title	Hours
CHME 9990	Dissertation Term 1	
CHME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32 total semester hours required

Minimum 3.000 GPA overall required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Biannual review
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A minimum of 20 semester hours (SH) of academic coursework is required, plus 2 optional semester hours for cooperative education and mentoring in chemical engineering. Independent study credits do not count toward the 20 required semester hours.

Code	Title	Hours
Core Courses		
Complete at least one of the four core classes. A cumulative 3.250 GPA—with no individual class below a B minus—is required for core classes taken: [1]		4
CHME 7320	Chemical Engineering Mathematics	
or ME 6200	Mathematical Methods for Mechanical Engineers 1	
CHME 7330	Chemical Engineering Thermodynamics	
CHME 7340	Chemical Engineering Kinetics	
CHME 7350	Transport Phenomena	
Research		
CHME 9984	Research	4
Seminar and Professional Development		
CHME 7391	Professional Development and Communication in Chemical Engineering 1	1
CHME 7392	Professional Development and Communication in Chemical Engineering 2	1
CHME 7393	Professional Development and Communication in Chemical Engineering 3	1
CHME 7394	Professional Development and Communication in Chemical Engineering 4	1
Complete the following repeatable course each semester:		
CHME 7390	Seminar	
Recommended but optional:		
ENCP 6100	Introduction to Cooperative Education	
CHME 7395	Mentoring in Chemical Engineering	

Electives

Code	Title	Hours
Complete a minimum of 8 semester hours. Consult your faculty advisor for acceptable courses:		8
BIOE 5410	Molecular Bioengineering	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5105	Materials Characterization Techniques	
CHME 5137	Computational Modeling in Chemical Engineering	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5179	Complex Fluids and Everyday Materials	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5510	Fundamentals in Process Safety Engineering	
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	
CHME 5621	Electrochemical Engineering	
CHME 5630	Biochemical Engineering	
CHME 5631	Biomaterials Principles and Applications	
CHME 5632	Advanced Topics in Biomaterials	
CHME 5683	Introduction to Polymer Science	
CHME 5699	Special Topics in Chemical Engineering	
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling	
CHME 7262	Special Topics in Process Safety	
CHME 7600	Pharmaceutical Engineering I	
CHME 7601	Pharmaceutical Engineering II	
CHME 7602	Pharmaceutical Engineering Laboratory	
CHME 7973	Special Topics in Chemical Engineering	
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ME 5620	Fundamentals of Advanced Materials	
NNMD 5270	Foundations in Nanomedicine: Therapeutics	

NNMD 5370	Nanomedicine Research Techniques
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market

Dissertation

Code	Title	Hours
Complete the following two courses:		
CHME 9990	Dissertation Term 1	
CHME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Minimum 20 total semester hours required
Minimum 3.000 GPA overall required

[1] Additional core classes may be required by the chemical engineering graduate committee to achieve PhD candidacy, which would not count toward the 20 SH minimum for the PhD.

Interdisciplinary Engineering, PhD

130 Snell Engineering Center
617.373.2711

The College of Engineering offers an interdisciplinary engineering Doctor of Philosophy degree involving substantial work in two or more academic departments or disciplines. This is an individually designed program for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. In such cases, that student may design, in consultation with their faculty advisor(s), an interdisciplinary program. The program will correspond in scope and depth to Northeastern University's established degree standards but need not agree exactly with the regulations of individual units. Individually designed interdisciplinary degree programs must be approved by the appropriate graduate office(s).

The interdisciplinary engineering program admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements as well as all the required coursework.

Program Requirements

In order to pursue an individually designed interdisciplinary engineering graduate program, a student must have been accepted into an approved graduate program that will serve as the administrative home unit for the interdisciplinary engineering program:

- Department of Bioengineering (p. 348)
- Department of Chemical Engineering (p. 364)
- Department of Civil and Environmental Engineering (p. 380)
- Department of Electrical and Computer Engineering (p. 409)
- Department of Mechanical and Industrial Engineering (p. 473)

Students who have been dismissed from any of the COE departments will not be able to enroll into the interdisciplinary engineering PhD program with the department from which they were dismissed as either home or participating department. Successful application for admission to an individually designed interdisciplinary program consists of a written proposal describing the areas of proposed study and research. Part of this proposal will be a list of courses to be taken, a description of the qualifying and comprehensive examination process to be used, a timeline, and any other requirements of the program.

The interdisciplinary engineering PhD requires the commitment by a faculty member at Northeastern to be the advisor of the student and chair of the interdisciplinary committee for the student. This faculty member may or may not be a member of the administrative home unit. The committee must be assembled within the first semester of the program and must include faculty members from all of the participating units. At least two units must be represented on the committee. This committee will be responsible for overseeing the completion of the degree requirements. It will also be responsible for the administrative elements of the program, such as the monitoring of satisfactory progress; the design and grading of the preliminary and comprehensive exams, if applicable; graduation clearance; etc. This interdisciplinary committee is also responsible for an annual review of the progress of the student and for reporting this progress to the administrative home unit on an annual basis.

Qualifying Examination and Degree Candidacy

Interdisciplinary engineering PhD students must register for and pass the doctoral qualifying examination of their home department. In some cases, if deemed necessary by the interdisciplinary committee, students may be required to take some part of the doctoral qualifying examinations of the other department(s) involved with the student's program of study. To qualify as an interdisciplinary engineering doctoral candidate, students must successfully complete the doctoral qualifying examinations in addition to all their required coursework.

Dissertation

Students must present their dissertation proposal no more than 12 months after successfully completing their doctoral qualifying examinations. In addition, the presentation of the dissertation proposal and the actual dissertation defense shall be no less than six months apart. Interdisciplinary engineering PhD students must follow the dissertation guidelines of their home department.

Residency Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residency. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Direct Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 48 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		48

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	
or CHME 9991	Dissertation Term 2	
or CIVE 9991	Dissertation Term 2	
or EECE 9991	Dissertation Term 2	
or IE 9991	Dissertation Term 2	
or ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 20 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		20

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

or CHME 9991	Dissertation Term 2
or CIVE 9991	Dissertation Term 2
or EECE 9991	Dissertation Term 2
or IE 9991	Dissertation Term 2
or ME 9991	Dissertation Term 2

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Pharmaceutical Engineering, MS

The Master of Science in Pharmaceutical Engineering is offered jointly by Northeastern University's College of Engineering and Bouvé College of Health Sciences. The program prepares students with a fundamental understanding of pharmaceutical sciences and principles of engineering to develop the depth needed for advanced study of pharmaceutical engineering.

This program is generally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields in engineering, sciences, or mathematics. The program was designed in collaboration with the Department of Pharmaceutical Sciences to develop the depth needed for advanced study of pharmaceutical engineering. Students wishing to pursue the master's degree with undergraduate educational backgrounds other than engineering are required to demonstrate completion of mathematics coursework through differential equations or the equivalent to be admitted. Students are advised to work closely with their advisors and instructors to determine the electives that would meet their career goals.

Part-Time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit.

Master of Science students wishing to change their status from part time to full time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7600	Pharmaceutical Engineering I	4
CHME 7601	Pharmaceutical Engineering II	4
CHME 7602	Pharmaceutical Engineering Laboratory	2
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 7010	Pharmaceutical Sciences Laboratory	4

Restricted Elective Courses

Code	Title	Hours
At least 3 semester hours of total elective courses are required from pharmaceutical sciences (PHSC, PMST) and from chemical engineering (CHME). These semester hours could come from any elective group, as appropriate.		
Regulatory		
Complete 3 semester hours from the following:		3
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5500	Concepts in Regulatory Science	
BIOT 6320	Quality Management Systems and Validation	
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6002	Introduction to Regulatory Compliance and Practice	
Quality/Statistics		
Complete 4 semester hours from the following:		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
PHSC 6214	Experimental Design and Biostatistics	
Depth Electives		
Complete 7 semester hours from the following:		7
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6340	Sterile Manufacturing Operations	
BIOT 7250	Advanced Biotechnology Applications Laboratory	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5160	Drug Delivery: Engineering Analysis	

CHME 5179	Complex Fluids and Everyday Materials
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 7330	Chemical Engineering Thermodynamics
CHME 7350	Transport Phenomena
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5310	Cellular Physiology
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5555	Pharmaceutical Toxicology
PHSC 5560	Nanotoxicity
PHSC 5619	Mass Spectrometry in Drug Development
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Chemical Engineering, MSChE

For program contact information, please visit the College of Engineering website (https://che.northeastern.edu/academics/graduate-studies/ms-chme/).

The Master of Science in Chemical Engineering is normally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields. Students wishing to pursue the master's degree but with undergraduate educational backgrounds other than chemical engineering may be required to complete supplementary undergraduate coursework. These courses are in addition to the minimum course requirements. Students enrolled in the program are encouraged to seek guidance from their instructors and advisor regarding additional coursework that may supplement the graduate curriculum.

Students originally admitted to the master's degree program who wish to switch to the PhD program must petition the associate chair for graduate studies. If admission is granted, then the student must satisfy all the requirements of the doctoral degree program, including the requirements for doctoral candidacy.

Course Requirements

A minimum of 32 semester hours of academic work is required to qualify for the Master of Science degree in chemical engineering.

If pursuing a thesis option, at least 8 semester hours of thesis credit must be included as part of these 32 semester hours of credits. In addition, each student pursuing a thesis option must enroll in the department's seminar course for each semester they are working toward their degree. The faculty advisor and the student establish the sequence of courses that students take to pursue the Master of Science in Chemical Engineering.

If pursuing a coursework option, students must complete a minimum of 32 semester hours of coursework and no enrollment in the seminar course is required. See required core courses and example elective courses for all graduate students (p. 377).

Degree Requirements	Thesis Option	Coursework Option
Required core courses	16 SH	16 SH
Master of Science thesis	8 SH	N/A
Seminar	0 SH	N/A
Elective courses	8 SH	16 SH
Minimum semester hours required	**32 SH**	**32 SH**

Thesis Requirements

Students pursuing a Master of Science in Chemical Engineering with thesis must submit to the Graduate School of Engineering a written thesis that is approved by the thesis committee and department chair. For details, see the graduate school requirements and electronic submittal instructions (https://coe.northeastern.edu/academics-experiential-learning/graduate-school-of-engineering/graduate-student-services/dissertation-thesis-instructions/). MS with thesis students must also complete an oral master's thesis defense in order to successfully complete the program. The student will be expected to form a master's thesis committee, composed of a minimum of three members—one who is the advisor, one other faculty member from the chemical engineering department, and one member from outside the department. The oral presentation will be open to the public, including students, faculty, and the candidate's committee.

Part-time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit. A minimum of 32 semester hours of academic coursework is required for part-time students. The thesis and seminar course are not required for part-time students pursuing a master's degree.

Master of Science students wishing to change their status from part-time to full-time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Departure Prior to Thesis Completion

Occasionally, students must leave the chemical engineering department prior to completion of all degree requirements. In such instances, long time intervals have often elapsed before thesis or manuscript submission. Accordingly, the department has adopted the guideline that a student cannot submit a thesis for credit beyond three years after the student stops actively pursuing the research. Exceptions may be granted upon petition to the departmental graduate committee. Petitions must demonstrate extenuating circumstances and prove that the research is still of value to the profession.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Chemical Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Chemical Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors and 16 semester hours of required chemical engineering coursework.

ENGINEERING BUSINESS

Master's Degree in Chemical Engineering with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Chemical Engineering in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the chemical engineering core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business. (p. 529)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7320	Chemical Engineering Mathematics	4
or ME 6200	Mathematical Methods for Mechanical Engineers 1	
CHME 7330	Chemical Engineering Thermodynamics	4
CHME 7340	Chemical Engineering Kinetics	4
CHME 7350	Transport Phenomena	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 377)		16

THESIS OPTION

Code	Title	Hours
Thesis		
Complete the following courses. Please note that students pursuing the thesis option are required to register for CHME 7990 as many times as necessary to complete 8 semester hours and, in addition, must enroll in CHME 7390 for each semester they are working toward their degree.		8
CHME 7390	Seminar	
CHME 7990	Thesis	
Electives		
Complete 8 semester hours from the course list below. (p. 377)		8

Course List

Students can take electives outside this list with prior approval from the faculty advisor. Students may complete a maximum of 8 semester hours (thesis option) or 12 semester hours (nonthesis option) of coursework for credit outside the Department of Chemical Engineering under the guidance of their advisor and approval of the chemical engineering graduate program director.

Code	Title	Hours
BIOE 5410	Molecular Bioengineering	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5105	Materials Characterization Techniques	
CHME 5137	Computational Modeling in Chemical Engineering	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5179	Complex Fluids and Everyday Materials	
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
CHME 5510	Fundamentals in Process Safety Engineering	
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	
CHME 5621	Electrochemical Engineering	

CHME 5630	Biochemical Engineering
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 5699	Special Topics in Chemical Engineering
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling
CHME 7262	Special Topics in Process Safety
CHME 7973	Special Topics in Chemical Engineering
CHME 7978	Independent Study
EMGT 5220	Engineering Project Management
EMGT 6225	Economic Decision Making
EMGT 6305	Financial Management for Engineers
ME 5620	Fundamentals of Advanced Materials
NNMD 5270	Foundations in Nanomedicine: Therapeutics
NNMD 5272	Nanomedicine Seminar
NNMD 5274	Nanomedicine Seminar 2
NNMD 5370	Nanomedicine Research Techniques
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Process Safety Engineering, Graduate Certificate

The Graduate Certificate in Process Safety Engineering focuses on the integration of chemical engineering skills with the knowledge of process safety and regulation with specific attention on designing and developing solutions for industrial firms with the goal of creating environments that are safer and in compliance with regulatory rules and regulations.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of chemical engineering knowledge and skills to lead efforts within companies to plan and implement process safety designs that assist in meeting the regulatory requirements and confirming code compliance within an industrial firm in order to maintain the safety, health, and welfare of their employees and the public as well as making industrial firms safer and profitable.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Process Safety		
CHME 5510	Fundamentals in Process Safety Engineering	4
CHME 5520	Process Safety Engineering—Chemical Reactivity, Reliefs, and Hazards Analysis	4
Relief and Scenario Modeling		
CHME 6610	Computational Programs in Process Safety for Relief and Scenario Modeling	4
Special Topics		
CHME 7262	Special Topics in Process Safety	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Civil and Environmental Engineering

Website (http://www.civ.neu.edu)

Jerome F. Hajjar, PhD, PE
CDM Smith Professor and Chair

400 Snell Engineering Center
617.373.2444
617.373.4419 (fax)

Overview

With a strategic focus in urban engineering and through a range of teaching and research strengths, anchored by several multidisciplinary, multi-institutional centers and programs, our academic programs are designed to prepare professionals to address the global, complex, and ever-evolving engineering challenges of our time by building on current department strengths and expanding into vital areas. We give our future master's and PhD graduates the opportunity to make real-world impact on and long-lasting contributions to the well-being and development of society.

Mission of the Department

Advancing innovative civil and environmental solutions for society and creating globally oriented engineering leaders by integrating experiential education and use-inspired interdisciplinary research.

Academic Programs

Within our graduate programs, students work alongside world-class faculty on advanced research and courses, developing a solid base for their careers. Three overarching themes are emphasized in our programs: environmental health, civil infrastructure security, and sustainable resource engineering. These themes are aligned with the department's premier strengths in simulation (both computational and experimental), smart sensing, data and network science, and urban informatics and are all reflected in the courses offered in our graduate programs.

MASTER OF SCIENCE DEGREE

The department offers five MS degree programs in the following areas: civil engineering (students can choose one out of six concentrations); environmental engineering; engineering and public policy; sustainable building systems; and climate science and engineering (in partnership with the Department of Marine and Environmental Science in the College of Science). Options for a master's thesis or report in place of coursework are available. All civil and environmental engineering master's programs are available on a full-time or part-time basis. For a full list of the department's academic program offerings, please refer to the Programs (p. 380) tab.

DOCTOR OF PHILOSOPHY DEGREE

The department offers the following PhD degrees: PhD in Civil and Environmental Engineering and Interdisciplinary PhD. The doctoral program is designed to be flexible with respect to subject area and may be adapted to any subject area in civil and environmental engineering, including interdisciplinary options within the department or across departments or colleges.

The PhD is awarded to students who demonstrate high academic achievement and research competence in the selected field. Students must pursue the PhD program on a basis consistent with the residence requirements for the degree (p. 382).

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 551) in combination with the MS degree.

Programs

Doctor of Philosophy (PhD)

- Civil and Environmental Engineering (p. 382)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Climate Science and Engineering
- Engineering and Public Policy (p. 387)

Master of Science in Civil Engineering (MSCivE)

- Civil Engineering with Concentration in Construction Management (p. 393)
- Civil Engineering with Concentration in Data and Systems (p. 390)
- Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering (p. 395)

- Civil Engineering with Concentration in Structures (p. 397)
- Civil Engineering with Concentration in Transportation (p. 399)
- Civil Engineering with Concentration in Water, Environmental, and Coastal Systems (p. 401)

Master of Science in Environmental Engineering (MSEnvE)

- Environmental Engineering (p. 403)

Master of Science in Sustainable Building Systems (MSSBS)

- Sustainable Building Systems (p. 405)

Graduate Certificate

- Climate and Engineering (p. 407)
- Sustainability Engineering (p. 408)

Civil and Environmental Engineering, PhD

The Doctor of Philosophy in Civil and Environmental Engineering offers students an opportunity for in-depth study in a broad range of areas in civil and environmental engineering. Awarding the Doctor of Philosophy degree is based on ability to formulate and execute original research addressing important problems and completion of a rigorous academic program that enhances the student's knowledge in relevant areas. The PhD program has two components:

1. An academic program of graduate-level courses that provides depth in a specific area of Civil and Environmental Engineering (the major field) as well as other coursework that provides additional exposure at an advanced level to one or more disciplines
2. The dissertation, an extended independent research effort on a relevant technical problem resulting in an original contribution to the field

Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying examinations (both written and oral area exams) and all the required coursework.

Each student's mastery of subject matter is measured by a qualifying examination covering a subset of topics selected from the major field. A doctoral dissertation committee periodically monitors research progress, and the candidate is required to present and defend his or her research results before the doctoral dissertation committee upon completion of the work.

Coursework Requirement

The academic program must include at least 20 semester hours (Advanced Standing) or 48 semester hours (Direct Entry) of graduate-level coursework at Northeastern University. A student may count no more than 4 semester hours of independent study (such as special project in civil and environmental engineering) toward the minimum course requirements. For direct entry students, a minimum of 40 semester hours must be related to the major field but may include courses from other departments when appropriate. The civil and environmental engineering (CEE) department encourages flexibility in program definition, especially in areas where complementary courses exist in other departments or where expertise resides outside the department and where the objective is to introduce new technology in civil and environmental engineering practice.

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Exam Preparation—Doctoral (CIVE 8960) , in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Upon successful completion of the qualifying exam and the majority of required coursework, each doctoral candidate must register in two consecutive semesters for Dissertation Term 1 (CIVE 9990) and Dissertation Term 2 (CIVE 9991). Upon completion of this sequence, the candidate must register for Dissertation Continuation (CIVE 9996) in every semester until the dissertation is complete. Students may not register for Continuation until they fulfill the two-semester dissertation sequence.

Qualifying Examination and Degree Candidacy

The objective of the doctoral qualifying examination is to determine whether the applicant possesses mastery of the fundamentals and ability to apply them to solve unfamiliar problems that require analysis, synthesis, and independent thinking, as well as communication skills to present research ideas and plans, motivate problems, respond to related questions, and defend assumptions and technical approach.

The qualifying exam includes written and oral components. Its content depends upon the educational background and objectives of the student. In general, the written component covers four subject areas selected from the major field and includes engineering and science disciplines, as well as civil and environmental engineering application areas. The oral component measures general comprehension and aptitude for research. If a student fails the exam, he or she may retake it one more time with the permission of the qualifying examination committee.

The qualifying exam is administered within the first 18 months of the PhD program, if the student already holds an MS degree. PhD students who begin the PhD program without a MS degree should take the qualifying exam within the first 30 months of the start of the program.

Under extraordinary circumstances, a student may be granted one additional semester before taking the qualifying exam but only by prior petition to the advisor, concentration representative, and graduate studies committee.

DISSERTATION

Once degree candidacy is established, a doctoral candidate may proceed with his or her dissertation. The candidate must write a dissertation proposal and name a CEE faculty member as the dissertation advisor. The candidate and the advisor must form a dissertation committee, which should have no fewer than four members, of which at least two are full-time (or affiliated) faculty from the CEE department. The committee will monitor progress and approve the final document.

DISSERTATION PROPOSAL PRESENTATION

Each student, along with a faculty advisor, must jointly develop a proposal defining the content of the academic program, subject to review by the dissertation committee. Intellectual rigor, connectivity of subject matter, and compatibility with departmental interests are critical issues. The doctoral dissertation committee's approval of the proposal represents a mutual agreement between the student and the committee.

Comprehensive Examination

The comprehensive exam is a defense of the doctoral research work and an examination on subject matter related to the dissertation area.

Each doctoral candidate must defend his or her dissertation within seven years from the start of the PhD program.

Annual Report

At the beginning of each calendar year, all CEE doctoral students including interdisciplinary students within CEE, should complete the Annual PhD Student Progress Report, which details academic and research activities and accomplishments over the previous year. These forms will be reviewed by the faculty in each respective concentration to ensure satisfactory progress, with feedback provided to the students as necessary.

Residence Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residence. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination and comprehensive examination
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements

Complete at least 48 semester hours of approved coursework. Consult your faculty advisor for acceptable courses. Please note that a maximum of 4 semester hours of Independent Study (CIVE 7978) will be accepted toward the 48-semester-hour requirement.

Dissertation

Code	Title	Hours
Complete the following:		
CIVE 9990	Dissertation Term 1	
CIVE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Coursework Requirement

The CEE department encourages flexibility in program definition, especially in areas where complementary courses exist in other departments or where expertise resides outside the department and where the objective is to introduce new technology in civil and environmental engineering practice. The academic program must include at least 20 semester hours of graduate-level coursework at Northeastern University. A student may count no more than 4 semester hours of independent study (such as special project in civil engineering) toward the minimum course requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination and comprehensive examination
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements

Complete 20 semester hours of approved coursework. Consult your faculty advisor for acceptable courses. Please note that a maximum of 4 semester hours of Independent Study (CIVE 7978) will be accepted toward the 20-semester-hour requirement.

Dissertation

Code	Title	Hours
CIVE 9990	Dissertation Term 1	
CIVE 9991	Dissertation Term 2	

Coursework Requirement

The academic program must include at least 20 semester hours of graduate-level coursework at Northeastern University.

A student may count no more than 4 semester hours of independent study (such as special project in civil engineering) toward the minimum course requirements.

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Climate Science and Engineering, MS

Overview

The Master of Science in Climate Science and Engineering is offered jointly by the College of Engineering and the College of Science. The program provides training in the fundamental scientific processes that underpin the structure and dynamics of the climate, as well as the engineering strategies and technologies required for decarbonization and adaptation to climate change.

Incoming students will typically hold a bachelor's degree in a science, engineering, or related field. The program is designed to prepare students for climate-facing positions in the public or private sectors and can serve as a springboard for students interested in pursuing doctoral-level research. Students must take at least 12 semester hours of College of Science courses and at least 12 semester hours of College of Engineering courses and includes a report, thesis, or coursework option.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. In order to ensure a balance of training across science and engineering, students must take at least 12 semester hours of College of Science courses (starting with EEMB, ENVR) and at least 12 semester hours of College of Engineering courses (starting with CIVE, EECE, ENSY, MATL, ME, SBSY) from the core requirements and restricted elective course options.

Core Requirements

Code	Title	Hours
Select from the core requirements listed below; any core course not used to meet this core course requirement can be taken as a restricted elective:		20
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
CIVE 5150	Climate and Atmospheric Change	
or ENVR 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5670	Global Biogeochemistry	
or ENVR 5670	Global Biogeochemistry	
CIVE 7110	Critical Infrastructure Resilience	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives course list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
or EEMB 8984	Research	
Complete 8 semester hours from the restricted electives course list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
or EEMB 8984	Research	
Complete 4 semester hours from the restricted electives course list below.		4

Restricted Electives

Code	Title	Hours
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7282	Coastal and Hydraulic Modeling	
CIVE 7385	Public Transportation	
CIVE 7392	Special Topics in Environmental Engineering	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5563	Advanced Spatial Analysis	
INTL 5100	Climate and Development	
LAW 7634	Energy Law and Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Engineering and Public Policy, MS

For program contact information, please visit the College of Engineering website (https://cee.northeastern.edu/academics/graduate-studies/ms-cepp/).

The purpose of this degree is to provide students with a background in engineering with the tools necessary to conduct robust policy analysis. It includes required core courses from the Department of Civil and Environmental Engineering and the School of Public Policy and Urban Affairs, complemented by electives in engineering and public policy, which can be met by two courses and a master's report (recommended), or by one course and a thesis, or by three courses. A minimum of 16 semester hours must be taken in the College of Engineering.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Engineering and Public Policy with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Engineering and Public Policy in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16 semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Sustainable Engineering and Systems Modeling Requirements

Code	Title	Hours
Complete 12 semester hours from the following:		12
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
or PPUA 5261	Dynamic Modeling for Environmental Decision Making	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 6777	Climate Hazards and Resilient Cities Abroad	
CIVE 6778	Climate Adaptation and Policy Abroad	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7155	Dynamics and Control of Infrastructure Systems	
CIVE 7272	Air Quality Management	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
ME 5645	Environmental Issues in Manufacturing and Product Use	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Public Policy and Analysis Requirements

Code	Title	Hours
Complete 8 semester hours from the following:		8
ECON 7266	Economics of Government	
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5260	Ecological Economics	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Elective Course List below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the Elective Course List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 4 semester hours from the Elective Course List below.		4

Elective Course List

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5670	Global Biogeochemistry	
CIVE 7230	Legal Aspects of Civil Engineering	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EMGT 6225	Economic Decision Making	
ENVR 5210	Environmental Planning	
ENVR 5260	Geographical Information Systems	
ENVR 6102	Environmental Science and Policy Seminar 2	
INSH 7400	Quantitative Analysis	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	

LPSC 7312	Cities, Sustainability, and Climate Change
PHTH 5214	Environmental Health
PHTH 5230	Global Health
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5268	International Environmental Policy
PPUA 5270	Food Systems and Public Policy
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 7346	Resilient Cities

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Data and Systems, MSCivE

This program is designed for students with career goals that require application of data and systems analysis to challenges across any discipline of civil and environmental engineering. The degree requirements include core courses (total of 20 semester hours) in data analysis and computing, systems and sensors, and data and systems topics in civil and environmental engineering, complemented by electives across multiple departments including mathematics, computer science, engineering, economics, and policy.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Data and Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Data and Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 20-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved data and systems engineering technical courses.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. At least 20 semester hours (of the 32 semester hours) must be listed as CIVE or SBSY and must form a cohesive advisor-approved program.

Core Requirements

Code	Title	Hours
Complete 20 semester hours from the following course lists:		20
Data and Computing		
Complete at least 4 semester hours from the following:		4
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
or ENVR 6500	Biostatistics	
or IE 6200	Engineering Probability and Statistics	
or IE 7280	Statistical Methods in Engineering	
or INSH 5301	Introduction to Computational Statistics	
or MATH 7343	Applied Statistics	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
or PPUA 5262	Big Data for Cities	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
DAMG 6105	Data Science Engineering with Python	
DAMG 6210	Data Management and Database Design	
ENVR 5260	Geographical Information Systems	
IE 5640	Data Mining for Engineering Applications	
or IE 7275	Data Mining in Engineering	
Systems and Sensors		
Complete at least 4 semester hours from the following:		4
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	

CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5524	Vibration-Based Structural Health Monitoring	
CIVE 7388	Special Topics in Civil Engineering (Dynamics and Control of Infrastructure)	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
IE 5500	Systems Engineering in Public Programs	
OR 6205	Deterministic Operations Research	
OR 7230	Probabilistic Operation Research	
OR 7245	Network Analysis and Advanced Optimization	
PHYS 5116	Network Science 1	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
Civil and Environmental Systems		
Complete at least 8 semester hours from the following:		8
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7252	Water Engineering: Planning, Design, and Management	
CIVE 7380	Performance Models and Simulation of Transportation Networks	
CIVE 7381	Transportation Demand Forecasting and Model Estimation	
CIVE 7385	Public Transportation	
IE 7200	Supply Chain Engineering	
OR 7310	Logistics, Warehousing, and Scheduling	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	
SBSY 5250	Building Performance Simulation	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete the remaining semester hours from the electives list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete the remaining semester hours from the electives list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete the remaining semester hours from the electives list below.		4

Course Lists

Any core course not used to meet the core course requirements can be used as an elective, as can the following electives:

ELECTIVES LIST

Code	Title	Hours
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 7220	Construction Management	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7255	Environmental Physical/Chemical Processes	
CIVE 7260	Hydrologic Modeling	
CIVE 7382	Advanced Traffic Control and Simulation	

EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7204	Applied Probability and Stochastic Processes
IE 5617	Lean Concepts and Applications
IE 7215	Simulation Analysis
SBSY 5300	Information Systems for Integrated Project Delivery

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Construction Management, MSCivE

This program is intended for students interested in construction management and engineering or a closely related field. It includes required core courses primarily from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in civil and environmental engineering and other departments such as mechanical and industrial engineering and business administration. Based on proven proficiency in given areas, students may waive certain core courses and replace them with alternate elective courses.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	18 SH	18 SH	18 SH
Elective courses	10 SH	6 SH	14 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with a Concentration in Construction Management with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with a Concentration in Construction Management in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 34-semester-hour degree and certificate will require fulfillment of the 18-semester-hour construction management core.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

ENGINEERING BUSINESS

Master's Degree in Civil Engineering with Concentration in Construction Management with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Civil Engineering with Concentration in Construction Management in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business.

Engineering Business (p. 529)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 5221	Construction Project Control and Organization	2
CIVE 7220	Construction Management	4
CIVE 7230	Legal Aspects of Civil Engineering	4
EMGT 6305	Financial Management for Engineers	4
IE 6200	Engineering Probability and Statistics	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 14 semester hours from the course list below.		14

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 10 semester hours from the course list below.		10

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 6 semester hours from the course list below.		6

Course List

Code	Title	Hours
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
ACCT 6201	Financial Reporting and Managerial Decision Making 2	
CIVE 5231	Alternative Project Delivery Systems in Construction	
CIVE 7151	Urban Informatics and Processing	
CIVE 7240	Construction Equipment and Modeling	
CIVE 7301	Advanced Soil Mechanics	
CIVE 7302	Advanced Foundation Engineering	
DAMG 6210	Data Management and Database Design	
EMGT 5300	Engineering/Organizational Psychology	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
or IE 7275	Data Mining in Engineering	
IE 7215	Simulation Analysis	
IE 7290	Reliability Analysis and Risk Assessment	
INFO 6215	Business Analysis and Information Engineering	
INFO 6245	Planning and Managing Information Systems Development	
OR 6205	Deterministic Operations Research	
SBSY 5200	Sustainable Engineering Systems for Buildings	
SBSY 5250	Building Performance Simulation	
SBSY 5300	Information Systems for Integrated Project Delivery	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE

This program includes study in the areas of soil mechanics/foundations and geoenvironmental engineering. It includes studies of soil and related earth materials for problems related to the protection of human health and the environment. Related areas include soil mechanics, fate/transport in subsurfaces, subsurface remediation, and others. The degree requirements include core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in civil and environmental engineering, as well as electives from other departments such as mechanical and industrial engineering.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	8 SH	8 SH	8 SH
Elective courses	20 SH	16 SH	24 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with a Concentration in Geotechnical/Geoenvironmental Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with a Concentration in Geotechnical/Geoenvironmental Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 8-semester-hour core curriculum and 12 semester hours of restricted electives from the geotechnical/geoenvironmental engineering concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand. For students pursuing a concentration in geotechnical/geoenvironmental engineering, the two courses required by the concentration are offered in alternate years. To complete this certificate program in two years, one of the courses needs to be taken in the first year and the other in the second year.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 7301	Advanced Soil Mechanics	4
CIVE 7302	Advanced Foundation Engineering	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 24 semester hours from the electives list below.		24

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 20 semester hours from the electives list below.		20

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 16 semester hours from the electives list below.		16

Electives List

Code	Title	Hours
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5699	Special Topics in Civil Engineering (Vibration-based Structural Health Monitoring)	
CIVE 7230	Legal Aspects of Civil Engineering	
CIVE 7240	Construction Equipment and Modeling	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7260	Hydrologic Modeling	
CIVE 7311	Soil and Foundation Dynamics	
CIVE 7312	Earthquake Engineering	
CIVE 7313	Ground Improvement	
CIVE 7330	Advanced Structural Analysis	
CIVE 7331	Structural Dynamics	
IE 6200	Engineering Probability and Statistics	
IE 7290	Reliability Analysis and Risk Assessment	
ME 5657	Finite Element Method 1	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Structures, MSCivE

For program contact information, please visit this website (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/).

This program is designed for students with career goals in structural engineering and structural design. The program includes courses in structural analysis and design, structural mechanics, dynamics of structures, earthquake engineering, wind engineering, and structural health monitoring. The degree requirements include core courses from the Department of Civil and Environmental Engineering, complemented by electives in civil and environmental engineering, as well as electives from other departments such as mechanical and industrial engineering and mathematics.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	8 SH	8 SH	8 SH
Restricted electives	12 SH	12 SH	12 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Structures with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Structures in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 8-semester-hour core curriculum and 12 semester hours of restricted electives from the structures concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 7330	Advanced Structural Analysis	4
CIVE 7331	Structural Dynamics	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives below.		12
Complete 12 semester hours from the other electives below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 12 semester hours from the restricted electives below.		12
Complete 8 semester hours from the other electives below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 12 semester hours from the restricted electives below.		12
Complete 4 semester hours from the other electives below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Code	Title	Hours
CIVE 5522	Structural Systems Modeling	
CIVE 7302	Advanced Foundation Engineering	
CIVE 7312	Earthquake Engineering	
CIVE 7340	Seismic Analysis and Design	
CIVE 7341	Structural Reliability	
CIVE 7342	System Identification	
CIVE 7350	Behavior of Concrete Structures	
CIVE 7351	Behavior of Steel Structures	
CIVE 7354	Wind Engineering	
CIVE 7355	Advanced Bridge Design	
CIVE 7357	Advanced Structural Mechanics	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
CIVE 7388	Special Topics in Civil Engineering (Dynamics and Control of Infrastructure Systems)	

OTHER ELECTIVES LIST

Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5520	Structural Systems	
CIVE 5524	Vibration-Based Structural Health Monitoring	
CIVE 5525	Prestressed Concrete Design	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7301	Advanced Soil Mechanics	
CIVE 7311	Soil and Foundation Dynamics	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	
MATL 7365	Properties and Processing of Electronic Materials	
ME 5240	Computer Aided Design and Manufacturing	
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5658	Continuum Mechanics	
ME 5659	Control Systems Engineering	
ME 6200	Mathematical Methods for Mechanical Engineers 1	
ME 7238	Finite Element Method 2	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Transportation, MSCivE

This program is designed for students with career goals in transportation engineering and transportation planning. The degree requirements include core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in civil and environmental engineering and by related courses in applied mathematics, engineering, economics, policy, and management.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	12 SH	12 SH	12 SH
Restricted electives	8 SH	8 SH	12 SH
Other electives	8 SH	4 SH	8 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Transportation with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Transportation in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 20-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 12-semester-hour core curriculum and 8 semester hours of restricted electives from the transportation concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CIVE 5373	Transportation Systems: Analysis and Planning	4
CIVE 5376	Traffic Engineering and Sustainable Urban Street Design	4
IE 6200	Engineering Probability and Statistics	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives list below.		12
Complete 8 semester hours from the other electives list below.		8

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the restricted electives list below.		8
Complete 8 semester hours from the other electives list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 8 semester hours from the restricted electives list below.		8
Complete 4 semester hours from the other electives list below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Code	Title	Hours
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7380	Performance Models and Simulation of Transportation Networks	
CIVE 7381	Transportation Demand Forecasting and Model Estimation	
CIVE 7382	Advanced Traffic Control and Simulation	
CIVE 7385	Public Transportation	
CIVE 7387	Design Aspects of Roadway Safety	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
IE 7215	Simulation Analysis	
IE 7280	Statistical Methods in Engineering	

OTHER ELECTIVES LIST

Any restricted elective not used to meet the restricted elective requirement can be used as another elective. Courses outside this list may be taken as electives with advisor approval.

Code	Title	Hours
DAMG 6210	Data Management and Database Design	
IE 7275	Data Mining in Engineering	
IE 7290	Reliability Analysis and Risk Assessment	
MATH 7343	Applied Statistics	
OR 6205	Deterministic Operations Research	
OR 7230	Probabilistic Operation Research	
OR 7245	Network Analysis and Advanced Optimization	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE

This program integrates the study of infrastructure; hydrology; hydraulics; engineering for coastal areas; numerical modeling; remote sensing; spatial and temporal data analysis; and physical, chemical, and biological processes that impact the water and air quality to provide students with the knowledge and tools for developing and managing sustainable, resilient water resources and infrastructure. It includes required core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-cive/), complemented by electives in electrical and computer engineering, mechanical and industrial engineering, and earth and environmental sciences.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	8 SH	8 SH	8 SH
Restricted electives	12 SH	12 SH	12 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	**32 SH**	**32 SH**	**32 SH**

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Civil Engineering with Concentration in Water, Environmental, and Coastal Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Civil Engineering with Concentration in Water, Environmental, and Coastal Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 12-semester-hour core curriculum and 8 semester hours of restricted electives from the WECS concentration coursework.

The Department of Civil and Environmental Engineering encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 8 semester hours of the following:		8
CIVE 5281	Coastal Dynamics and Design	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7260	Hydrologic Modeling	
CIVE 7281	Coastal and Nearshore Hydrodynamics	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 12 semester hours from the Other Electives List below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 8 semester hours from the Other Electives List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 4 semester hours from the Other Electives List below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Any required core course not used to meet the required core course requirement can be taken as a restricted elective.

Code	Title	Hours
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5366	Air Quality Engineering and Science	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7252	Water Engineering: Planning, Design, and Management	
CIVE 7255	Environmental Physical/Chemical Processes	
CIVE 7278	Air Quality Modeling and Forecasting	
CIVE 7279	Advanced Air Quality	
CIVE 7282	Coastal and Hydraulic Modeling	
ME 6200	Mathematical Methods for Mechanical Engineers 1	

OTHER ELECTIVES LIST

Any required core course not used to meet the required core course or restricted elective requirements can be taken as another elective. Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5670	Global Biogeochemistry	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EECE 7204	Applied Probability and Stochastic Processes	
ENVR 5260	Geographical Information Systems	
EEMB 5516	Oceanography	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7290	Reliability Analysis and Risk Assessment	
MATH 7341	Probability 2	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Environmental Engineering, MSEnvE

This program integrates the study of physical, chemical, and biological processes and fundamental principles for water and wastewater treatment and disposal, hazardous waste management, surface water and groundwater quality, water resources management, and air quality management. Successful graduates will have the ability to develop and implement technologies for various environmental applications with the goal to improve and protect the environment and human health. It includes required core courses from the Department of Civil and Environmental Engineering (https://cee.northeastern.edu/academics/graduate-studies/ms-envi/) (CEE), complemented by electives in civil and environmental engineering, mechanical and industrial engineering, earth and environmental sciences, and mathematics.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core electives	12 SH	12 SH	12 SH
Restricted electives	8 SH	8 SH	12 SH
Other electives	8 SH	4 SH	8 SH
Master of Science report/thesis	4 SH	8 SH	

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Environmental Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Environmental Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16 semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved environmental engineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete three of the following:		12
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
CIVE 7255	Environmental Physical/Chemical Processes	
CIVE 7272	Air Quality Management	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Restricted Electives List below.		12
Complete 8 semester hours from the Other Electives List below.		8

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the Restricted Electives List below.		8
Complete 8 semester hours from the Other Electives List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 8 semester hours from the Restricted Electives List below.		8
Complete 4 semester hours from the Other Electives List below.		4

Course Lists

RESTRICTED ELECTIVES LIST

Any required core course not used to meet the required core course requirement can be taken as a restricted elective.

Code	Title	Hours
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 7252	Water Engineering: Planning, Design, and Management	
CIVE 7260	Hydrologic Modeling	
CIVE 7272	Air Quality Management	
CIVE 7278	Air Quality Modeling and Forecasting	
CIVE 7279	Advanced Air Quality	
CIVE 7392	Special Topics in Environmental Engineering (Aquatic Biogeochemistry)	

OTHER ELECTIVES LIST

Any required core course not used to meet the required core course requirement can be taken as another elective. Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5670	Global Biogeochemistry	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EECE 7204	Applied Probability and Stochastic Processes	
ENVR 5190	Soil Science	
ENVR 5260	Geographical Information Systems	
EEMB 5516	Oceanography	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7290	Reliability Analysis and Risk Assessment	
MATH 7241	Probability 1	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Sustainable Building Systems, MSSBS

Website (https://cee.northeastern.edu/academics/graduate-studies/ms-subs/)

The sustainable building systems program focuses on the design and operation of buildings to provide a comfortable, healthy, and productive indoor environment with minimal energy and environmental impact. Students have an opportunity to develop leadership and decision-making skills to implement sustainable building practices in either the private or public sectors in the global market.

The graduates of the **Master of Science in Sustainable Building Systems** program should display a high level of engineering knowledge in a broad range of architectural engineering, civil engineering, and construction management while embracing the concepts of engineering sustainability as related to energy and materials usage and the effects on the environment. Graduates will have the base training necessary to lead efforts within companies to plan and implement sustainable practices for the design and operation of buildings, realize energy and materials efficiency improvements, and minimize environmental impact. Upon graduation, students will have a theoretical background to the concepts behind the LEED (Leadership in Energy and Environmental Design) Green Associate examination.

Below is a typical course sequence for graduation in two semesters. The program is flexible to accommodate full-time students—who wish to proceed over a period of two to four semesters—and part-time students—who can complete the program requirements by taking one to two courses per semester, finishing the program in approximately four years.

Degree Requirements	Full-Time Study	Part-Time Study
Core courses	12	12
Restricted electives	8	8
Open electives	12	12

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Sustainable Building Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Sustainable Building Systems in addition to earning a Graduate Certificate in Engineering Leadership. Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require fulfillment of the 12-semester-hour core curriculum and 8 semester hours of restricted electives from the sustainable building systems coursework.

The Civil and Environmental Engineering Department encourages students pursuing a GIEL certificate to complete their MS coursework requirements in their first year and their GIEL certificate requirements in their second year. Students who prefer to complete their GIEL certificate requirements in their first year are asked to speak with their MS degree advisor beforehand.

Engineering Leadership (p. 551)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ARCH 5210 and ARCH 5211	Environmental Systems and Recitation for ARCH 5210	4
SBSY 5100	Sustainable Design and Technologies in Construction	4
SBSY 5200	Sustainable Engineering Systems for Buildings	4
Students must register for this 0 SH course every semester:		
SBSY 5400	Sustainable Building Systems Seminar	

Electives

RESTRICTED ELECTIVES LIST

Code	Title	Hours
Complete 8 semester hours from the following:		8
ARCH 5220	Integrated Building Systems	
CIVE 5221	Construction Project Control and Organization	
CIVE 5231	Alternative Project Delivery Systems in Construction	

CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure
CIVE 7220	Construction Management
or EMGT 5220	Engineering Project Management
CIVE 7230	Legal Aspects of Civil Engineering
EMGT 6305	Financial Management for Engineers
SBSY 5250	Building Performance Simulation
SBSY 5300	Information Systems for Integrated Project Delivery

OTHER ELECTIVES LIST

Any restricted elective not used to meet the restricted elective requirement can be taken as another elective.

Code	Title	Hours
Complete 12 semester hours from the following:		12
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
ACCT 6201	Financial Reporting and Managerial Decision Making 2	
CIVE 7151	Urban Informatics and Processing	
CIVE 7350	Behavior of Concrete Structures	
CIVE 7351	Behavior of Steel Structures	
CIVE 7388	Special Topics in Civil Engineering (Dynamics and Control of Infrastructure Systems)	
FINA 6200	Value Creation through Financial Decision Making	
FINA 6216	Valuation and Value Creation	
FINA 6217	Real Estate Finance and Investment	
LPSC 7312	Cities, Sustainability, and Climate Change	
ME 5645	Environmental Issues in Manufacturing and Product Use	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Climate and Engineering, Graduate Certificate

Climate change is a defining challenge of the 21st century. This three-course certificate in climate and engineering provides students with the foundational knowledge of how climate change will impact engineered systems and approaches for adaptation at multiple scales. Students will also acquire the analytical skills to evaluate technologies and engineering approaches for safety, climate effectiveness, and equality in societal costs and benefits.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete one of the following:		4
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5699	Special Topics in Civil Engineering (Climate Technologies for Decarbonization, Mitigation, and Adaptation)	

Electives

Code	Title	Hours
Complete two of the following:		8
CIVE 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5670	Global Biogeochemistry	
CIVE 5699	Special Topics in Civil Engineering (Intro to Air Quality Engineering Science)	
CIVE 5699	Special Topics in Civil Engineering (Climate Technologies for Decarbonization, Mitigation, and Adaptation)	
CIVE 5984	Research (4 SH, with topic approval of program advisor)	
CIVE 7272	Air Quality Management	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sustainability Engineering, Graduate Certificate

Overview

Society is facing increasingly complex and multidisciplinary challenges in balancing the relationship between the built environment and the earth system. The four-course certificate in sustainability engineering provides foundational knowledge that facilitates framing challenges and working on multidisciplinary topics to address sustainability challenges, including engineering perspectives, toolsets, and data methods.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Complete one of the following:		4
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
Complete one of the following:		4
CIVE 5699	Special Topics in Civil Engineering (Intro to Air Quality Engineering Science - 4 semester hours)	
CIVE 7250	Environmental Chemistry	
CIVE 7251	Environmental Biological Processes	
Complete one of the following:		4
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 6566	Sustainable Urban Transportation: Netherlands	
SBSY 5100	Sustainable Design and Technologies in Construction	
Complete one of the following:		4
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5984	Research (4 semester hours)	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7260	Hydrologic Modeling	
CIVE 7388	Special Topics in Civil Engineering (Random Data and Processing)	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering

Website (http://www.ece.neu.edu)

Srinivas Tadigadapa, PhD
Professor and Chair

409 Dana Research Center
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The Department of Electrical and Computer Engineering's graduate program is a dynamic and thriving center of world-recognized research in a wide range of areas. The department has strong ties to local industry and the world-famous hospitals and medical centers of Boston and is involved in many joint research projects with them. With five NSF- and DHS-funded research centers and over 20 industrial partners, faculty and students are actively conducting cutting-edge research in areas such as computer vision; pattern recognition and machine learning; brain-computer interface; computer architecture; high-performance computing; embedded systems; hardware and software security; power systems and power electronics; underwater communication networks and signal processing; robotics; information theory; communications, control, and signal processing; Internet of Things; RF, electromagnetics, optics, and magnetic materials; micro/nanomechanical structures and advanced nanomaterials; power-first system/computer architecture; ultralow power biomedical and neural circuits and systems.

ECE's graduate program educates MS and PhD students with deep fundamental and practical knowledge in the various disciplines of electrical and computer engineering by offering a strong curriculum and providing opportunities for research in these disciplines. The department educates the next generation of highly skilled engineers and researchers with necessary skills to address the future needs of academia, industry, government, and humanity.

Overview of Programs Offered

ECE's graduate program offers a Master of Science in Electrical and Computer Engineering, a Master of Science in Electrical and Computer Engineering Leadership, a Master of Science in Applied Physics and Engineering, a Master of Science in Data Science, a Master of Science in Robotics, a Master of Science in Internet of Things, a Master of Science in Wireless and Network Engineering, a Doctor of Philosophy in Computer Engineering, a Doctor of Philosophy in Cybersecurity, a Doctor of Philosophy in Electrical Engineering, and a Doctor of Philosophy in Interdisciplinary Engineering (housed in the College of Engineering).

Mission of the Department

The primary educational missions of the electrical and computer engineering department are to educate undergraduate students so they have the opportunity to obtain successful careers in electrical and computer engineering and related disciplines and pursue advanced graduate study in engineering or related disciplines. The mission of the graduate program is to educate graduate students so they have the skills to solve complex engineering problems and can make meaningful contributions to research and industry.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Master of Science in Electrical and Computer Engineering Leadership (MSECEL) (p. 472) along with the Graduate Certificate in Engineering Leadership.

In addition, students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the Master of Science in Electrical and Computer Engineering. This option results in an increase in total hours beyond that required for the master's degree only.

Programs

Doctor of Philosophy (PhD)

- Computer Engineering (p. 411)
- Cybersecurity (p. 302)
- Electrical Engineering (p. 419)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Applied Physics and Engineering (p. 421)
- Data Science (p. 279)
- Internet of Things (p. 286)
- Robotics (p. 290)
- Wireless and Network Engineering (p. 432)

Master of Science in Electrical and Computer Engineering (MSECE)

- Concentration in Communications, Control, and Signal Processing (p. 434)
- Concentration in Computer Networks and Security (p. 444)
- Concentration in Computer Systems and Software (p. 439)
- Concentration in Computer Vision, Machine Learning, and Algorithms (p. 448)
- Concentration in Electromagnetics, Plasma, and Optics (p. 453)
- Concentration in Hardware and Software for Machine Intelligence (p. 458)
- Concentration in Microsystems, Materials, and Devices (p. 463)
- Concentration in Power Systems (p. 467)

Master of Science in Electrical and Computer Engineering Leadership (MSECEL)

- Electrical and Computer Engineering Leadership (p. 472)

Computer Engineering, PhD

The Doctor of Philosophy in Computer Engineering offers students an opportunity for study in a broad range of areas in computer engineering. Details on PhD requirements can be found in the *Graduate Program Guide.* A summary of requirements is given below.

Qualifying Exam and Degree Candidacy

The PhD qualifying exam is the examination for admissions to the doctoral programs in electrical engineering and in computer engineering. The exam has the dual purposes of serving as an indicator of the student's capability for successful completion of the PhD in electrical engineering or in computer engineering and of serving as a guide to the student's advisor in developing a suitable plan of study, tailored to the individual needs of the student.

A student who has matriculated into the PhD program is considered a predoctoral student, whether they are BS entry or advanced entry. Upon successful completion of the qualifying exam, the student is designated a PhD candidate. A student who fails the qualifying exam will be permitted to retake the exam only one more time.

Annual Review

PhD students are reviewed annually. Each student is evaluated and receives a grade of satisfactory, needs improvement, or unsatisfactory.

Residence Requirement

After reaching PhD candidacy, one year of full-time graduate work or two consecutive years of part-time graduate work satisfy the university residence requirement. In the latter case, the student's advisor must approve a detailed schedule in order to ensure that the student devotes at least half of the time to the requirements of the Graduate School of Engineering.

Dissertation

Within one year of passing the PhD qualifying exam, the PhD candidate must form a dissertation committee. A dissertation committee must have at least three members that hold a PhD or equivalent degree. At least two of the committee members must be tenured or tenure-track Department of Electrical and Computer Engineering faculty, and the committee must include the student's advisor. The chair of the committee must be a tenured or tenure-track faculty member in the ECE department.

The dissertation committee must design an appropriate program of study that prepares the student to be a successful doctoral-level engineer as well as direct the candidate's dissertation research. The dissertation committee will approve the dissertation in final form.

DISSERTATION AND DISSERTATION CONTINUATION REGISTRATION

Upon successful completion of the PhD qualifying exam and the required coursework, the PhD candidate must register in two consecutive semesters for Dissertation Term 1 (EECE 9990) and Dissertation Term 2 (EECE 9991). Upon completion of this sequence, the student must register for Dissertation Continuation (EECE 9996) in every semester until the dissertation is completed. A student may not register for Continuation until they fulfill the two-semester sequence of Dissertation.

REGISTRATION REQUIREMENTS FOR PREDOCTORAL AND PHD CANDIDATE GRADUATE ASSISTANTS

The ECE department requires that predoctoral students and PhD candidates who hold research or teaching assistantships be registered full-time. Predoctoral PhD students may register for Research (EECE 9986) (zero credit, full-time equivalent) *if needed* to fulfill the registration requirement.

PHD PROPOSAL REVIEW

Each PhD candidate must demonstrate, by means of the proposal review, subject matter knowledge satisfactory for the award of the degree.

The proposal review is an oral presentation followed by a question-and-answer session administered by the student's dissertation advisor/committee. The proposal review will be given at the time the student submits their dissertation proposal to the dissertation advisor/committee for approval. As part of this exam, the dissertation advisor/committee will review the student's doctoral program and their performance in graduate courses, as well as examine the student on subject matter related to their graduate coursework and dissertation subject area.

FINAL DISSERTATION DEFENSE

The final dissertation defense will include the subject matter of the dissertation and significant developments in the field of the dissertation work. Other related fields may be included if recommended by the examining faculty. The dissertation defense must be scheduled at least six months after the PhD proposal review.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual departmental review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 32 semester hours of approved coursework—equivalent of MSECE degree. Then complete 16 semester hours, of which 8 must be graduate-level EECE courses. Consult faculty research advisor for acceptable courses.		48

Dissertation

Code	Title	Hours
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Complete 16 semester hours of approved coursework. At least 8 semester hours must be graduate-level EECE courses. Consult your faculty adviser for acceptable courses.

Dissertation

Code	Title	Hours
Complete the following two courses:		
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Cybersecurity, PhD

A research-based, interdisciplinary Doctor of Philosophy (PhD) in Cybersecurity combines a strong security technical foundation with a security policy and social sciences perspective. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Students who choose the PhD in Cybersecurity program have a strong desire to pursue academic research solving critical cybersecurity challenges facing today's society. The PhD program is a natural path for students in the college's Master of Science in Cybersecurity (http://www.ccs.neu.edu/graduate/degree-programs/m-s-in-information-assurance/)program who want to pursue research and students with bachelor's degrees and an interest in research-focused careers. Students who pursue careers in advancing the state of the art of cybersecurity have an opportunity to gain:

- A strong technical foundation in cybersecurity and an interdisciplinary perspective based on policy and social science
- A path to a research-focused career coupled with depth in information assurance research at a leading institution, one of the earliest designees by NSA/DHS as a National Center of Academic Excellence in Information Assurance Research, Information Assurance/Cyber Defense, and Cyber Operations
- The opportunity to work with and learn from faculty who are recognized internationally for their expertise and contributions in information assurance from Northeastern University's Khoury College of Computer Sciences, the Department of Electrical and Computer Engineering, and the College of Social Sciences and Humanities
- Access to research projects at Northeastern's research centers focused on security:
  - The Cybersecurity and Privacy Institute (https://cyber.ccis.northeastern.edu/about/): The mission of Northeastern's Cybersecurity and Privacy Institute is to safeguard critical technology. Forging partnerships with experts in industry, government, and academia worldwide, the Institute's faculty and students develop, protect, and enhance technologies on which the world relies—from mobile devices and "smart" IoT applications to tomorrow's self-driving cars and delivery drones. Their expertise spans algorithm auditing; cloud security; cryptography; differential privacy; embedded device security; internet-scale security measurements; machine learning; big data; security, malware, and advanced threats; network protocols and security; web and mobile security; and wireless network security.
  - The International Secure Systems Lab (http://www.iseclab.org/), affiliated with Northeastern, a collaborative effort of European and U.S. researchers focused on web security, malware, and vulnerability analysis; intrusion detection; and other computer security issues.
  - The ALERT Center (http://www.northeastern.edu/alert/), where Northeastern is the lead institution, a multiuniversity Department of Homeland Security Center of Excellence involved in research, education, and technology related to threats from explosives.

The benefits of the Boston area:

- World-renowned for academic and research excellence, the Boston area is also home to some of the nation's largest Department of Defense contractors and government and independent labs such as MIT Lincoln Lab, MITRE, and Draper Lab.

Degree Requirements

The PhD in Cybersecurity degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need four to five years to complete the program, and they will be awarded a master's degree en route to the PhD.

Doctoral Degree Candidacy

A student is considered a PhD degree candidate after completing the core courses with at least a 3.500 GPA, with no grades lower than a B in the core courses, and either publishing a paper in a strong conference or journal or passing an oral exam that is conducted by a committee of three cybersecurity faculty members and based on paper(s) written by the student.

RESIDENCY

One year of continuous full-time study is required after admission to the PhD candidacy. During this period, the student will be expected to make substantial progress in preparing for the comprehensive examination.

TEACHING REQUIREMENT

All cybersecurity PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment or quiz or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
The doctoral dissertation advising team for each student consists of two cybersecurity faculty members, one in a technical area. When appropriate, the second faculty advisor will be from the policy/social science area.

DISSERTATION COMMITTEE
With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD cybersecurity curriculum committee. The four members must include the advisor, two internal members, and an external member.

COMPREHENSIVE EXAMINATION
A PhD student must submit a written dissertation proposal and present it to the dissertation committee. The proposal should identify the research problem, the research plan, and the potential impact of the research on the field. The presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee after the public presentation.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in cybersecurity.

AWARDING OF MASTER'S DEGREES
Students who enter the PhD in Cybersecurity program with a bachelor's degree have the option of obtaining a master's degree from one of the departments participating in the program. To do so, they must meet all of the department's degree requirements.

Program Requirements
Bachelor's Degree Entrance
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each core course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	
EECE 7390	Computer Hardware Security	
Machine Learning		
CS 6140	Machine Learning	
CS 7150	Deep Learning	
CY 6720	Machine Learning in Cybersecurity and Privacy	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	

EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Degree Requirements

Incoming PhD in cybersecurity students who have already completed a Master of Science in an adjacent field may petition to the graduate program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that

advanced entry does not waive by itself any part of the PhD coursework requirements. As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Doctoral Degree Candidacy

Refer to the PhD Cybersecurity overview (p. 302) for admission to candidacy requirements.

Residency

Refer to the PhD Cybersecurity overview (p. 302) for residency requirements.

Teaching Requirement

Refer to the PhD Cybersecurity overview (p. 302) for teaching requirements.

Dissertation Advising

Refer to the PhD Cybersecurity overview (p. 302) for dissertation advising requirements.

Dissertation Committee

Refer to the PhD Cybersecurity overview (p. 302) for dissertation committee requirements.

Comprehensive Examination

Refer to the PhD Cybersecurity overview (p. 302) for comprehensive examination requirements.

Dissertation Defense

Refer to the PhD Cybersecurity overview (p. 302) for dissertation defense and completion requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirement

Students are required to take all core courses unless otherwise determined by the program. Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each core course.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Students are required to take all courses unless otherwise determined by the program.

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	

EECE 7390	Computer Hardware Security
Machine Learning	
CS 6140	Machine Learning
CS 7150	Deep Learning
CY 6720	Machine Learning in Cybersecurity and Privacy
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

Minimum 16 semester hours required
Minimum 3.000 GPA required

Electrical Engineering, PhD

The PhD program in electrical engineering offers students an opportunity for study in a broad range of areas in electrical engineering. Details on PhD requirements can be found in the *Graduate Program Guide.* A summary of requirements is given below.

Qualifying Exam and Degree Candidacy

The PhD qualifying exam is the examination for admissions to the doctoral programs in electrical engineering and in computer engineering. The exam has the dual purposes of serving as an indicator of the student's capability for successful completion of the PhD in electrical engineering or in computer engineering and of serving as a guide to the student's advisor in developing a suitable plan of study, tailored to the individual needs of the student.

A student who has matriculated into the PhD program is considered a predoctoral student, whether they are BS entry or advanced entry. Upon successful completion of the qualifying exam, the student is designated a PhD candidate. A student who fails the qualifying exam will be permitted to retake the exam only one more time.

Annual Review

PhD students are reviewed annually. Each student is evaluated and receives a grade of satisfactory, needs improvement, or unsatisfactory.

Residence Requirement

After reaching PhD candidacy, one year of full-time graduate work or two consecutive years of part-time graduate work satisfy the university residence requirement. In the latter case, the student's advisor must approve a detailed schedule in order to ensure that the student devotes at least half of the time to the requirements of the Graduate School of Engineering.

Dissertation

Within one year of passing the PhD qualifying exam, the PhD candidate must form a dissertation committee. A dissertation committee must have at least three members that hold a PhD or equivalent degree. At least two of the committee members must be tenured or tenure-track ECE faculty and the committee must include the student's advisor. The chair of the committee must be a tenured or tenure-track faculty member in the ECE department.

The dissertation committee must design an appropriate program of study that prepares the student to be a successful doctoral-level engineer as well as direct the candidate's dissertation research. The dissertation committee will approve the dissertation in final form.

DISSERTATION AND DISSERTATION CONTINUATION REGISTRATION

Upon successful completion of the PhD qualifying exam and the required coursework, the PhD candidate must register in two consecutive semesters for Dissertation Term 1 (EECE 9990) and Dissertation Term 2 (EECE 9991). Upon completion of this sequence, the student must register for Dissertation Continuation (EECE 9996) in every semester until the dissertation is completed. A student may not register for Continuation until they fulfill the two-semester sequence of Dissertation.

REGISTRATION REQUIREMENTS FOR PREDOCTORAL AND PHD CANDIDATE GRADUATE ASSISTANTS

The ECE department requires that predoctoral students and PhD candidates who hold research or teaching assistantships be registered full-time. Predoctoral PhD students may register for Research (EECE 9986) (zero credit, full-time equivalent) if needed to fulfill the registration requirement.

PHD PROPOSAL REVIEW

Each PhD candidate must demonstrate, by means of the proposal review, subject matter knowledge satisfactory for the award of the degree.

The proposal review is an oral presentation followed by a question-and-answer session administered by the student's dissertation advisor/committee. The proposal review will be given at the time the student submits their dissertation proposal to the dissertation advisor/committee for approval. As part of this exam, the dissertation advisor/committee will review the student's doctoral program and their performance in graduate courses, as well as examine the student on subject matter related to their graduate coursework and dissertation subject area.

FINAL DISSERTATION DEFENSE

The final dissertation defense will include the subject matter of the dissertation and significant developments in the field of the dissertation work. Other related fields may be included if recommended by the examining faculty. The dissertation defense must be scheduled at least six months after the PhD proposal review.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 32 semester hours of approved coursework—equivalent of MSECE degree. Then complete 16 semester hours, of which 8 must be graduate-level EECE courses. Consult your faculty research advisor for acceptable courses.		48

Dissertation

Code	Title	Hours
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review (each fall semester after the student has been in the program for at least one year)
Qualifying examination
Dissertation committee
Proposal stage review
Dissertation defense

Core Requirements

Complete 16 semester hours of approved coursework. At least 8 semester hours must be graduate-level EECE courses. Consult your faculty adviser for acceptable courses.

Dissertation

Code	Title	Hours
Complete the following two courses:		
EECE 9990	Dissertation Term 1	
EECE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Applied Physics and Engineering, MS

The combined MS program in applied physics and engineering allows graduate students to receive training in one of three concentrations of the electrical and computer engineering department while also receiving fundamental graduate-level physics training that is relevant to that area.

Thesis Option

A student may complete an additional 8 semester hours of thesis. Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) (4 semester hours) or Thesis (PHYS 7990) (4 semester hours), depending on the affiliation of the thesis advisor. A thesis committee is composed of an advisor and two faculty members from physics or electrical engineering.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Concentrations

Complete one of the following concentrations:

- Microsystems, Materials, and Devices (p. 421)
- Electromagnetics, Plasma, and Optics (p. 421)
- Analysis, Modeling, and Computation (p. 422)

MICROSYSTEMS, MATERIALS, AND DEVICES

Code	Title	Hours
Core Courses		
EECE 7201	Solid State Devices	4
PHYS 7324	Condensed Matter Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5606	Micro- and Nanofabrication	
EECE 5680	Electric Drives	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7240	Analog Integrated Circuit Design	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7353	VLSI Design	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7302	Electromagnetic Theory	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7734	Topics: Condensed Matter Physics	

ELECTROMAGNETICS, PLASMA, AND OPTICS

Code	Title	Hours
Core Courses		
EECE 7203	Complex Variable Theory and Differential Equations	4
PHYS 7302	Electromagnetic Theory	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5698	Special Topics in Electrical and Computer Engineering (Subsurface Imaging)	
EECE 7105	Optics for Engineers	
EECE 7202	Electromagnetic Theory 1	

EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7270	Electromagnetic Theory 2	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7275	Antennas and Radiation	
EECE 7293	Modern Imaging	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7731	Biological Physics 1	

ANALYSIS, MODELING, AND COMPUTATION

Code	Title	Hours
Core Courses		
EECE 7205	Fundamentals of Computer Engineering	4
PHYS 7321	Computational Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7374	Fundamentals of Computer Networks	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5116	Network Science 1	
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7305	Statistical Physics	
PHYS 7335	Dynamical Processes in Complex Networks	

Thesis Option

Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) or Thesis (PHYS 7990) , depending on the affiliation of the thesis advisor. Thesis credits cannot be substituted for any of the coursework listed above. This option requires a total of 40 semester hours for the master's degree.

Program Credit/GPA Requirements

32–40 total semester hours required
Minimum 3.000 GPA required

Data Science, MS

Khoury College of Computer Sciences and the Department of Electrical and Computer Engineering jointly offer an interdisciplinary Master of Science in Data Science. This program is designed to give students a comprehensive framework for reasoning about data. Students engage in extensive coursework intended to develop depth in data collection, storage, retrieval, manipulation, visualization, modeling, and interpretation. Students are also able to choose elective courses from a variety of offerings in Khoury, the College of Engineering, and throughout the campus to explore areas that generate data or specialized data science applications. Successful program graduates are well positioned to attain data scientist and data engineer positions in a fast-growing field or to progress into doctoral degrees in related disciplines.

During the admissions process, applicants take a pretest to determine if the Master of Science in Data Science or Master of Science in Data Science (p. 281)— (p.)Align (p. 281) fits better with their current skill level. In addition, prospective applicants work with recruitment and enrollment coaching teams to select the appropriate program before applying.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Students should refer to the course numbering table for graduate course leveling (p. 55).

Core Requirements

A cumulative GPA of 3.000 or higher is required in the following core courses.

Code	Title	Hours
Complete 20 semester hours from the following:		
Data Management and Processing		
DS 5110	Introduction to Data Management and Processing	4
Algorithms		
Complete 4 semester hours from the following:		4
CS 5800	Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Machine Learning and Data Mining		
DS 5220	Supervised Machine Learning and Learning Theory	4
DS 5230	Unsupervised Machine Learning and Data Mining	4
Presentation and Visualization		
DS 5500	Data Science Capstone	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following: [1]		12
Khoury College of Computer Sciences		
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5200	Database Management Systems	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5610	Web Development	
CS 6120	Natural Language Processing	
CS 6200	Information Retrieval	
CS 6240	Large-Scale Parallel Data Processing	
CS 6350	Empirical Research Methods	
CS 6620	Fundamentals of Cloud Computing	
CS 6650	Building Scalable Distributed Systems	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
CS 7200	Statistical Methods for Computer Science	
CS 7250	Information Visualization: Theory and Applications	
CS 7280	Special Topics in Database Management	

CS 7290	Special Topics in Data Science
DS 7990	Thesis
DS 7995	Project
College of Engineering	
CIVE 7100	Time Series and Geospatial Data Sciences
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5645	Parallel Processing for Data Analytics
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
IE 6700	Data Management for Analytics
IE 7280	Statistical Methods in Engineering
College of Social Sciences and Humanities	
ECON 5140	Applied Econometrics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 7237	Advanced Spatial Analysis of Urban Systems
College of Science	
ENVR 5563	Advanced Spatial Analysis
PHYS 5116	Network Science 1
PHYS 7305	Statistical Physics
PHYS 7321	Computational Physics
Bouvé College of Health Sciences	
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6224	Social Epidemiology
College of Arts, Media and Design	
GSND 5110	Game Design and Analysis
GSND 6350	Data-Driven Player Modeling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Students taking electives worth less than 4 semester hours (i.e., Bouvé courses) should enroll for an accompanying data science project course in the same semester to bring the cumulative semester hours to 4. In order to earn this additional credit, students are expected to work with faculty to design an additional project in line with the curricular aims of their chosen elective and the data science core learning outcomes.

Internet of Things, MS

The Master of Science in Internet of Things is an interdisciplinary program administered by the Institute for the Wireless Internet of Things, the Department of Electrical and Computer Engineering, and the Khoury College of Computer Sciences. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the development of a globally interconnected continuum of untethered devices and objects interacting with the physical environment, people, and each other. The program will provide students with the necessary knowledge and skills to understand, design, and implement autonomous wireless networked systems of tomorrow operating in uncertain, challenging, extreme environments, through a combination of coursework, master project research, and/or industry experience.

Program Requirements

Core Requirements

Code	Title	Hours
EECE 5155	Wireless Sensor Networks and the Internet of Things	4
Complete one of the following:		4
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
Complete one of the following:		4
CS 5800	Algorithms	
CS 7800	Advanced Algorithms	
EECE 7205	Fundamentals of Computer Engineering	
Complete one of the following:		4
CS 6140	Machine Learning	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5698	Special Topics in Electrical and Computer Engineering	
Complete one of the following:		4
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7368	High-Level Design of Hardware-Software Systems	
Complete two courses from the following for a total of 4 semester hours:		
EECE 7400	Special Problems in Electrical and Computer Engineering	1
INNO 6230	Platform Innovation	3
or MGMT 6280	Innovation for Next-Generation Products and Systems	
Complete one of the following:		4
CY 5120	Applied Cryptography	
CY 5150	Network Security Practices	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 6740	Network Security	
CY 6760	Wireless and Mobile Systems Security	
EECE 5641	Introduction to Software Security	
EECE 5699	Computer Hardware and System Security	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 4 semester hours from the course list below. (p. 286)		4

MASTER'S PROJECT OPTION

Code	Title	Hours
EECE 7674	Master's Project	4

Course List

Code	Title	Hours
Courses in College of Engineering		
Electrical and Computer Engineering		
EECE 5360	Combinatorial Optimization	
EECE 5550	Mobile Robotics	

EECE 5554	Robotics Sensing and Navigation
EECE 5606	Micro- and Nanofabrication
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5645	Parallel Processing for Data Analytics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5699	Computer Hardware and System Security
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7240	Analog Integrated Circuit Design
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7275	Antennas and Radiation
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7390	Computer Hardware Security
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances on Deep Learning)
Bioengineering	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design
Civil and Environmental Engineering	
CIVE 5280	Remote Sensing of the Environment
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering
CIVE 7151	Urban Informatics and Processing
CIVE 7380	Performance Models and Simulation of Transportation Networks

Courses Outside College of Engineering	
Khoury College of Computer Science	
Computer Science	
CS 5700	Fundamentals of Computer Networking
CS 6140	Machine Learning
CS 7150	Deep Learning
Cybersecurity	
CY 5120	Applied Cryptography
CY 5150	Network Security Practices
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
CY 6720	Machine Learning in Cybersecurity and Privacy
CY 6740	Network Security
CY 6760	Wireless and Mobile Systems Security
D'Amore-McKim School of Business	
Entrepreneurship and Innovation	
INNO 6200	Enterprise Growth and Innovation
INNO 6222	Competing in Dynamic, Innovation-Driven Markets
Management	
MGMT 6280	Innovation for Next-Generation Products and Systems
Entrepreneurship Technological	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
Bouvé College of Health Sciences	
Health Informatics	
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5301	Evaluating Health Technologies
HINF 6400	Introduction to Health Data Analytics
Nursing	
NRSG 6306	Health Informatics
College of Arts, Media and Design	
Communication Studies	
COMM 6605	Youth and Communication Technology
School of Law	
LW 6101	Introduction to Legal Studies 1: Law and Legal Reasoning
LW 6102	Introduction to Legal Studies 2
LW 6140	Data Regulation and Compliance
LW 6231	Identifying and Securing Intellectual Property Rights
LW 6232	Intellectual Property and Media
LW 6400	Law, Policy and Legal Argument
LW 7369	Intellectual Property
LW 7669	Law and Technology
College of Social Sciences and Humanities	
Law and Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change
Public Policy and Urban Affairs	
PPUA 5262	Big Data for Cities
Political Science	
POLS 7341	Security and Resilience Policy
POLS 7346	Resilient Cities
POLS 7441	Cyberconflict
Philosophy	

PHIL 5005	Information Ethics
College of Science	
Physics	
PHYS 5116	Network Science 1

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Robotics, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academic-programs/ms-robo/).

The multidisciplinary Master of Science program in robotics is offered by the College of Engineering and the Khoury College of Computer Sciences. The program is designed to provide students comprehensive training in algorithms, sensors, control systems, and mechanisms used in robotics.

Gordon Institute of Engineering Leadership

Master's Degree in Robotics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Robotics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved robotics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mechanical Engineering		
Complete one of the following:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Electrical and Computer Engineering		
Complete one of the following:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Computer Science		
Complete one of the following:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	

Concentrations

Complete one of the following concentrations:

- Mechanical Engineering (p. 290)
- Electrical and Computer Engineering (p. 291)
- Computer Science (p. 291)

MECHANICAL ENGINEERING

Code	Title	Hours
Students in the mechanical engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional ME course not used to fulfill the core requirements:		4
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
ME 7945	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		

ME 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

ELECTRICAL AND COMPUTER ENGINEERING

Code	Title	Hours
Students in the electrical and computer engineering concentration follow the College of Engineering co-op policies.		
Required Course		
Complete one additional EECE course not used to fulfill the core requirements:		4
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
EECE 7674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
EECE 7990	Thesis	8
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

COMPUTER SCIENCE

Code	Title	Hours
Students in the computer science concentration follow the Khoury College of Computer Sciences co-op policies.		
Required Course		
Complete one additional CS course not used to fulfill the core requirements:		4
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
Complete one of the following options:		
Coursework Option		
Complete 16 semester hours of courses from the elective course list. (p. 291)		16
Project Option		
CS 8674	Master's Project	4
Complete 12 semester hours of courses from the elective course list. (p. 291)		12
Thesis Option		
CS 8674	Master's Project	4
CS 7990	Thesis	4
Complete 8 semester hours of courses from the elective course list. (p. 291)		8

Elective Course List

Code	Title	Hours
CS 5097	Mixed Reality	
CS 5100	Foundations of Artificial Intelligence	
CS 5170	Artificial Intelligence for Human-Computer Interaction	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6350	Empirical Research Methods	
CS 7140	Advanced Machine Learning	
CS 7150	Deep Learning	
CS 7180	Special Topics in Artificial Intelligence	
DS 5220	Supervised Machine Learning and Learning Theory	
EECE 5550	Mobile Robotics	

EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5580	Classical Control Systems
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7150	Autonomous Field Robotics
EECE 7323	Numerical Optimization Methods
EECE 7337	Information Theory
EECE 7370	Advanced Computer Vision
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
IE 6500	Human Performance
IE 7280	Statistical Methods in Engineering
IE 7315	Human Factors Engineering
IE 7615	Neural Networks and Deep Learning
ME 5240	Computer Aided Design and Manufacturing
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5654	Elasticity and Plasticity
ME 5655	Dynamics and Mechanical Vibration
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 6200	Mathematical Methods for Mechanical Engineers 1
ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7247	Advanced Control Engineering

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Wireless and Network Engineering, MS

Overview

The Master of Science in Wireless and Network Engineering is administered by the Institute for the Wireless Internet of Things and the Department of Electrical and Computer Engineering. This program is aimed at preparing highly qualified researchers and a specialized workforce that will lead the future of our hyperconnected society. The program will provide students with the necessary knowledge and skills to understand, design, and implement present and future wireless and wired communication networks through a combination of coursework, master thesis research, and/or industry experience.

Program Requirements

Core Requirements

Code	Title	Hours
Complete two of the following:		8
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
EECE 7374	Fundamentals of Computer Networks	

Options

COURSEWORK OPTION

Code	Title	Hours
Complete 24 semester hours from the course list below. (p. 432)		24

THESIS OPTION

Code	Title	Hours
EECE 7990	Thesis	8
Complete 16 semester hours from the course list below. (p. 432)		16

Course List

Code	Title	Hours
Electrical and Computer Engineering		
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5360	Combinatorial Optimization	
EECE 5610	Digital Control Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5640	High-Performance Computing	
EECE 5641	Introduction to Software Security	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5645	Parallel Processing for Data Analytics	
EECE 5666	Digital Signal Processing	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5697	Acoustics and Sensing	
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)	
EECE 5699	Computer Hardware and System Security	
EECE 7200	Linear Systems Analysis	
EECE 7202	Electromagnetic Theory 1	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7247	Radio Frequency Integrated Circuit Design	
EECE 7275	Antennas and Radiation	
EECE 7336	Digital Communications	
EECE 7337	Information Theory	

EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7352	Computer Architecture
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Networks Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (An Experimental Approach to Wireless Communications)
EECE 7400	Special Problems in Electrical and Computer Engineering
Computer Science	
CS 5520	Mobile Application Development
CS 5610	Web Development
CS 6620	Fundamentals of Cloud Computing
CS 6650	Building Scalable Distributed Systems
CS 7610	Foundations of Distributed Systems
Cybersecurity	
CY 6740	Network Security

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with a Concentration in Communications, Control, and Signal Processing with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with a Concentration in Communications, Control, and Signal Processing in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved communications, control, and signal processing technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5576	Wireless Communication Systems	
EECE 5666	Digital Signal Processing	
EECE 7200	Linear Systems Analysis	
EECE 7204	Applied Probability and Stochastic Processes	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 435)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 435)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 435)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below. (p. 435)	4
Note: Depth courses cannot be taken for breadth.	
Electives	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

In the coursework option a maximum of two courses may be taken outside of electrical and computer engineering. Thesis track students can take up to three courses outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5576	Wireless Communication Systems	
EECE 5580	Classical Control Systems	
EECE 5610	Digital Control Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5665	Signal Processing for Global Navigation Satellite Systems	
EECE 5666	Digital Signal Processing	
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)	
EECE 7200	Linear Systems Analysis	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7211	Nonlinear Control	
EECE 7213	System Identification and Adaptive Control	
EECE 7214	Optimal and Robust Control	
EECE 7215	Introduction to Distributed Intelligence	
EECE 7310	Modern Signal Processing	
EECE 7311	Two Dimensional Signal and Image Processing	
EECE 7323	Numerical Optimization Methods	
EECE 7336	Digital Communications	
EECE 7337	Information Theory	
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization	
EECE 7346	Probabilistic System Modeling and Analysis	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Current Research in NonLinear Systems)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for MS Thesis Students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	
ME 7247	Advanced Control Engineering	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	

CS 7800	Advanced Algorithms
CY 5770	Software Vulnerabilities and Security
CY 6740	Network Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5161	Thin Film Technologies
EECE 5170	Introduction to Multiferroics Materials and Systems
EECE 5554	Robotics Sensing and Navigation
EECE 5606	Micro- and Nanofabrication
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7205	Fundamentals of Computer Engineering
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients

EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	

CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree programs in electrical and computer engineering offer in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on groundbreaking research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Computer Systems and Software with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science degree in Electrical and Computer Engineering with Concentration in Computer Systems and Software in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved computer systems and software technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5640	High-Performance Computing	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	
EECE 7376	Operating Systems: Interface and Implementation	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 440)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 440)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 440)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 440)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

A maximum of three courses may be taken outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
EECE 5552	Assistive Robotics	
EECE 5640	High-Performance Computing	
EECE 5643	Simulation and Performance Evaluation	
EECE 5699	Computer Hardware and System Security	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7368	High-Level Design of Hardware-Software Systems	
EECE 7376	Operating Systems: Interface and Implementation	
EECE 7390	Computer Hardware Security	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5161	Thin Film Technologies	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5550	Mobile Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5576	Wireless Communication Systems	
EECE 5580	Classical Control Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5610	Digital Control Systems	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5639	Computer Vision	

EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5697	Acoustics and Sensing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240

EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7364	Mobile and Wireless Networking
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	

CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Computer Networks and Security with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Computer Networks and Security in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved computer networks and security technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete 8 semester hours from the following:		8
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5641	Introduction to Software Security	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7374	Fundamentals of Computer Networks	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 445)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 445)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 445)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 445)	4
Note: Depth courses cannot be taken for breadth.	
Electives	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

A maximum of three courses may be taken outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
CS 6760	Privacy, Security, and Usability	
CY 6740	Network Security	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5576	Wireless Communication Systems	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5640	High-Performance Computing	
EECE 5641	Introduction to Software Security	
EECE 5643	Simulation and Performance Evaluation	
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)	
EECE 5699	Computer Hardware and System Security	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7346	Probabilistic System Modeling and Analysis	
EECE 7364	Mobile and Wireless Networking	
EECE 7374	Fundamentals of Computer Networks	
EECE 7390	Computer Hardware Security	
EECE 7393	Analysis and Design of Data Networks	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Terahertz Communications)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 7800	Advanced Algorithms	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5580	Classical Control Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5610	Digital Control Systems	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5639	Computer Vision	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	

EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter

EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7376	Operating Systems: Interface and Implementation
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved computer vision, machine learning, and algorithms technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5554	Robotics Sensing and Navigation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 449)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 449)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 449)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 449)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

A maximum of three courses may be taken outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 7800	Advanced Algorithms	
EECE 5360	Combinatorial Optimization	
EECE 5550	Mobile Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5642	Data Visualization	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5645	Parallel Processing for Data Analytics	
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)	
EECE 7150	Autonomous Field Robotics	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7215	Introduction to Distributed Intelligence	
EECE 7323	Numerical Optimization Methods	
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization	
EECE 7352	Computer Architecture	
EECE 7370	Advanced Computer Vision	
EECE 7397	Advanced Machine Learning	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	
MATH 7233	Graph Theory	

BREADTH COURSES

Code	Title	Hours
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CY 5770	Software Vulnerabilities and Security	

CY 6740	Network Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5115	Dynamical Systems in Biological Engineering
EECE 5161	Thin Film Technologies
EECE 5170	Introduction to Multiferroics Materials and Systems
EECE 5552	Assistive Robotics
EECE 5576	Wireless Communication Systems
EECE 5580	Classical Control Systems
EECE 5606	Micro- and Nanofabrication
EECE 5610	Digital Control Systems
EECE 5641	Introduction to Software Security
EECE 5643	Simulation and Performance Evaluation
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control

EECE 7214	Optimal and Robust Control
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	

CS 5800	Algorithms
CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved electromagnetics, plasma, and optics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 7202	Electromagnetic Theory 1	
EECE 7203	Complex Variable Theory and Differential Equations	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
A maximum of two courses may be taken outside of Electrical and Computer Engineering.		
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 454)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 454)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 additional semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
A maximum of three courses may be taken outside of Electrical and Computer Engineering.		
Thesis		
EECE 7990	Thesis	8
Depth Courses		

Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 454)	4
Breadth Courses	
Complete 4 semester hours from the breadth course list below. (p. 454)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 additional semester hours from either depth or breadth courses.	8

Course Lists

DEPTH COURSES

Code	Title	Hours
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5697	Acoustics and Sensing	
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)	
EECE 7105	Optics for Engineers	
EECE 7202	Electromagnetic Theory 1	
EECE 7203	Complex Variable Theory and Differential Equations	
EECE 7270	Electromagnetic Theory 2	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7275	Antennas and Radiation	
EECE 7284	Optical Properties of Matter	
EECE 7293	Modern Imaging	
EECE 7296	Electronic Materials	
EECE 7297	Advanced Magnetic Materials—Magnetic Devices	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5161	Thin Film Technologies	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	

EECE 5576	Wireless Communication Systems
EECE 5580	Classical Control Systems
EECE 5606	Micro- and Nanofabrication
EECE 5610	Digital Control Systems
EECE 5626	Image Processing and Pattern Recognition
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication

EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the Program Requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved hardware and software for machine intelligence technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
A maximum of three courses may be taken outside of the electrical and computer engineering EECE subject code.		
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 459)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 460)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours of either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
A maximum of three courses may be taken outside of electrical and computer engineering.		
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. (p. 459)		4

Breadth Courses	
Complete 4 semester hours from the breadth course list below or other EECE courses chosen in consultation with a faculty advisor. (p. 460)	4
Note: Depth courses cannot be taken for breadth.	
Elective	
Complete 8 additional semester hours from either depth or breadth courses.	8

Course Lists

DEPTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5180	Reinforcement Learning and Sequential Decision Making	
CS 5335	Robotic Science and Systems	
CS 7340	Theory and Methods in Human Computer Interaction	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5612	Statistical Inference: An Introduction for Engineers and Data Analysts	
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5641	Introduction to Software Security	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5645	Parallel Processing for Data Analytics	
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)	
EECE 5699	Computer Hardware and System Security	
EECE 7150	Autonomous Field Robotics	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7215	Introduction to Distributed Intelligence	
EECE 7323	Numerical Optimization Methods	
EECE 7337	Information Theory	
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization	
EECE 7346	Probabilistic System Modeling and Analysis	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7368	High-Level Design of Hardware-Software Systems	
EECE 7370	Advanced Computer Vision	
EECE 7390	Computer Hardware Security	
EECE 7393	Analysis and Design of Data Networks	
EECE 7397	Advanced Machine Learning	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robotics)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Human Centered Computing)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	

EECE 7674	Master's Project (MS Thesis students cannot take this course)
IE 7615	Neural Networks and Deep Learning
MATH 7233	Graph Theory
PHIL 5010	AI Ethics

BREADTH COURSES

Code	Title	Hours
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5161	Thin Film Technologies	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5360	Combinatorial Optimization	
EECE 5576	Wireless Communication Systems	
EECE 5580	Classical Control Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5610	Digital Control Systems	
EECE 5626	Image Processing and Pattern Recognition	
EECE 5647	Nanophotonics	
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology	
EECE 5652	Microwave Circuits and Systems	
EECE 5665	Signal Processing for Global Navigation Satellite Systems	
EECE 5666	Digital Signal Processing	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680	
EECE 5682	Power Systems Analysis 1	
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684	
EECE 5688	Analysis of Unbalanced Power Grids	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5697	Acoustics and Sensing	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)	
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)	

EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 7105	Optics for Engineers
EECE 7200	Linear Systems Analysis
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7250	Power Management Integrated Circuits
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter
EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	

CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6350	Empirical Research Methods
CS 6710	Wireless Network

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved microsystems, materials, and devices technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5606	Micro- and Nanofabrication	
EECE 7201	Solid State Devices	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7353	VLSI Design	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 464)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 464)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 additional semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 464)		4
Breadth Courses		
Complete 4 semester hours from the breadth course list below. (p. 464)		4

Note: Depth courses cannot be taken for breadth.

Elective	
Complete 8 additional semester hours from either depth or breadth courses.	8

Course Lists

In the coursework option, a maximum of two courses may be taken outside of electrical and computer engineering. Thesis track students can take up to three courses outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
EECE 5161	Thin Film Technologies	
EECE 5606	Micro- and Nanofabrication	
EECE 5647	Nanophotonics	
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology	
EECE 5652	Microwave Circuits and Systems	
EECE 5693	Electromagnetic Devices for RF and Wireless Communications	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)	
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)	
EECE 7201	Solid State Devices	
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7247	Radio Frequency Integrated Circuit Design	
EECE 7250	Power Management Integrated Circuits	
EECE 7284	Optical Properties of Matter	
EECE 7296	Electronic Materials	
EECE 7297	Advanced Magnetic Materials—Magnetic Devices	
EECE 7353	VLSI Design	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	

EECE 5115	Dynamical Systems in Biological Engineering
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5170	Introduction to Multiferroics Materials and Systems
EECE 5550	Mobile Robotics
EECE 5552	Assistive Robotics
EECE 5554	Robotics Sensing and Navigation
EECE 5576	Wireless Communication Systems
EECE 5580	Classical Control Systems
EECE 5610	Digital Control Systems
EECE 5626	Image Processing and Pattern Recognition
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680
EECE 5682	Power Systems Analysis 1
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684
EECE 5688	Analysis of Unbalanced Power Grids
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7200	Linear Systems Analysis
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7211	Nonlinear Control
EECE 7213	System Identification and Adaptive Control
EECE 7214	Optimal and Robust Control
EECE 7215	Introduction to Distributed Intelligence
EECE 7224	Power Systems State Estimation
EECE 7226	Modeling and Simulation of Power System Transients
EECE 7228	Advanced Power Electronics
EECE 7270	Electromagnetic Theory 2

EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering with Concentration in Power Systems, MSECE

For program contact information, please visit this website (https://ece.northeastern.edu/academics/graduate-studies/ms-elee/).

The master's degree program in electrical and computer engineering offers in-depth coursework within the concentration-choice-related areas. The curriculum is integrated and intensive and is built on state-of-the-art research, taught by faculty who are experts in their areas.

Excluded Courses for All MSECE Concentrations

Students cannot take excluded courses as part of the MSECE program and may not petition to take these courses, as any petition to take these courses will be automatically rejected. Courses from the following subject areas may not count toward any concentration within the MSECE program: CSYE, ENSY, EMGT, INFO, SBSY, TELE. Select CS courses are also excluded from all MSECE concentrations. Please see the program requirements tab and your college administrator for more information.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Electrical and Computer Engineering with Concentration in Power Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Electrical and Computer Engineering with Concentration in Power Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 40-semester-hour degree and certificate will require 24 semester hours of advisor-approved power systems technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Fundamental Courses

Code	Title	Hours
Complete at least 8 semester hours from the following:		8
EECE 5680	Electric Drives	
EECE 5682	Power Systems Analysis 1	
EECE 5684	Power Electronics	
EECE 7200	Linear Systems Analysis	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Depth Courses		
Complete 12 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 468)		12
Breadth Courses		
Complete 8 semester hours from the breadth course list below. (p. 468)		8
Note: Depth courses cannot be taken for breadth.		
Elective		
Complete 4 semester hours from either depth or breadth courses.		4

THESIS OPTION

Code	Title	Hours
Thesis		
EECE 7990	Thesis	8
Depth Courses		
Complete 4 semester hours from the depth course list below. Any fundamental course not used to meet the fundamental course requirement can be used toward the depth course requirement. (p. 468)		4
Breadth Courses		
Complete 4 semester hours from the breadth course list below. (p. 468)		4

Note: Depth courses cannot be taken for breadth.

Elective	
Complete 8 semester hours from either depth or breadth courses.	8

Course Lists

In the coursework option a maximum of two courses may be taken outside of electrical and computer engineering. Thesis track students can take up to three courses outside of electrical and computer engineering.

DEPTH COURSES

Code	Title	Hours
EECE 5580	Classical Control Systems	
EECE 5610	Digital Control Systems	
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680	
EECE 5682	Power Systems Analysis 1	
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684	
EECE 5688	Analysis of Unbalanced Power Grids	
EECE 5698	Special Topics in Electrical and Computer Engineering (Electric Vehicles)	
EECE 7200	Linear Systems Analysis	
EECE 7211	Nonlinear Control	
EECE 7213	System Identification and Adaptive Control	
EECE 7214	Optimal and Robust Control	
EECE 7224	Power Systems State Estimation	
EECE 7226	Modeling and Simulation of Power System Transients	
EECE 7228	Advanced Power Electronics	
EECE 7250	Power Management Integrated Circuits	
EECE 7323	Numerical Optimization Methods	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Power System Constrained Optimization)	
EECE 7399	Preparing High-Stakes Written and Oral Materials (Only for PhD and MS Thesis students)	
EECE 7400	Special Problems in Electrical and Computer Engineering	
EECE 7674	Master's Project (MS Thesis students cannot take this course)	

BREADTH COURSES

Code	Title	Hours
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5600	Computer Systems	
CS 6200	Information Retrieval	
CS 6220	Data Mining Techniques	
CS 6410	Compilers	
CS 6510	Advanced Software Development	
CS 6760	Privacy, Security, and Usability	
CS 7800	Advanced Algorithms	
CY 5770	Software Vulnerabilities and Security	
CY 6740	Network Security	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5161	Thin Film Technologies	
EECE 5170	Introduction to Multiferroics Materials and Systems	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5576	Wireless Communication Systems	
EECE 5606	Micro- and Nanofabrication	

EECE 5626	Image Processing and Pattern Recognition
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5641	Introduction to Software Security
EECE 5642	Data Visualization
EECE 5643	Simulation and Performance Evaluation
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 5645	Parallel Processing for Data Analytics
EECE 5647	Nanophotonics
EECE 5649	Design of Analog Integrated Circuits with Complementary Metal-Oxide-Semiconductor Technology
EECE 5652	Microwave Circuits and Systems
EECE 5665	Signal Processing for Global Navigation Satellite Systems
EECE 5666	Digital Signal Processing
EECE 5693	Electromagnetic Devices for RF and Wireless Communications
EECE 5697	Acoustics and Sensing
EECE 5698	Special Topics in Electrical and Computer Engineering (Reinforcement Learning)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Organic and Printed Electronics)
EECE 5698	Special Topics in Electrical and Computer Engineering (Introduction to Quantum Engineering)
EECE 5698	Special Topics in Electrical and Computer Engineering (Biomedical Microsystems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Network Programming)
EECE 5698	Special Topics in Electrical and Computer Engineering (GNSS Signal Processing)
EECE 5698	Special Topics in Electrical and Computer Engineering (Feedback Control Systems: Applications to Unmanned Aerial Vehicles)
EECE 5698	Special Topics in Electrical and Computer Engineering (Networks: Technology, Economics, Social Interactions)
EECE 5698	Special Topics in Electrical and Computer Engineering (Photonic Devices for Communication Systems)
EECE 5698	Special Topics in Electrical and Computer Engineering (Design and Prototyping of Optical Systems for Engineering Applications)
EECE 5698	Special Topics in Electrical and Computer Engineering (Hardware and System Security)
EECE 5698	Special Topics in Electrical and Computer Engineering (Advanced Network Management)
EECE 5698	Special Topics in Electrical and Computer Engineering (Electromagnetic Devices)
EECE 7105	Optics for Engineers
EECE 7150	Autonomous Field Robotics
EECE 7201	Solid State Devices
EECE 7202	Electromagnetic Theory 1
EECE 7203	Complex Variable Theory and Differential Equations
EECE 7204	Applied Probability and Stochastic Processes
EECE 7205	Fundamentals of Computer Engineering
EECE 7215	Introduction to Distributed Intelligence
EECE 7240 and EECE 7248	Analog Integrated Circuit Design and Lab for EECE 7240
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)
EECE 7245	Microwave Circuit Design for Wireless Communication
EECE 7247	Radio Frequency Integrated Circuit Design
EECE 7270	Electromagnetic Theory 2
EECE 7271	Computational Methods in Electromagnetics
EECE 7275	Antennas and Radiation
EECE 7284	Optical Properties of Matter

EECE 7293	Modern Imaging
EECE 7296	Electronic Materials
EECE 7297	Advanced Magnetic Materials—Magnetic Devices
EECE 7310	Modern Signal Processing
EECE 7323	Numerical Optimization Methods
EECE 7336	Digital Communications
EECE 7337	Information Theory
EECE 7345	Big Data and Sparsity in Control, Machine Learning, and Optimization
EECE 7346	Probabilistic System Modeling and Analysis
EECE 7352	Computer Architecture
EECE 7353	VLSI Design
EECE 7364	Mobile and Wireless Networking
EECE 7368	High-Level Design of Hardware-Software Systems
EECE 7370	Advanced Computer Vision
EECE 7374	Fundamentals of Computer Networks
EECE 7376	Operating Systems: Interface and Implementation
EECE 7390	Computer Hardware Security
EECE 7393	Analysis and Design of Data Networks
EECE 7397	Advanced Machine Learning
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Low Power Integrated Circuits Design)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Security in Large-Scale Learning-Enabled Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Deep Learning Embedded Systems)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Wireless Network Systems and Applications)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Legged Robots)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Computer Architecture)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advances in Deep Learning)
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering (Advanced Radio Frequency Passive Technologies)
EECE 7399	Preparing High-Stakes Written and Oral Materials
MATH 7233	Graph Theory
ME 7247	Advanced Control Engineering

EXCLUDED COURSES FOR ALL MSECE CONCENTRATIONS

Please see your college administrator for more information.

Code	Title	Hours
Courses from the following subject areas may not count toward any concentration within the MSECE program:		
CSYE, ENSY, EMGT, INFO, SBSY, TELE		
The following CS courses may not count toward any concentration within the MSECE program:		
CS 5010	Programming Design Paradigm	
CS 5330	Pattern Recognition and Computer Vision	
CS 5340	Computer/Human Interaction	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CS 5800	Algorithms	
CS 6350	Empirical Research Methods	
CS 6710	Wireless Network	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Electrical and Computer Engineering Leadership, MSECEL

The Gordon Engineering Leadership Program is a transformational, technical, and challenging graduate-level learning experience targeted for engineering professionals.

The Gordon Institute, in collaboration with the College of Engineering, offers the Master of Science in Electrical and Computer Engineering Leadership (MSECEL) as formal recognition of the combined focus in electrical and computer engineering technical skills and midlevel engineers' leadership acumen and broadened cross-functional capabilities. This program is offered through participation in the Gordon Engineering Leadership Program at Northeastern University and requires an additional application to the Gordon program.

Pursuing the MSECEL and the graduate certificate allows participants to:

- Enhance technical knowledge in electrical and computer engineering
- Take part in a hands-on curriculum (p. 472) taught by industry-experienced professors
- Work with peers from across engineering fields on leadership skills development
- Receive one-on-one mentoring from industry experts and faculty

The Gordon Engineering Leadership Program anchors around an intense, market-worthy challenge project based on your organization's strategic needs. This is a unique opportunity to apply your classroom experience to a professional setting, potentially further accelerating your career.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Leadership		
ENLR 5121	Engineering Leadership 1	2
ENLR 5122	Engineering Leadership 2	2
Foundations		
ENLR 5131	Scientific Foundations of Engineering 1	2
ENLR 5132	Scientific Foundations of Engineering 2	2
Project		
ENLR 7440	Engineering Leadership Challenge Project 1	4
ENLR 7442	Engineering Leadership Challenge Project 2	4
Concentration Courses		
Complete 16 semester hours from any of the approved depth/breadth course lists within any of the seven EECE concentrations. Students are encouraged to take at least three courses within the same concentration.		16

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Mechanical and Industrial Engineering

Website (https://mie.northeastern.edu/academics/graduate-studies/)

Marilyn L. Minus, PhD
Professor and Chair

334 Snell Engineering Center
617.373.2740
617.373.2921 (fax)

Mechanical engineers design, develop, and support the manufacture of machinery and devices to transmit power or to convert energy from thermal to mechanical form in order to power the modern world and its machines. Traditionally, mechanical engineers have designed and tested devices, such as heating and air-conditioning systems, machine tools, internal combustion engines, and steam power plants. Today, they also play primary roles in the development of new technologies in a variety of fields—energy conversion, solar energy utilization, environmental control, prosthetics, transportation, manufacturing, robotics, and new-materials development.

Industrial engineers design and analyze systems that include people, equipment, and materials and their interactions and performance in the workplace. An industrial engineer collects this information and evaluates alternatives to make decisions that best advance the goals of the enterprise. Industrial engineers work in manufacturing firms, hospitals, banks, public utilities, transportation, government agencies, insurance companies, and construction firms. Among the projects they undertake are design and implementation of a computer-integrated supply chain or manufacturing system, facilities planning for a variety of industries, design of a robotics system in a manufacturing environment, long-range corporate planning, development and implementation of a quality-control system, simulation analyses to improve processes and make operational decisions, design of healthcare operations to enhance patient safety and improve efficiency, productivity, and development of computer systems for information control.

Mission of the Department

The mission of the Department of Mechanical and Industrial Engineering is to educate persons for professional and technical excellence; to perform research to advance the science and practice of engineering; to engage in service activities that advance the department, the university, and the profession; and to instill in ourselves and our students habits and attitudes that promote ethical behavior, professional responsibility, and careers that advance the well-being of society.

Academic Programs

The Department of Mechanical and Industrial Engineering offers comprehensive research and educational programs for both Master of Science and Doctor of Philosophy students. Our cutting-edge and vibrant doctoral programs include PhDs in industrial engineering, mechanical engineering, and an interdisciplinary engineering PhD (housed in the College of Engineering). Our MS degree programs are offered in both traditional mechanical and industrial engineering, as well as data analytics engineering, energy systems, engineering management, human factors, operations research, and advanced and intelligent manufacturing. These extensive programs and concentrations allow for the selection of a degree that meets a wide variety of personal and professional goals. Graduate students work with our world-renowned faculty to achieve research experience and their career goals and have opportunities to participate in the graduate cooperative education program.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (https://www.northeastern.edu/graduate/programs/#/certificate/engineering,leadership/-/-/-/-/-).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (https://www.northeastern.edu/graduate/program/graduate-certificate-in-engineering-leadership-5272/) in combination with the MS degree.

ENGINEERING BUSINESS

Students have the opportunity to pursue the Galante Engineering Business Certificate (https://www.northeastern.edu/graduate/program/galante-engineering-business-certificate-14806/) in combination with several MS degrees.

Programs

Doctor of Philosophy (PhD)

- Industrial Engineering (p. 475)
- Interdisciplinary Engineering (p. 357)
- Mechanical Engineering (p. 478)

Master of Science (MS)

- Advanced and Intelligent Manufacturing (p. 481)
- Data Analytics Engineering (p. 485)
- Human Factors (p. 490)

Master of Science in Industrial Engineering (MSIE)

- Industrial Engineering (p. 493)

Master of Science in Engineering Management (MSEM)

- Engineering Management (p. 497)

Master of Science in Energy Systems (MSEneS)

- Energy Systems (p. 504)
- Energy Systems—Academic Link Program (p. 507)

Master of Science in Mechanical Engineering (MSME)

- Mechanical Engineering with Concentration in General Mechanical Engineering (p. 509)
- Mechanical Engineering with Concentration in Mechanics and Design (p. 514)
- Mechanical Engineering with Concentration in Materials Science (p. 512)
- Mechanical Engineering with Concentration in Mechatronics (p. 517)
- Mechanical Engineering with Concentration in Thermofluids (p. 520)

Master of Science in Operations Research (MSOR)

- Operations Research (p. 523)

Graduate Certificate

- Data Analytics Engineering (p. 526)
- Energy Systems (p. 527)
- Energy Systems Management (p. 528)
- Engineering Business (p. 529)
- Engineering Economic Decision Making (p. 531)
- Engineering Management (p. 532)
- Lean Six Sigma (p. 533)
- Renewable Energy (p. 534)
- Software Engineering Systems (p. 554)
- Sustainable Energy Systems (p. 535)
- Supply Chain Engineering Management (p. 536)
- Technology Systems Management (p. 537)

Industrial Engineering, PhD

Requirements

The PhD is awarded to students who demonstrate high academic achievement and research competence in the fields of mechanical engineering. To earn a PhD, a student must complete an approved, rigorous program of advanced coursework and submit and defend an original dissertation of independent research. The Department of Mechanical and Industrial Engineering expects all successful doctoral candidates to show depth of knowledge and research innovation in their chosen field of specialization.

The MIE department admits applicants to the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements (both written and oral components) as well as all the required coursework.

Academic and Research Advisors

PhD students must find a research advisor within their first year of study. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Students are advised by the faculty advisor of their discipline before they select their research advisor(s). The research advisor and co-advisor (if applicable) must serve on the PhD student's oral examination, dissertation proposal, and dissertation defense committees.

Change of Research Advisor

Students who wish to change their research advisor need to use the MIE petition form to make that request. The petition form must be signed by the student and by the student's current and future research advisor. The signed petition form should then be submitted to the MIE department for further processing.

Course Requirements and Plan of Study

Each doctoral student, together with their research advisor, should develop an initial program during the first semester of study. The final program is also subject to the approval of the dissertation committee, who will add the program of study to the student's record upon admission to doctoral candidacy.

DIRECT ENTRY

A typical program of study includes at least 40 semester hours of coursework beyond a bachelor's degree. Students who apply to earn a master's degree along the way to a PhD must complete a total of 52 semester hours (32 semester hours to earn a master's degree and an additional 20 semester hours in order to earn a PhD). The 32 semester hours of coursework that apply toward the master's degree may include up to 8 semester hours of thesis or 4 semester hours of project or approved independent study coursework. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of Independent Study (IE 7978) as part of their required coursework. An independent study must be approved by the research advisor. When thesis or project is selected, an independent study course cannot be taken.

ADVANCED ENTRY

A typical program of study includes at least 20 semester hours of coursework beyond a master's degree. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of Independent Study (IE 7978) as part of their required coursework. An independent study must be approved by the research advisor.

PHD CANDIDACY

To qualify as a doctoral candidate, a doctoral student must successfully complete the doctoral qualifying requirements as well as all the required coursework.

Doctoral Qualifying Requirements

Doctoral qualifying requirements framework: The goal of the Doctoral Qualifying Examination is to: test a student's knowledge in fundamental topics; to gauge the student's potential to conduct independent research; and to provide opportunities for feedback to the student.

The Doctoral Qualifying Examination will be administered by a committee of at least three members, with a minimum of two who are full-time faculty members in the MIE department. The exam comprises both a written and an oral portion, with specifics determined by the faculty of each concentration. Complete details are provided to students in the PhD Qualifying Requirement Guidelines on the MIE department graduate website (https://mie.northeastern.edu/academics/graduate-studies/).

Upon successfully completing both the written and oral components in addition to all the necessary coursework, as specified by the student's concentration, the student will be designated as a PhD candidate.

Appeal Procedure

The doctoral qualifying requirements process provides means for reevaluation for students who fail one or more components to appeal the Graduate Affairs Committee decision. All communications related to these should be coordinated through the student's research advisor. Only the student's research advisor may request the MIE Graduate Affairs Committee to reevaluate the student's performance.

PhD Students Annual Review

All PhD students in the MIE department must complete the PhD Students Annual Review form with their research advisor(s) and submit any supporting documents. Annual reviews will be filed with the MIE Department of Graduate Affairs.

PhD Students Changing Their Program

PhD students who, for any reason, decide to change their degree program (i.e., from PhD in ME to PhD in IE or vice versa) must satisfy the doctoral qualifying requirements (based on the student's new major research area (i.e., industrial engineering, materials, mechanics, mechatronics, or thermofluids).

Interdisciplinary PhD Students with MIE as the Home Department

Students pursuing the College of Engineering interdisciplinary PhD program with the MIE department as their home department must satisfy the the MIE doctoral qualifying requirements. Students dismissed from the ME or IE PhD programs in the MIE department cannot enroll in the PhD Interdisciplinary Engineering program with MIE as the primary affiliation.

Dissertation Proposal Preparation and Presentation Timing

Students must present their dissertation proposal no more than 18 months after successfully completing the oral exam. In addition, the presentation of the dissertation proposal and the actual dissertation defense (see below) shall be no less than 6 months apart. The student's dissertation committee will invite any additional faculty deemed appropriate to that field; this dissertation committee will then conduct the dissertation proposal session. Each student's dissertation committee must be comprised of at least three members, including the research advisor. At least two of those three members must be full-time MIE faculty members. At least three committee members should hold a PhD and at least two shall be Northeastern University faculty. The chair of the dissertation committee shall be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD or an appropriate terminal degree for the discipline. Exceptions to this policy will be considered and, if appropriate, approved by the provost or their designee.

Dissertation Course Requirements

Upon successful completion of the doctoral qualifying requirements as well as all the required coursework, the doctoral candidate, in consultation with their research advisor, must register in two consecutive semesters (may include full summer term) for Dissertation Term 1 (IE 9990) and Dissertation Term 2 (IE 9991). Upon completion of this sequence, the student must then register for Dissertation Continuation (IE 9996) in every semester (in each fall and spring term and also in the summer term if summer is the student's last semester) until the dissertation is completed. Students may not register for Dissertation Continuation (IE 9996) until they fulfill the two-semester sequence of Dissertation Term 1 (IE 9990) and Dissertation Term 2 (IE 9991).

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Candidacy Preparation—Doctoral (IE 8960), in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Final Oral (Dissertation Defense) Examination

All doctoral candidates must pass a final oral exam. This exam will be scheduled once the dissertation committee agrees that the candidate's research is at a stage where it is appropriate for formal presentation and after completion of all other PhD requirements, including all the coursework approved in the final program of study. The objective of the exam is for the candidate to present and defend the results of the dissertation research and to demonstrate depth of knowledge and significant expertise in the area of that research under questioning from the dissertation committee and other attendees.

The exam shall be publicly advertised **at least one week in advance** and all faculty members may attend and participate. At the conclusion of the presentation and subsequent questions period, the dissertation committee will convene to determine the outcome. The committee may recommend that the candidate be awarded the PhD or may require additional research and/or modifications of the dissertation. In some cases, candidates may be asked to present an additional final oral dissertation defense.

Residency Requirement

After achieving PhD candidacy, the university residency requirement is satisfied by two semesters of full-time graduate registration or four semesters of part-time graduate registration. Students must be continually enrolled during the pursuit of dissertation.

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Recommended Courses		
Note: Semester hours can be counted toward coursework component with advisor approval.		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Coursework		
Requires 40 semester hours of coursework, including up to 4 semester hours of Independent Study (IE 7978).		40

Dissertation

Code	Title	Hours
Complete the following (must register in two consecutive semesters, which may include full summer term):		
IE 9990	Dissertation Term 1	
IE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Master's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

General Requirements

Code	Title	Hours
Recommended Courses		
Semester hours can be applied toward coursework component with advisor approval.		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Coursework		
Requires 20 semester hours of coursework, including up to 4 semester hours of Independent Study (IE 7978). Please consult your faculty advisor for acceptable courses.		20

Dissertation Courses

Code	Title	Hours
Complete the following two courses. Must register in two consecutive semesters (may include full summer term):		
IE 9990	Dissertation Term 1	
IE 9991	Dissertation Term 2	

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Mechanical Engineering, PhD

Requirements

The PhD is awarded to students who demonstrate high academic achievement and research competence in the fields of mechanical engineering. To earn a PhD, a student must complete an approved, rigorous program of advanced coursework and submit and defend an original dissertation of independent research. The Department of Mechanical and Industrial Engineering expects all successful doctoral candidates to show depth of knowledge and research innovation in their chosen field of specialization.

The MIE department admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements (both written and oral components) as well as all the required coursework.

Academic and Research Advisors

PhD students must find a research advisor within their first year of study. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Students are advised by the faculty advisor of their discipline before they select their research advisor(s). The research advisor and co-advisor (if applicable) must serve on the PhD student's oral examination, dissertation proposal, and dissertation defense committees.

Change of Research Advisor

Students who wish to change their research advisor need to use the MIE petition form to make that request. The petition form must be signed by the student and by the student's current and future research advisor. The signed petition form should then be submitted to the MIE department for further processing.

Course Requirements and Plan of Study

Each doctoral student, together with their research advisor, should develop an initial program during the first semester of study. The final program is also subject to the approval of the dissertation committee, who will add the program of study to the student's record upon admission to doctoral candidacy.

DIRECT ENTRY

A typical program of study includes at least 40 semester hours of coursework beyond a bachelor's degree. Students who choose to get a master's degree along the way to a PhD must complete a total of 52 semester hours (32 semester hours to earn a master's degree and an additional 20 semester hours in order to earn a PhD). The 32 semester hours of coursework that apply toward the master's degree may include up to 8 semester hours of thesis or 4 semester hours of project or approved independent study coursework. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of (ME 7978) as part of their required coursework. An independent study must be approved by the research advisor. When thesis or project is selected, an independent study course cannot be taken.

ADVANCED ENTRY

A typical program of study includes at least 20 semester hours of coursework beyond a master's degree. Students may petition the MIE Graduate Affairs Committee to substitute up to 4 semester hours of (ME 7978) as part of their required coursework. An independent study must be approved by the research advisor.

PHD CANDIDACY

To qualify as a doctoral candidate, a doctoral student must successfully complete the doctoral qualifying requirements as well as all the required coursework.

Doctoral Qualifying Requirements

DOCTORAL QUALIFYING REQUIREMENTS FRAMEWORK

The goals of the Doctoral Qualifying Examination are to test a student's knowledge in fundamental topics; to gauge the student's potential to conduct independent research; and to provide opportunities for feedback to the student.

The Doctoral Qualifying Examination will be administered by a committee of at least three members, with a minimum of two who are full-time faculty members in the MIE department. The exam comprises both a written and an oral portion, with specifics determined by the faculty of each concentration. Complete details are provided to students in the PhD Qualifying Requirement Guidelines on the MIE department graduate website (https://mie.northeastern.edu/academics/graduate-studies/).

Upon successfully completing both the written and oral components in addition to all the necessary coursework, as specified by the student's concentration, the student will be designated as a PhD candidate.

APPEAL PROCEDURE

The doctoral qualifying requirements process provides means for reevaluation for students who fail one or more components to appeal the Graduate Affairs Committee decision. All communications related to these should be coordinated through the student's research advisor. Only the student's research advisor may request the MIE Graduate Affairs Committee to reevaluate the student's performance.

PhD Students Annual Review

All PhD students in the MIE department must complete the PhD Students Annual Review form with their research advisor(s) and submit any supporting documents. Annual reviews will be filed with the MIE Department of Graduate Affairs.

PhD Students Changing Their Program

PhD students who, for any reason, decide to change their degree program (i.e., from PhD in ME to PhD in IE or vice versa) must satisfy the doctoral qualifying requirements (based on the student's new major research area (i.e., industrial engineering, materials, mechanics, mechatronics, or thermofluids).

Interdisciplinary PhD Students with MIE as the Home Department

Students pursuing the College of Engineering interdisciplinary PhD program with the MIE department as their home department must satisfy the MIE doctoral qualifying requirements. Students dismissed from the ME or IE PhD programs in the MIE department cannot enroll in the PhD in Interdisciplinary Engineering program with MIE as the primary affiliation.

Dissertation Proposal Preparation and Presentation Timing

Students must present their dissertation proposal no more than 18 months after successfully completing the oral exam. In addition, the presentation of the dissertation proposal and the actual dissertation defense (see below) shall be no less than 6 months apart. The student's dissertation committee will invite any additional faculty deemed appropriate to that field; this dissertation committee will then conduct the dissertation proposal session. Each student's dissertation committee must be comprised of at least three members, including the research advisor. At least two of those three members must be full-time MIE faculty members. At least three committee members should hold a PhD and at least two shall be Northeastern University faculty. The chair of the dissertation committee shall be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD or an appropriate terminal degree for the discipline. Exceptions to this policy will be considered and, if appropriate, approved by the provost or their designee.

Dissertation Course Requirements

Upon successful completion of the doctoral qualifying requirements as well as all the required coursework, the doctoral candidate, in consultation with their research advisor, must register in two consecutive semesters (may include full summer term) for Dissertation Term 1 (ME 9990) and Dissertation Term 2 (ME 9991). Upon completion of this sequence, the student must then register for Dissertation Continuation (ME 9996) in every semester (in each fall and spring term and also in the summer term if summer is the student's last semester) until the dissertation is completed. Students may not register for Dissertation Continuation (ME 9996) until they fulfill the two-semester sequence of Dissertation Term 1 (ME 9990) and Dissertation Term 2 (ME 9991).

PhD students who have completed the majority of their coursework and not yet reached PhD candidacy should register for Candidacy Preparation—Doctoral (ME 8960), in a section for which their research or academic advisor is listed as the instructor in the online registration system.

Final Oral (Dissertation Defense) Examination

All doctoral candidates must pass a final oral exam. This exam will be scheduled once the dissertation committee agrees that the candidate's research is at a stage where it is appropriate for formal presentation and after completion of all other PhD requirements, including all the coursework approved in the final program of study. The objective of the exam is for the candidate to present and defend the results of the dissertation research and to demonstrate depth of knowledge and significant expertise in the area of that research under questioning from the dissertation committee and other attendees.

The exam shall be publicly advertised **at least one week in advance** and all faculty members may attend and participate. At the conclusion of the presentation and subsequent questions period, the dissertation committee will convene to determine the outcome. The committee may recommend that the candidate be awarded the PhD or may require additional research and/or modifications of the dissertation. In some cases, candidates may be asked to present an additional final oral dissertation defense.

Residency Requirement

After achieving PhD candidacy, the university residency requirement is satisfied by two semesters of full-time graduate registration or four semesters of part-time graduate registration. Students must be continually enrolled during the pursuit of dissertation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Recommended Courses		
Note: Semester hours can be counted toward coursework component with advisor approval.		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Coursework		
Requires 40 semester hours of coursework, including up to 4 semester hours of Independent Study (ME 7978). Students who apply to earn an MS degree along the way to a PhD must complete a total of 52 semester hours (32 semester hours toward the sought MS degree and 20 semester hours beyond the earned MS degree). The 32 semester hours applied toward the master's degree may include up to 8 semester hours of MS Thesis or 4 semester hours of MS Project or approved independent study coursework. Please consult your faculty advisor for acceptable courses.		40

Dissertation

Code	Title	Hours
Complete the following two courses (must register in two consecutive semesters, which may include full summer term):		
ME 9990	Dissertation Term 1	
ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Recommended Courses (semester hours can be counted toward coursework component with adviser approval)		
MEIE 6830	Graduate Traineeship 1, Technical Writing and Communications	
MEIE 6860	Graduate Traineeship 2, Research Ethics and Professional Development	
Approved Course Work		
Requires 20 semester hours of coursework, including up to 4 semester hours of Independent Study (ME 7978). Please consult your faculty adviser for acceptable courses.		20

Dissertation

Code	Title	Hours
Complete the following two courses. Must register in two consecutive semesters (may include full summer term):		
ME 9990	Dissertation Term 1	
ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Advanced and Intelligent Manufacturing, MS

Overview

The Department of Mechanical and Industrial Engineering (MIE) offers the Master of Science in Advanced and Intelligent Manufacturing (MS in AIM) to meet the growing demand for engineers, researchers, and scientists trained in advanced manufacturing and Industry 4.0 technologies. This degree program offers students an opportunity to either train for industry jobs with coursework and co-op experience or prepare for a doctoral program through coursework and research experience. MIE department offers both core courses and elective courses required to complete the program. Students can take MS Project or MS Thesis under any MIE faculty. This program is designed for engineering and science students planning to pursue careers in advanced and smart manufacturing. The key sectors that require manufacturing professionals include automotive, aerospace, defense, appliances, computing machines, smartphones, and communication equipment. The MS in AIM program helps students acquire knowledge and skills to:

- Build digital (CAD) models of parts and products to support manual and computer-aided manufacturing
- Design, develop, and analyze traditional and advanced manufacturing processes
- Utilize additive manufacturing to produce complex parts with ease and efficiency
- Select manufacturing processes to fabricate parts and products for quality and cost
- Configure and analyze manufacturing systems for efficiency, responsiveness, and high throughput
- Understand the characteristics and challenges of nanomanufacturing processes
- Leverage Industry 4.0 technologies including internet of things, cloud computing, sensor analytics for advanced manufacturing
- Adopt condition-based maintenance strategies to achieve high resource utilization
- Apply automation, robotics, and artificial intelligence to make manufacturing smart and self-operational
- Use human-machine interaction tools such as augmented reality and virtual realty
- Analyze human performance in sociotechnical systems such as supply chains
- Apply data analytics methods to gain insights from design and manufacturing data

In the context of this program, the traditional manufacturing covers metal removal, forming, casting, and particulate processes. The additive manufacturing covers topics such as 3D-printed parts using different approaches. The nanomanufacturing covers fabrication as well as printing of micro and nano devices and design and creation of multifunctional materials. Intelligent manufacturing focuses on factory automation, prognostics and health management, dynamic scheduling, cloud-enabled manufacturing, and industrial internet of things for manufacturing performance assurance. It also leverages real-time data analytics and control systems, advanced high-fidelity models, networked data, and computation for seamless interoperation of cyber and physical assets in manufacturing facilities.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, statistics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Specific Degree Requirements

Core courses for the Master of Science in Advanced and Intelligent Manufacturing provide students with a foundation in traditional and advanced materials processing, additive manufacturing, intelligent manufacturing, and digital manufacturing. Students can select electives from a wide range of fields including mechanical engineering, industrial engineering, operations research, and engineering management. Alternatively, students can also take courses outside the MIE department by seeking a prior approval from their faculty advisor or MS thesis advisor. The course curriculum is designed to prepare students for industry jobs as well as for pursuing a doctoral program in manufacturing, mechanical engineering, and industrial engineering.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty in the MIE department. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (IE 7945) or Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute Independent Study (IE 7978) or (ME 7978) up to 4 semester hours. An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (IE 7990) or Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering are eligible to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6300	Manufacturing Methods and Processes	4
IE 7270	Intelligent Manufacturing	4
ME 5240	Computer Aided Design and Manufacturing	4
ME 5640	Additive Manufacturing	4

Restricted Elective Courses

Code	Title	Hours
Complete 4 semester hours from the following:		4
IE 6500	Human Performance	
ME 7374	Special Topics in Mechanical Engineering (Nano and Microscale Manufacturing)	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Elective Course List below.		12

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 8 semester hours from the Elective Course List below.		8

THESIS OPTION

Code	Title	Hours
IE 7990	Thesis	8
Complete 4 semester hours from the Elective Course List below.		4

Elective Course List

Code	Title	Hours
Industrial Engineering		
IE 5617	Lean Concepts and Applications	
IE 6200	Engineering Probability and Statistics	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7270	Intelligent Manufacturing	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
IE 7374	Special Topics in Industrial Engineering	
IE 7615	Neural Networks and Deep Learning	
IE 7945	Master's Project	
IE 7978	Independent Study	
IE 7990	Thesis	
IE 7996	Thesis Continuation - Half-Time	
Operations Research		
OR 7230	Probabilistic Operation Research	
OR 7235	Inventory Theory	
OR 7240	Integer and Nonlinear Optimization	
OR 7245	Network Analysis and Advanced Optimization	
OR 7310	Logistics, Warehousing, and Scheduling	
Materials Engineering		
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials	
MATL 7365	Properties and Processing of Electronic Materials	
Mechanical Engineering		
ME 5245	Mechatronic Systems	
ME 5250	Robot Mechanics and Control	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 5650	Advanced Mechanics of Materials	
ME 5659	Control Systems Engineering	
ME 7247	Advanced Control Engineering	
Engineering Management		
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] A thesis is required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship. The thesis topic should cover one or more of the areas from statistics, mathematics, optimization, data mining, machine learning, database design, big data, visualization tools, or forecasting methods. The thesis should train students for research in data and operations analytics and/or prepare them for a doctoral program.

Data Analytics Engineering, MS

For program contact information, please visit this website (https://mie.northeastern.edu/academics/graduate-studies/ms-daae/#_ga=2817169511782761919158431629 3-4047061391578954920).

The Department of Mechanical and Industrial Engineering offers the Master of Science in Data Analytics Engineering to meet the current and projected workforce demands. This degree program offers students an opportunity to train for industry jobs or to acquire rigorous analytical skills and research experience to prepare for a doctoral program in health, security, and sustainability at Northeastern University. While the core courses for this program are offered by the College of Engineering, students can choose elective courses from diverse disciplines spread across various colleges at Northeastern. The MS degree in data analytics engineering is designed to train students with engineering, science, mathematics, and statistics backgrounds as advanced data analytics professionals and researchers who can transform large streams of data into understandable and actionable information for the purpose of making decisions. The key sectors that require analytics professionals include healthcare, smart manufacturing, supply chain and logistics, national security, defense, banking, finance, marketing, human resources, and sports.

The Master of Science in Data Analytics Engineering program helps students acquire knowledge and skills to:

- Discover opportunities to improve products, processes, systems, and enterprises through data analytics
- Apply optimization, statistical, and machine-learning methods to solve complex problems involving large data from multiple sources
- Process and explore data from a variety of sources, including Internet of Things, an integrated network of devices and sensors, customer touch points, processes, social media, and people
- Work with technology teams to design and build large and complex SQL and NoSQL databases
- Use tools and methods for data mining, Big Data processing, and data visualization to generate reports for analysis and decision making
- Create integrated views of data collected from multiple sources of an enterprise
- Understand and explain results of data analytics to decision makers
- Design and develop data analytics projects

This degree program seeks to prepare students for a comprehensive list of tasks including collecting, storing, processing, and analyzing data; reporting descriptive statistics and patterns; performing diagnostic, predictive, and prescriptive analytics; drawing conclusions and insights; making actionable recommendations; and designing and managing data analytics projects.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, statistics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Specific Degree Requirements

Core courses for the Master of Science in Data Analytics Engineering provide students with a foundation in algorithms and optimization, statistics, data and knowledge engineering, data mining, and visualization. These courses are designed to provide students with a strong understanding of probability and statistics, statistical learning, optimization methods, data mining, database design, and visualization. Students can select electives from a wide range of fields including business, finance, engineering, healthcare, manufacturing, and urban communities/cities. Elective courses provide students with the knowledge and understanding of descriptive, prescriptive, diagnostic, and predictive analytics as applied to a specific field of interest such as business, healthcare, manufacturing, and urban communities/cities. Alternatively, students can select their electives so that they can prepare for a doctoral program by taking advanced courses in mathematics, statistics, machine learning, natural language processing, and pattern recognition.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty in the MIE department. However, if the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose the project option by taking Master's Project (IE 7945) . An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (IE 7978) . An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (Coursework Only, Project, or Thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of either Thesis (ME 7990) or Thesis (IE 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering are eligible to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567). Please note that students pursuing the Master of Science in Data Analytics Engineering are not eligible for the Graduate Certificate in Data Analytics Engineering.

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Data Analytics Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Data Analytics Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 semester hours of advisor-approved data analytics technical courses.

ENGINEERING BUSINESS

Master's Degree in Data Analytics Engineering with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Data Analytics Engineering in addition to earning a Graduate Certificate in Engineering Business (p. 529). Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the data analytics engineering core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business.

Experiential Option

The Master of Science in Data Analytics Engineering—One-Year Experiential program is designed to train students with engineering, science, mathematics, and statistics backgrounds as advanced data analytics professionals who can transform large streams of data into understandable and actionable information for the purpose of making decisions. This degree program offers students an opportunity to acquire rigorous data analytical skills through coursework and experiential learning components. Students in the accelerated program gain close connections with industry leaders and earn their degree in one year through a combination of credit-bearing experiential coursework, independent study, industry projects, and co-op.

The one-year program is designed for students and professionals who have the flexibility to engage in full-time study and an intensive three-semester curriculum. The program trains students for data-driven jobs in a wider variety of industries including smart manufacturing, healthcare, banking, finance, retail, and high-tech.

Admissions to the *experiential* option have been suspended.

Traditional Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6400	Foundations for Data Analytics Engineering	4
IE 6600	Computation and Visualization for Analytics	4
IE 6700	Data Management for Analytics	4
or DAMG 6210	Data Management and Database Design	
IE 7275	Data Mining in Engineering	4
OR 6205	Deterministic Operations Research	4
or CS 5800	Algorithms	

Options

Complete one of the following options:

COURSEWORK OPTION [1]

Code	Title	Hours
Complete 12 semester hours from the elective course list below.		12

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 8 semester hours from the elective course list below.		8

THESIS OPTION [2]

Code	Title	Hours
Complete 8 semester hours of thesis:		
IE 7990	Thesis	8
Complete 4 semester hours from the elective course list below.		4

Elective Course List

Any course in the following list will serve as an elective course, provided the course is offered and the student satisfied prerequisites and program requirements. Students can take electives outside this list with a prior approval from the faculty advisor.

Code	Title	Hours
Civil Engineering and Environmental Engineering		
CIVE 7100	Time Series and Geospatial Data Sciences	
Computer Science		
CS 5002	Discrete Structures	
CS 5004	Object-Oriented Design	
CS 5006	Algorithms	
CS 5100	Foundations of Artificial Intelligence	
CS 5150	Game Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5330	Pattern Recognition and Computer Vision	
CS 5335	Robotic Science and Systems	
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6200	Information Retrieval	
Data Science		

DS 5010	Introduction to Programming for Data Science
DS 5110	Introduction to Data Management and Processing
DS 5220	Supervised Machine Learning and Learning Theory
DS 5230	Unsupervised Machine Learning and Data Mining
Electrical and Computer Engineering	
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Engineering Management	
EMGT 5220	Engineering Project Management
EMGT 6225	Economic Decision Making
EMGT 6305	Financial Management for Engineers
Health Informatics	
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5102	Data Management in Healthcare
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5301	Evaluating Health Technologies
HINF 6202	Business of Healthcare Informatics
HINF 6240	Improving the Patient Experience through Informatics
HINF 6335	Management Issues in Healthcare Information Technology
HINF 6400	Introduction to Health Data Analytics
Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis
IE 6300	Manufacturing Methods and Processes
IE 6500	Human Performance
IE 7200	Supply Chain Engineering
IE 7215	Simulation Analysis
IE 7270	Intelligent Manufacturing
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7290	Reliability Analysis and Risk Assessment
IE 7295	Applied Reinforcement Learning in Engineering
IE 7300	Statistical Learning for Engineering
IE 7350	Sociotechnical Systems: Computational Models for Design and Policy
IE 7500	Applied Natural Language Processing in Engineering
IE 7615	Neural Networks and Deep Learning
Information Systems	
INFO 7390	Advances in Data Sciences and Architecture
Information Technology	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting
Mathematics	
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 7234	Optimization and Complexity
MATH 7243	Machine Learning and Statistical Learning Theory 1
MATH 7340	Statistics for Bioinformatics
MATH 7342	Mathematical Statistics
MATH 7343	Applied Statistics
MATH 7344	Regression, ANOVA, and Design
Network Science	
NETS 6116	Network Science 2
NETS 7341	Network Economics
NETS 7350	Bayesian and Network Statistics
Operations Research	
OR 6500	Metaheuristics and Applications
OR 7230	Probabilistic Operation Research

OR 7235	Inventory Theory
OR 7240	Integer and Nonlinear Optimization
OR 7245	Network Analysis and Advanced Optimization
OR 7270	Convex Optimization and Applications
OR 7310	Logistics, Warehousing, and Scheduling
Physics	
PHYS 5116	Network Science 1
PHYS 7332	Network Science Data 2
Public Policy and Urban Affairs	
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 7237	Advanced Spatial Analysis of Urban Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] The Project Option or Thesis Option may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

[2] A thesis is required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship. The thesis topic should cover one or more of the areas from statistics, mathematics, optimization, data mining, machine learning, database design, Big Data, visualization tools, or forecasting methods. The thesis should train students for research in data and operations analytics and/or prepare them for a doctoral program.

Experiential Program Requirements

Admissions to the Experiential MS Data Analytics Engineering program have been suspended.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 5374	Special Topics in Industrial Engineering	4
IE 6600	Computation and Visualization for Analytics	4
IE 6700	Data Management for Analytics	4
or DAMG 6210	Data Management and Database Design	
IE 7275	Data Mining in Engineering	4
IE 7280	Statistical Methods in Engineering	4
OR 6205	Deterministic Operations Research	4

Experiential Project Courses

Code	Title	Hours
Complete the following project courses in consultation with your Academic Advisor. IE 7978 must be taken during the final term.		
IE 7945	Master's Project	4
IE 7978	Independent Study	4

Co-op Experience

Code	Title	Hours
ENCP 6100	Introduction to Cooperative Education	1
ENCP 6964	Co-op Work Experience	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Human Factors, MS

Website (https://mie.northeastern.edu/academics/graduate-studies/ms-hf/)

This program addresses the growing need for engineering professionals trained in advanced human factors who can utilize human factors theories, procedures, and empirically derived knowledge into understandable and actionable information for use in the design and evaluation of a wide variety of products and systems. The key sectors demanding human factors professionals include transportation, healthcare, robotics, manufacturing, computer, consumer products, social, and organizational and military issues. The core courses of the Master of Science in Human Factors program are built on the foundations of human factors and ergonomics, probabilities and statistics, etc. Topics from these foundation areas are integrated to create human factors for engineering applications. Students can select their elective or breadth courses from a wide range of fields. The program seeks to prepare students for a comprehensive set of human-factors-related professional positions.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students may also petition to substitute a different course for a core course by demonstrating evidence of their having passed a similar approved IE or OR graduate course. In such situations, the students must first obtain approval from their academic advisor for the course(s) they are planning to substitute.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (IE 7945) . An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (IE 7978) . An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (IE 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by

the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Human Factors with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Human Factors in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved human factors technical courses.

ENGINEERING BUSINESS

Master's Degree in Human Factors with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Human Factors in addition to earning a Graduate Certificate in Engineering Business (p. 529). Students must apply and be admitted to the Galante Engineering Business Program (https://galante.sites.northeastern.edu/) in order to pursue this option. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the human factors core courses and 16 semester hours from the outlined business-skill curriculum.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6200	Engineering Probability and Statistics	4
IE 6500	Human Performance	4
IE 7280	Statistical Methods in Engineering	4
IE 7315	Human Factors Engineering	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 491)		16

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 491)		12

THESIS OPTION

Code	Title	Hours
IE 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 491)		8

Course List

Code	Title	Hours
College of Engineering		
CIVE 7388	Special Topics in Civil Engineering (Urban Informatics and Processing)	
EMGT 5300	Engineering/Organizational Psychology	

EMGT 6305	Financial Management for Engineers
EMGT 6600	Engineering Team Performance
GE 5010	Customer-Driven Technical Innovation for Engineers
GE 5020	Engineering Product Design Methodology
GE 5030	Iterative Product Prototyping for Engineers
GE 5100	Product Development for Engineers
IE 5137	Computational Modeling in Industrial Engineering
IE 5390	Structured Data Analytics for Industrial Engineering
IE 5617	Lean Concepts and Applications
IE 5630	Biosensor and Human Behavior Measurement
IE 5640	Data Mining for Engineering Applications
IE 6600	Computation and Visualization for Analytics
The following courses are available to students who concurrently enroll in the Graduate Certificate in Engineering Leadership. (p. 551)	
ENLR 5121	Engineering Leadership 1
ENLR 5122	Engineering Leadership 2
ENLR 5131	Scientific Foundations of Engineering 1
ENLR 5132	Scientific Foundations of Engineering 2
ENLR 7440	Engineering Leadership Challenge Project 1
ENLR 7442	Engineering Leadership Challenge Project 2
College of Social Sciences and Humanities	
ECON 7200	Topics in Applied Economics
ECON 7251	International Finance
College of Science	
PSYC 5180	Quantitative Methods 1
PSYC 5181	Quantitative Methods 2
PSYC 7300	Advanced Quantitative Analysis
PSYC 7301	Research Methodologies Psychology
Bouvé College of Health Sciences	
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing
EXSC 5220	Advanced Exercise Physiology
Khoury College of Computer Sciences	
CS 5340	Computer/Human Interaction
CS 6350	Empirical Research Methods
College of Arts, Media and Design	
ARTG 5150	Information Visualization Principles and Practices
ARTG 5310	Visual Cognition
ARTG 5330	Visualization Technologies 1: Fundamentals
ARTG 5600	Experience Design Studio 1: Principles
ARTG 5610	Design Systems
ARTG 5640	Prototyping for Experience Design
Design Research Methods	
ARTG 6310	Design for Behavior and Experience
GSND 6240	Exploratory Concept Design
GSND 6250	Spatial and Temporal Design
GSND 6330	Player Experience
GSND 6340	Biometrics for Design
D'Amore-McKim School of Business	
ENTR 6219	Financing Ventures from Early Stage to Exit

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Industrial Engineering, MSIE

Website (https://mie.northeastern.edu/academics/graduate-studies/ms-inde/#_ga=2.109915845178276191915843162 93-4047061391578954920)

The Department of Mechanical and Industrial Engineering (MIE) offers comprehensive research and educational programs for students pursuing the Master of Science (MS) in Industrial Engineering. Industrial engineering (IE) applies mathematical modeling and analytical tools to make better decisions for designing and managing efficient and effective systems. IE is applied in many areas, including healthcare systems, supply chains, logistics and transportation engineering, manufacturing, sustainability, resilient systems, energy systems, and human-in-the loop systems. We partner with organizations ranging from startups to well-established corporations, to government and nongovernment organizations. For example, our supply chain resilience research is trying to understand and mitigate persistent drug shortages in the United States. Our research in healthcare systems engineering uses methods from lean six-sigma tools to advanced mathematical models to improve system and product reliability and optimize healthcare process quality, delays, cost, efficiency, and effectiveness—national priorities. Recent healthcare applications include improvements in scheduling, readmissions, cost reductions, cancer care, and health services planning. We use stochastic and simulation modeling to study environmental issues related to green manufacturing, product recovery, and end-of-life management. We use data analytics for designing prognostics and preventive strategies for manufacturing operations. Our research and teaching together are designed to develop IE practitioners who can work, innovate, and excel in a variety of businesses. These extensive programs and course work allow for the selection of a degree that meets a wide variety of personal and professional goals.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: course work option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their course work but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students may also petition to waive a core course by demonstrating evidence of their having passed a similar approved IE or OR graduate course. In such situations, the students must first obtain approval from their academic advisor for the course(s) they are planning to substitute.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (IE 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing course work option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (IE 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (course work only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: course work only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research,

teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (IE 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.3 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Industrial Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Industrial Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved industrial engineering technical courses.

ENGINEERING BUSINESS

Master's Degree in Industrial Engineering with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Industrial Engineering in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the industrial engineering core courses and 16 semester hours from the outlined business-skill curriculum. The course work, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business (p. 529).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4
Complete 8 semester hours from the following:		8
IE 5400	Healthcare Systems Modeling and Analysis	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7275	Data Mining in Engineering	
IE 7315	Human Factors Engineering	

Options

Complete one of the following options:

COURSE WORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below.		16

PROJECT OPTION

Code	Title	Hours
IE 7945	Master's Project	4
Complete 12 semester hours from the course list below.		12

THESIS OPTION

Code	Title	Hours
IE 7990	Thesis (required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship)	8
Complete 8 semester hours from the course list below.		8

Course List

Code	Title	Hours
Computer Systems Engineering		
CSYE 7280	User Experience Design and Testing	
Data Analytics		
DA 5020	Collecting, Storing, and Retrieving Data	
Data Architecture Management		
DAMG 6210	Data Management and Database Design	
Engineering Management		
EMGT 5220	Engineering Project Management	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
General Engineering		
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
Industrial Engineering		
IE 5137	Computational Modeling in Industrial Engineering	
IE 5617	Lean Concepts and Applications	
IE 6300	Manufacturing Methods and Processes	
IE 6400	Foundations for Data Analytics Engineering	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7270	Intelligent Manufacturing	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7295	Applied Reinforcement Learning in Engineering	
IE 7300	Statistical Learning for Engineering	
IE 7315	Human Factors Engineering	
IE 7350	Sociotechnical Systems: Computational Models for Design and Policy	
Operations Research		
OR 6500	Metaheuristics and Applications	
OR 7230	Probabilistic Operation Research	
OR 7235	Inventory Theory	
OR 7240	Integer and Nonlinear Optimization	
OR 7245	Network Analysis and Advanced Optimization	
OR 7270	Convex Optimization and Applications	
OR 7310	Logistics, Warehousing, and Scheduling	
Supply Chain Management		
SCHM 6213	Global Supply Chain Strategy	
SCHM 6214	Sourcing and Procurement	
SCHM 6215	Supply Chain Analytics	
SCHM 6221	Sustainability and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	

Or any IE or OR courses

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Engineering Management, MSEM

The Master of Science in Engineering Management (https://mie.northeastern.edu/academics/graduate-studies/ms-engm/#_ga=2864457841782761919158431629 3-4047061391578954920) offers graduate students an opportunity to develop both technical expertise and business competence that is in high demand among prospective technology-based employers. Industry leaders are seeking qualified and talented individuals who are not only able to guide research and design teams but also able to direct and supervise development and production processes. The combination of technical proficiency and business skills fostered in the engineering management program is designed to provide a competitive edge for graduates seeking a wide range of positions in technology-based product or service industries, as well as in comparable local, state, and federal agencies and programs.

The program was designed by experienced high-level managers and academic leaders as an option for engineers and scientists to broaden their skill sets to include management tools and techniques that are applicable to technology-based industries. Graduates of the engineering management program work as project managers or leaders of teams in technology-based industries. Upon completion of the program, students find that their acquired skills are applicable to a wide range of industries, primarily those focused upon the development of technical products and the management of technical projects.

Graduates may assist companies in bringing a product from an idea through its development phases to its introduction to the marketplace. They may also be involved in forming and managing teams for assessing cost-effectiveness, formulating strategies to improve production, or analyzing a company's supply chain. Most of these projects cannot be successfully completed without the skills of those possessing a background in management decision-making and engineering expertise; therefore, the engineering management graduate is often a technical liaison to all levels of management. As a result, many of the assignments held by engineering management graduates have actually proven to be a gateway to upper-level management positions.

The current program of study can be taken on a part-time or full-time basis on-ground or online. There are four core courses required of all students, which have been formulated to satisfy the foundation requirements of economic decision making, decision-making mathematics, and project management. In addition to these required courses, the curriculum consists of electives that allow students to choose either a broad-based program of study or one centered on a particular concentration. Some students may elect to refresh or enhance their technical skills in engineering-based subjects such as information systems, computer systems engineering, or graduate courses from the traditional engineering disciplines. Other students may prefer to broaden their knowledge base by selecting coursework in management subjects such as engineering organizational psychology, financial management, logistics and warehousing, supply chain engineering, or lean systems design. Additionally, students may also elect to complete the Gordon Engineering Leadership Program as part of their engineering management degree.

One recent graduate has observed that "Northeastern's MSEM is like an MBA for engineers, with high-quality, dedicated professors who are proficient in their field yet are able to convey information in a way that's easy to understand." This graduate also noted, "My courses in project management have been key to understanding the subtleties that affect Project Managers while technical courses provide a strong background in fundamentals as well as specialty topics. My experience with co-op has been outstanding and has truly helped me further my career."

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51% or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (EMGT 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (EMGT 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (Coursework Only, Project, or Thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (EMGT 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Engineering Management with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Engineering Management in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved engineering management technical courses.

ENGINEERING BUSINESS

Master's Degree in Engineering Management with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Engineering Management in addition to earning a Graduate Certificate in Engineering Business. Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the engineering management core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in cocurricular professional development elements, earn the Graduate Certificate in Engineering Business (p. 529).

Experiential Option

The Master of Science in Engineering Management—One-Year Experiential program provides an accelerated, hands-on curriculum for students that want to develop the technical expertise, leadership insights, and business competence that is in high demand with technology-based employers and related government programs. It can be viewed as a suitable alternative to an MBA for engineers because in addition to providing a strong leadership and management education, it places a stronger focus on quantitative and analytical skills. Students will learn the art and science of planning, organizing, allocating resources, systems thinking, and directing activities with technological components. The interdisciplinary program bridges the gaps between engineering, technology, and business.

Students in the accelerated program gain close connections with industry leaders and earn their degree in one year through a combination of credit-bearing experiential coursework, independent study, industry projects, and co-op.

The one-year program is designed for students and professionals who have the flexibility to engage in full-time study and an intensive three-semester curriculum. **Admissions to the Experiential MSEM Engineering Management program have been suspended.**

Admissions to the *experiential* option have been suspended.

Traditional Program Requirements

Core Requirements

Complete all courses and requirements listed below unless otherwise indicated. Students may not register for more than 9 semester hours in the fall, spring, and summer terms.

Code	Title	Hours
Required Courses		
EMGT 5220	Engineering Project Management	4
EMGT 6225	Economic Decision Making	4
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 499)		16

PROJECT OPTION

Code	Title	Hours
EMGT 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 499)		12

THESIS OPTION

Code	Title	Hours
EMGT 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 499)		8

ONLINE OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 499)		16
Courses offered online can be found on the online course list below. (p. 501)		

COURSE LIST

Code	Title	Hours
CSYE 7280	User Experience Design and Testing	
DAMG 6210	Data Management and Database Design	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
EMGT 6600	Engineering Team Performance	
EMGT 6700	Digital Product Design and Management	
EMGT 7978	Independent Study	
ENSY 5000	Fundamentals of Energy System Integration	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5020	Engineering Product Design Methodology	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
IE 5137	Computational Modeling in Industrial Engineering	
IE 5374	Special Topics in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5500	Systems Engineering in Public Programs	

IE 5617 and IE 5618	Lean Concepts and Applications and Recitation for IE 5617
IE 5640	Data Mining for Engineering Applications
IE 6300	Manufacturing Methods and Processes
IE 6500	Human Performance
IE 6600	Computation and Visualization for Analytics
IE 6962	Elective
IE 7200	Supply Chain Engineering
IE 7215	Simulation Analysis
IE 7270	Intelligent Manufacturing
IE 7275	Data Mining in Engineering
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7290	Reliability Analysis and Risk Assessment
IE 7315	Human Factors Engineering
IE 7374	Special Topics in Industrial Engineering
IE 7615	Neural Networks and Deep Learning
INFO 6215	Business Analysis and Information Engineering
INFO 7245	Agile Software Development
INFO 7285	Organizational Change and IT
INFO 7385	Managerial Communications for Engineers
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 6200	Mathematical Methods for Mechanical Engineers 1
OR 6500	Metaheuristics and Applications
OR 6962	Elective
OR 7230	Probabilistic Operation Research
OR 7240	Integer and Nonlinear Optimization
OR 7245	Network Analysis and Advanced Optimization
OR 7270	Convex Optimization and Applications
OR 7310	Logistics, Warehousing, and Scheduling
OR 7374	Special Topics in Operations Research
TELE 5330	Data Networking
or any EMGT, IE or OR courses	
Electives Outside the College of Engineering	
A maximum of 9 semester hours may be taken from the following toward the elective requirement:	
DA 5020	Collecting, Storing, and Retrieving Data
ENTR 6212	Business Planning for New Ventures
ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENTR 6300	Managing a Technology-Based Business
ENTR 6340	The Technical Entrepreneur as Leader
INNO 6200	Enterprise Growth and Innovation
SCHM 6211	Logistics and Transportation Management
SCHM 6213	Global Supply Chain Strategy
SCHM 6214	Sourcing and Procurement
SCHM 6215	Supply Chain Analytics
SCHM 6221	Sustainability and Supply Chain Management
SCHM 6223	Managing Healthcare Supply Chain Operations
SCHM 6224	Demand Planning and Forecasting

Online Course List

Code	Title	Hours
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
ENSY 5000	Fundamentals of Energy System Integration	
IE 5640	Data Mining for Engineering Applications	
IE 6300	Manufacturing Methods and Processes	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
INFO 6215	Business Analysis and Information Engineering	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 6200	Mathematical Methods for Mechanical Engineers 1	
OR 7230	Probabilistic Operation Research	
OR 7240	Integer and Nonlinear Optimization	
OR 7310	Logistics, Warehousing, and Scheduling	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Experiential Program Requirements

Admissions to the Experiential MSEM Engineering Management program have been suspended.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
EMGT 5220	Engineering Project Management	4
EMGT 6225	Economic Decision Making	4
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Experiential Project Course

Code	Title	Hours
Complete the following project course in consultation with your Academic Advisor. EMGT 7978 must be taken during the final term.		
EMGT 7978	Independent Study	4

Co-op Experience

Code	Title	Hours
ENCP 6100	Introduction to Cooperative Education	1
ENCP 6964	Co-op Work Experience	

Electives

Code	Title	Hours
Complete 16 semester hours from the course list below.		16
CSYE 7280	User Experience Design and Testing	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
EMGT 7978	Independent Study	
ENSY 5000	Fundamentals of Energy System Integration	

GE 5010	Customer-Driven Technical Innovation for Engineers
GE 5020	Engineering Product Design Methodology
GE 5030	Iterative Product Prototyping for Engineers
GE 5100	Product Development for Engineers
IE 5137	Computational Modeling in Industrial Engineering
IE 5374	Special Topics in Industrial Engineering
IE 5390	Structured Data Analytics for Industrial Engineering
IE 5400	Healthcare Systems Modeling and Analysis
IE 5500	Systems Engineering in Public Programs
IE 5617	Lean Concepts and Applications
IE 5618	Recitation for IE 5617
IE 5640	Data Mining for Engineering Applications
IE 6300	Manufacturing Methods and Processes
IE 6500	Human Performance
IE 6600	Computation and Visualization for Analytics
IE 6962	Elective
IE 7200	Supply Chain Engineering
IE 7215	Simulation Analysis
IE 7270	Intelligent Manufacturing
IE 7275	Data Mining in Engineering
IE 7280	Statistical Methods in Engineering
IE 7285	Statistical Quality Control
IE 7290	Reliability Analysis and Risk Assessment
IE 7315	Human Factors Engineering
IE 7374	Special Topics in Industrial Engineering
IE 7615	Neural Networks and Deep Learning
INFO 6215	Business Analysis and Information Engineering
INFO 7245	Agile Software Development
INFO 7285	Organizational Change and IT
INFO 7385	Managerial Communications for Engineers
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 6200	Mathematical Methods for Mechanical Engineers 1
OR 6500	Metaheuristics and Applications
OR 6962	Elective
OR 7230	Probabilistic Operation Research
OR 7235	Inventory Theory
OR 7240	Integer and Nonlinear Optimization
OR 7245	Network Analysis and Advanced Optimization
OR 7270	Convex Optimization and Applications
OR 7310	Logistics, Warehousing, and Scheduling
OR 7374	Special Topics in Operations Research
TELE 5330	Data Networking
or any EMGT, IE or OR courses	

Electives outside the College of Engineering

A maximum of 9 semester hours may be taken from the following list toward the elective requirement:

DA 5020	Collecting, Storing, and Retrieving Data
ENTR 6200	
ENTR 6212	Business Planning for New Ventures
ENTR 6218	Business Model Design and Innovation
ENTR 6219	Financing Ventures from Early Stage to Exit
SCHM 6213	Global Supply Chain Strategy
SCHM 6214	Sourcing and Procurement
SCHM 6215	Supply Chain Analytics
SCHM 6221	Sustainability and Supply Chain Management

SCHM 6223	Managing Healthcare Supply Chain Operations
SCHM 6224	Demand Planning and Forecasting
TECE 6222	
TECE 6230	
TECE 6250	
TECE 6300	
TECE 6340	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Energy Systems, MSEneS

The Master of Science in Energy Systems (https://mie.northeastern.edu/academics/graduate-studies/ms-enes/) (MSEneS) integrates engineering, business, and policy into a high-level signature, multidisciplinary graduate program. Energy systems students have an opportunity to learn how to leverage business skills and public policy knowledge to accomplish their engineering goals. This program is ideal for the engineer or technical business major who is interested in pursuing an industrial or public-planning-based career.

The program's mission is to educate students in current and future energy systems technologies, to integrate energy-related technologies with the economics and financial considerations required to implement them, and to develop leadership and decision-making skills to implement energy systems in either the private or public sectors of the global market. The program will expose students to a combination of academic and corporate experience in energy systems.

The program curriculum features a multidisciplinary range of electives from five different academic colleges at Northeastern. The curriculum is flexibly designed with a set of four core courses in engineering knowledge and finance in addition to four electives. The core courses help relate these electives back to energy-related engineering concepts, including power strategies, energy renewal, sustainable energy solutions, energy storage, energy conversion, and energy efficiency. By integrating concepts across these disciplines, our students learn that implementing energy solutions requires an economic solution as well as an engineering one.

Students are exposed to business educators and practicing professionals and have the opportunity to participate in a six-month co-op experience. Practicing professionals with experience in the industry who have successfully implemented energy systems or devices and policies are actively involved in the program as adjunct professors and invited speakers. Through this curriculum and interaction with practitioners, students should be prepared to effectively integrate energy system development over a broad spectrum of technologies with the financial requirements to successfully implement them and to compete in the global energy market.

Successful graduates of the program will be involved in the decision making or policy planning that will deliver minimally polluting, energy-efficient systems to the global market. They will have the base training necessary to lead efforts within companies to plan and implement new energy-generation investments, realize energy-efficiency improvements specifically at the system level, and participate in energy and environmental markets such as cap-and-trade systems.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: course work option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their course work but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ENSY 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing course work option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (ENSY 7978). An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.3 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Energy Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Energy Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved energy systems technical courses.

Program Requirements

Core Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Required Courses		
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4
or FINA 6309	Foundations of Accounting and Finance	
ENSY 5000	Fundamentals of Energy System Integration	4
ME 6200	Mathematical Methods for Mechanical Engineers 1	4

Restricted Electives

Code	Title	Hours
Complete a minimum of 8 semester hours from the following:		8
CHME 5621	Electrochemical Engineering	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	

Other Electives

Code	Title	Hours
An additional 8 semester hours can either be taken from the list above or from the following list below or by approval of program director:		8
CHEM 5614	Electroanalytical Chemistry	
CHEM 5651	Materials Chemistry of Renewable Energy	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 5680	Electric Drives	
EECE 5682	Power Systems Analysis 1	
EECE 5684	Power Electronics	
EMGT 5220	Engineering Project Management	
ENSY 7374	Special Topics in Energy Systems	
ENSY 7945	Master's Project	
ENSY 7978	Independent Study	
ME 5690	Gas Turbine Combustion	
ME 7270	General Thermodynamics	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	

SBSY 5200	Sustainable Engineering Systems for Buildings
or any other ENSY course	

Online Course List

All required courses and many electives are offered as online courses.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Energy Systems, MSEneS—Academic Link Program

For program contact information, please visit the College of Engineering website (https://mie.northeastern.edu/academics/graduate-studies/ms-enes/).

Designing and implementing optimal methods to produce and utilize energy is one of the most pressing global issues today. Finding ways to implement these solutions that are sustainable and marketable is key. The energy systems Academic Link (AL) program is meant to provide engineering students who have not had any exposure to thermal sciences with the foundation skills necessary to create and implement energy solutions. Students begin the program by taking two core courses that cover topics across thermal sciences and math along with the general energy systems curriculum.

The AL core courses introduce students to the fundamentals that are necessary to be successful in the energy system program. AL courses are integrated with our multidisciplinary energy system curriculum that integrates engineering, business, and policy. Our curriculum is flexibly designed with a set of core courses in engineering and finance complemented by a range of electives across five different academic colleges. Our core and elective courses are designed to help to prepare students to lead the efforts to implement energy systems solutions that have a long-term positive effect on businesses and communities.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

Program Requirements

General Requirements

A minimum of 40 semester hours must be earned toward completion of the degree. A minimum grade-point average of 3.000 is required over all courses applied toward the degree.

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 20 semester hours from the following:		20
EMGT 6225	Economic Decision Making	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5050	Fundamentals of Thermal Science 1	
ENSY 5060	Fundamentals of Thermal Science 2	
ME 6200	Mathematical Methods for Mechanical Engineers 1	
Complete 4 semester hours from the following:		4
EMGT 6305	Financial Management for Engineers	
FINA 6309	Foundations of Accounting and Finance	

Restricted Electives List

Code	Title	Hours
Complete a minimum of 8 semester hours from the following:		8
CHME 5621	Electrochemical Engineering	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	

Other Electives List

Code	Title	Hours
An additional 8 semester hours can either be taken from the list above or from the list below or by approval of the program director:		8
CHEM 5614	Electroanalytical Chemistry	

CHEM 5651	Materials Chemistry of Renewable Energy
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage
EECE 5680	Electric Drives
EECE 5682	Power Systems Analysis 1
EECE 5684	Power Electronics
EMGT 5220	Engineering Project Management
ENSY 7374	Special Topics in Energy Systems
ENSY 7440	Energy Systems Engineering Leadership Challenge Project 1
ENSY 7442	Energy Systems Engineering Leadership Challenge Project 2
ENSY 7945	Master's Project
ENSY 7978	Independent Study
ME 5690	Gas Turbine Combustion
ME 7270	General Thermodynamics
ME 7300	Combustion and Air Pollution
ME 7305	Fundamentals of Combustion
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
SBSY 5200	Sustainable Engineering Systems for Buildings
or any other ENSY course	

Online Course List

All required courses and many electives are offered as online courses.

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Mechanical Engineering with Concentration in General Mechanical Engineering, MSME

Overview

While pursuing a Master of Science (MS) in Mechanical Engineering (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), students may choose the general mechanical engineering concentration.

GENERAL DEGREE REQUIREMENTS

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

ACADEMIC AND RESEARCH ADVISORS

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

PLAN OF STUDY AND COURSE SELECTION

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

OPTIONS FOR MS STUDENTS (COURSEWORK ONLY, PROJECT, OR THESIS)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

CHANGE OF PROGRAM/CONCENTRATION

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

GRADUATE CERTIFICATE OPTIONS

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with Concentration in General Mechanical Engineering with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with Concentration in General Mechanical Engineering in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved mechanical engineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mathematics Competency		
ME 6200	Mathematical Methods for Mechanical Engineers 1	4
Thermofluids Competency		
Complete 4 semester hours from the following:		4
ME 5685	Solar Thermal Engineering	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	
ME 7295	Multiscale Flow and Transport Phenomena	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
ME 7310	Computational Fluid Dynamics with Heat Transfer	
Mechanics/Mechatronics Combined Competency		
Complete 4 semester hours from the following:		4
EECE 5610	Digital Control Systems	
EECE 5666	Digital Signal Processing	
ME 5245	Mechatronic Systems	
ME 5250	Robot Mechanics and Control	
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5659	Control Systems Engineering	
ME 7238	Finite Element Method 2	
Materials Competency		
Complete 4 semester hours from the following:		4
ME 5600	Materials Processing and Process Selection	
ME 5620	Fundamentals of Advanced Materials	
MATL 5380	Particulate Materials Processing	
MATL 6250	Soft Matter	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials	
or any MATL courses		

OPTIONS

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours in the following subject areas:		16
ME, MATL		

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project	4
Electives		
Complete 12 semester hours in the following subject areas:		12
ME, MATL		

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis (required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship)	8
Electives		
Complete 8 semester hours in the following subject areas:		8
ME, MATL		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Mechanical Engineering with Concentration in Materials Science, MSME

For program contact information, please visit this website (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/).

Overview

While pursuing a Master of Science (MS) in Mechanical Engineering, students may choose materials science as a concentration. Materials science has been the key enabler in virtually all engineering breakthroughs that have occurred from early metal ages to the present nano age. In step with the scientific development and discovery of materials, members of the mechanical and industrial engineering (MIE) faculty are involved in interdisciplinary research to further materials processing, synthesis, and design. Research areas are aligned with Northeastern University's broad initiatives of sustainability, security, and health, as well as national initiatives in manufacturing and nanotechnology. Investigations in the areas of metals/alloys, polymers, biomaterials (including biomimetics), and composites incorporating nanoscale materials make use of experimental, theoretical, and computational techniques to tailor structure-processing-property relationships in materials for specific applications. Current areas of research include controlling synthesis and assembly processes to produce well-defined atomic structures; defect engineering; manipulating atomic/microstructures and the chemistry of materials to optimize properties for next-generation structural, electronic, and energy applications; solidification and deformation processing, nanomanufacturing; and life-cycle assessments for nanocomposites/materials. Northeastern faculty and students are committed to creative thinking and engineering innovation to propel materials development to the forefront of scientific research.

GENERAL DEGREE REQUIREMENTS

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

ACADEMIC AND RESEARCH ADVISORS

All nonthesis students are advised by the academic advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

PLAN OF STUDY AND COURSE SELECTION

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the instructor and the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

OPTIONS FOR MS STUDENTS (COURSEWORK ONLY, PROJECT, OR THESIS)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by

the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

CHANGE OF PROGRAM/CONCENTRATION

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

GRADUATE CERTIFICATE OPTIONS

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with Concentration in Materials Science with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with Concentration in Materials Science in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved materials science technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 16 semester hours from the following:		16
MATL 6250	Soft Matter	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials	
MATL 7355	Thermodynamics of Materials	
ME 5600	Materials Processing and Process Selection	
ME 5620	Fundamentals of Advanced Materials	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Electives		
Complete 16 semester hours in the following subject areas:		16
ME, MATL		

PROJECT OPTION

Code	Title	Hours
MATL 7945	Master's Project	4
Electives		
Complete 12 semester hours in the following subject areas:		12
ME, MATL		

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [1]	8
Electives		
Complete 8 semester hours in the following subject areas:		8
ME, MATL		

Program Credit/GPA Requirements

32 total semester hours required

[1] Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Mechanical Engineering with Concentration in Mechanics and Design, MSME

Overview

While pursuing a Master of Science (MS) in Mechanical Engineering with Concentration in Mechanics and Design (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), the students will study the motion, deformation, and failure of solid materials in response to the action of direct forces and external fields. The students will also get a chance to conduct research with faculty and observe how these studies will lead to key engineering innovations and designs. Using complementary analytical, computational, experimental, and design tools, the M&D faculty members conduct research in the design and analysis of engineered functional materials/structures, in mechanics of adhesion and contact, and in biomechanics and mechanobiology. For example, in our biomechanics research, we strive to close the gap between function, form, and disease in the bone by using experimental and computational techniques; also, we explore the mechanics of lipid-based drug delivery vesicles. At the small length scales, we are creating a new understanding of nanomechanics, contact mechanics, tribology, MEMS, and the application of nanomaterials for energy storage systems. Our research and teaching together are designed to prepare students to understand and exploit mechanics to enable their future engineering innovations.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with a Concentration in Mechanics and Design with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with a Concentration in Mechanics and Design in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved mechanics and design technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mathematics Competency		
Complete the following course:		
ME 6200	Mathematical Methods for Mechanical Engineers 1	4
Mechanics Competency		
Complete 12 semester hours from the following:		12
ME 5650	Advanced Mechanics of Materials	
ME 5654	Elasticity and Plasticity	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
ME 5659	Control Systems Engineering	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list.		16

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project	4
Complete 12 semester hours from the course list.		12

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [1]	8
Complete 8 semester hours from the course list.		8

Course List

Code	Title	Hours
ME 5240	Computer Aided Design and Manufacturing	
ME 5374	Special Topics in Mechanical Engineering (Fracture Mechanics and Adhesion in Biological Science)	
ME 5374	Special Topics in Mechanical Engineering (Inelasticity)	
ME 5658	Continuum Mechanics	
ME 5665	Musculoskeletal Biomechanics	

ME 6260	Introduction to Microelectromechanical Systems (MEMS)
ME 7232	Theory of Plates and Shells
ME 7238	Finite Element Method 2
ME 7374	Special Topics in Mechanical Engineering
Any other ME or MATL course	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Mechanical Engineering with Concentration in Mechatronics, MSME

While pursuing a Master of Science (MS) in Mechanical Engineering (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), students may choose mechatronics as a concentration. The term mechatronics is a combination of the words mechanics and electronics. Mechatronics is a multidisciplinary approach to product design and development, merging the principles of electrical, mechanical, computer, material, chemical, and industrial engineering. The mechatronics and systems research cluster in the MIE department is concerned with systems that are typically composed of traditional mechanical and electrical components but are rendered "intelligent" by the incorporation of sensors, actuators, and computer control systems. Our primary focus in mechatronics and systems is on intelligent and integrated systems and machines along with their practical applications ranging from manufacturing systems and robotic platforms to biological systems. Our research and teaching together are designed to prepare students to understand and exploit mechatronics to enable their future engineering innovations.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All non-thesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research adviser must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate

Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with a Concentration in Mechatronics with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with a Concentration in Mechatronics in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved mechatronics technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Mathematics Competency		
Complete 4 semester hours from the following:		4
ME 6200	Mathematical Methods for Mechanical Engineers 1	
or IE 6200	Engineering Probability and Statistics	
Mechanics Competency		
Complete 4 semester hours from the following:		4
ME 5250	Robot Mechanics and Control	
ME 5650	Advanced Mechanics of Materials	
ME 5655	Dynamics and Mechanical Vibration	
ME 5657	Finite Element Method 1	
Mechatronics Concentration		
ME 5245	Mechatronic Systems	4
ME 5659	Control Systems Engineering [1]	4
Electrical Competency		
Complete 4 semester hours from the following:		4
EECE 5610	Digital Control Systems	
EECE 5666	Digital Signal Processing	
EECE 5680 and EECE 5681	Electric Drives and Lab for EECE 5680	
EECE 5684 and EECE 5685	Power Electronics and Lab for EECE 5684	
ME 6260	Introduction to Microelectromechanical Systems (MEMS)	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the course list.		12

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project [2]	4
Complete 8 semester hours from the course list.		8

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [2, 3]	8
Complete 4 semester hours from the course list.		4

Course List

Code	Title	Hours
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5810	Design of Biomedical Instrumentation	
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5699	Special Topics in Civil Engineering (Vibration-Based Structural Health Monitoring)	
CIVE 7342	System Identification	
CS 5335	Robotic Science and Systems	
CS 5340	Computer/Human Interaction	
CS 7150	Deep Learning	
EECE 5115	Dynamical Systems in Biological Engineering	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5576	Wireless Communication Systems	
EECE 5606	Micro- and Nanofabrication	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
IE 5617	Lean Concepts and Applications	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	
IE 7300	Statistical Learning for Engineering	
IE 7315	Human Factors Engineering	
IE 7615	Neural Networks and Deep Learning	
ME 5240	Computer Aided Design and Manufacturing	
ME 5250	Robot Mechanics and Control	
ME 5665	Musculoskeletal Biomechanics	
ME 7247	Advanced Control Engineering	
Or any other ME or MATL course		
Or other advisor-approved courses		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

1 PlusOne students who have already successfully completed ME 4555 may substitute ME 5250 for ME 5659. In such cases a different course must be taken to satisfy the Mechanics competency.
2 It is the student's responsibility to identify a project/thesis advisor before registering for this course.
3 Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Mechanical Engineering with Concentration in Thermofluids, MSME

While pursuing a Master of Science (MS) in Mechanical Engineering (https://mie.northeastern.edu/academics/graduate-studies/ms-mece/), students may choose thermofluids as a concentration. Some of the representative research areas under this concentration may include thermodynamics, fluid dynamics, kinetic theory of gases, and thermophoresis of aerosols; microscale heat transfer phenomena and its effects on laser beam propagation; fundamentals of combustion such as burning speed and onset of auto-ignition measurement and flame stability analysis; development of chemistry reduction such as rate-controlled constrained-equilibrium method; formation and control of combustion-generated pollutants and greenhouse gases; chemistry, transport, and abatement of air pollution; alternative energy sources; combustion-based synthesis of materials; fire propagation, containment, and extinction; nonequilibrium thermodynamics; energy and gas turbine cooling technology; turbine blade cooling; and energy-related and calorimeter studies related to pharmaceutical developments. Our research and teaching together seek to prepare students to understand and exploit thermofluids to enable their future engineering innovations.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved course work (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: course work option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the course work requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their course work needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their course work but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (ME 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing course work option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour (ME 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (course work only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: course work only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of thesis. Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance and all faculty members and students may attend and participate. If deemed appropriate by the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.3 GPA, and have completed at least 8 semester hours of required course work in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Mechanical Engineering with a Concentration in Thermofluids with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Mechanical Engineering with a Concentration in Thermofluids in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved thermofluids technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

General Requirements

Code	Title	Hours
Required Core Courses		
ME 6200	Mathematical Methods for Mechanical Engineers 1	4
ME 7270	General Thermodynamics	4
ME 7275	Essentials of Fluid Dynamics	4
ME 7285	Heat Conduction and Thermal Radiation	4
or ME 7290	Convective Heat Transfer	
Thermofluids Concentration Course		
Complete 4 semester hours from the following:		4
ME 5685	Solar Thermal Engineering	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	
ME 7295	Multiscale Flow and Transport Phenomena	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
ME 7310	Computational Fluid Dynamics with Heat Transfer	

Options

Complete one of the following options:

COURSE WORK OPTION

Code	Title	Hours
Complete 12 semester hours from the course list.		12

PROJECT OPTION

Code	Title	Hours
ME 7945	Master's Project	4
Complete 8 semester hours from the course list.		8

THESIS OPTION

Code	Title	Hours
ME 7990	Thesis [1]	8
Complete 4 semester hours from the course list.		4

COURSE LIST

Code	Title	Hours
ME 5685	Solar Thermal Engineering	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	
ME 7295	Multiscale Flow and Transport Phenomena	
ME 7300	Combustion and Air Pollution	
ME 7305	Fundamentals of Combustion	
ME 7310	Computational Fluid Dynamics with Heat Transfer	

PROGRAM CREDIT/GPA REQUIREMENTS

32 total semester hours required
Minimum 3.000 GPA required

[1] Required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship.

Operations Research, MSOR

Website (https://mie.northeastern.edu/academics/graduate-studies/ms-opre/)

The Department of Mechanical and Industrial Engineering (MIE) offers comprehensive research and educational programs for students pursuing the Master of Science (MS) in Operations Research (OR). OR deals with the application of scientific method to decision making. Its practitioners develop and solve mathematical and computer models of systems using optimization and statistical methods. OR methodologies are being used to improve efficiency, reduce costs, and increase profitability in all organizations whether in manufacturing, transportation, logistics and supply chains, healthcare, or financial institutions. Upon graduation, students who pursue this program may work in industry or may continue their studies by pursuing the PhD in Industrial Engineering. These extensive programs and coursework allow for the selection of a degree that meets a wide range of personal and professional goals.

General Degree Requirements

To be eligible for admission to any of the MS degree programs, a prospective student must hold a Bachelor of Science degree in engineering, science, mathematics, or an equivalent field. Students in all master's degree programs must complete a minimum of 32 semester hours of approved coursework (exclusive of any preparatory courses) with a minimum grade-point average (GPA) of 3.000. Students can complete a master's degree by pursuing any of one of the three tracks: coursework option, project option, and thesis option. Specific degree requirements for each of these tracks can be found under the Program Requirements tab. Students may pursue any program either on a full-time or part-time basis; however, certain restrictions may apply.

Academic and Research Advisors

All nonthesis students are advised by the faculty advisor designated for their respective concentration or program. Students willing to pursue the thesis option must first find a research advisor within their first year of study. The research advisor will guide the students' thesis work, and thesis reader(s) may be assigned at the discretion of their research advisor. The research advisor must be a full-time or jointly appointed faculty. If the research advisor is outside the MIE department, before the thesis option can be approved, a faculty member with 51 percent or more appointments in the MIE department must be chosen as co-advisor, and a petition must be filed and approved by the co-advisor and the MIE Graduate Affairs Committee. Thesis option students are advised by the faculty advisor of their concentration before they select their research advisor(s). The research advisor and co-advisor must serve as thesis readers.

Plan of Study and Course Selection

It is recommended that all new students attend orientation sessions held by the MIE department and the Graduate School of Engineering to acquaint themselves with the coursework requirements and research activities of the department as well as with the general policies, procedures, and expectations.

In order to receive proper guidance with their coursework needs, all MS students are strongly encouraged to complete and submit a fully signed Plan of Study (PS) to the department before enrolling in second-semester courses. This form not only helps the students manage their coursework but it also helps the department to plan for requested course offerings. The PS form may be modified at any time as the students progress in their degree programs.

Students may also petition to waive a core course by demonstrating evidence of their having passed a similar approved IE or OR graduate course. In such situations, the students must first obtain approval from their academic advisor for the course(s) they are planning to substitute.

Students pursuing study or research under the guidance of a faculty member can choose project option by taking Master's Project (OR 7945). An MS project must be petitioned to the MIE Graduate Affairs Committee and approved by both the faculty member (instructor for Master's Project) and the student's academic advisor. The petition must clearly state the reason for taking the project course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme.

Students pursuing coursework option may petition the MIE Graduate Affairs Committee to substitute up to a 4-semester-hour Independent Study (OR 7978). An independent study must be approved by the academic advisor. The petition must clearly state the instructor; the reason for taking the course; a brief description of the goals; as well as the expected outcomes, deliverables, and grading scheme. Students in other options (i.e., thesis or project) are not eligible to take independent study. When taking thesis or project options, the independent study course cannot be taken.

Options for MS Students (coursework only, project, or thesis)

Students accepted into any of the MS programs in the MIE department can choose one of the three options: coursework only, project, or thesis. Please see the Program Requirements tab on the top menu of this page for more information. MS students who want to pursue project or thesis options must find, within the first year of their study, a faculty member or a research advisor who will be willing to direct and supervise a mutually agreed research project or MS thesis. Moreover, students who receive financial support from the university in the form of a research, teaching, or tuition assistantship must complete 8 semester hours of Thesis (ME 7990). Students are strongly encouraged to complete their 8 semester hours of Thesis (ME 7990) over two consecutive semesters.

Students who complete the thesis option must make a presentation of their thesis before approval by the department. The MS thesis presentation shall be publicly advertised at least one week in advance, and all faculty members and students may attend and participate. If deemed appropriate by

the research advisor, other faculty members may be invited to serve as thesis readers to provide technical opinions and judge the quality of the thesis and presentation.

Change of Program/Concentration

Students enrolled in any of the MIE department programs or concentrations may change their current program or concentration no sooner than the beginning of their second full-time semester of study. In order for the program or concentration change request to be considered by the MIE Graduate Affairs Committee, the student must not be in the first semester of their current program, must have a 3.300 GPA, and have completed at least 8 semester hours of required coursework in their sought program at Northeastern.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Operations Research with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Operations Research in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved operations research technical courses.

ENGINEERING BUSINESS

Master's Degree in Operations Research with Graduate Certificate in Engineering Business

Students may complete a Master of Science in Operations Research in addition to earning a Graduate Certificate in Engineering Business (p. 529). Students must apply and be admitted to the Galante Engineering Business Program in order to pursue this option. The program requires the applicant to have earned or be in a program to earn a Bachelor of Science in Engineering from Northeastern University. The integrated 32-semester-hour degree and certificate will require 16 semester hours of the operations research core courses and 16 semester hours from the outlined business-skill curriculum. The coursework, along with participation in co-curricular professional development elements, earn the Graduate Certificate in Engineering Business.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 6200	Engineering Probability and Statistics	4
or MATH 7241	Probability 1	
OR 6205	Deterministic Operations Research	4
OR 7245	Network Analysis and Advanced Optimization	4
or MATH 7234	Optimization and Complexity	
OR 7230	Probabilistic Operation Research	4
or MATH 7341	Probability 2	

Options

Select one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below.		16

PROJECT OPTION

Code	Title	Hours
OR 7945	Master's Project	4
Complete 12 semester hours from the course list below.		12

THESIS OPTION

Code	Title	Hours
OR 7990	Thesis (required for all students who receive financial support from the university in the form of a research, teaching, or tuition assistantship)	8
Complete 8 semester hours from the course list below.		8

Course List

Code	Title	Hours
Civil Engineering and Environmental Engineering		
CIVE 7100	Time Series and Geospatial Data Sciences	
Computer Science		
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 7805	Complexity Theory	
Computer Systems Engineering		
CSYE 7280	User Experience Design and Testing	
Data Science		
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
General Engineering		
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
Electrical and Computer Engineering		
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
Engineering Management		
EMGT 5220	Engineering Project Management	
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
Industrial Engineering		
IE 5374	Special Topics in Industrial Engineering (Data Visualization Engineering)	
IE 5374	Special Topics in Industrial Engineering (Human Performance in Sociotechnical Systems)	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5500	Systems Engineering in Public Programs	
IE 5617	Lean Concepts and Applications	
IE 6300	Manufacturing Methods and Processes	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
Mathematics		
MATH 7233	Graph Theory	
MATH 7342	Mathematical Statistics	
MATH 7349	Stochastic Calculus and Introduction to No-Arbitrage Finance	
Operations Research		
OR 6500	Metaheuristics and Applications	
OR 7235	Inventory Theory	
OR 7240	Integer and Nonlinear Optimization	
OR 7270	Convex Optimization and Applications	
OR 7310	Logistics, Warehousing, and Scheduling	
Or any other IE, OR, MATH, CS, and graduate engineering courses		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Analytics Engineering, Graduate Certificate

The Data Analytics Engineering Graduate Certificate program focuses on fundamental concepts, tools and techniques to extract information from large data sets in order to support effective decision making. This program is designed to provide opportunities for students to master high-demand data intelligence skills through hands-on experience on data storage, data retrieval, data visualization and prediction.

This four-course graduate certificate enables the students to apply the fundamentals of engineering knowledge and skills to database design, data pre- and post-processing for further analysis, data visualization for impactful infographics, statistical concepts for quantitative analysis and data mining techniques and algorithms for knowledge discovery.

Note: MS in Data Analytics students are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
DAMG 6210	Data Management and Database Design	4
IE 6600	Computation and Visualization for Analytics	4
IE 7275	Data Mining in Engineering	4
IE 7280	Statistical Methods in Engineering	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Energy Systems, Graduate Certificate

The Graduate Certificate in Energy Systems focuses on the combination of analysis and integration of energy systems engineering technology with financial planning and attention to business aspects and effective implementation.

This four-course graduate certificate seeks to offer students opportunities to apply the fundamentals of engineering knowledge and skills to analyze energy systems to propose effective and efficient technology solutions based on data-driven and economic-based decisions.

Note: Students enrolled in the master's in energy systems program are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4
ENSY 5000	Fundamentals of Energy System Integration	4

Elective

Code	Title	Hours
Complete one of the following:		4
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 5685	Solar Thermal Engineering	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Energy Systems Management, Graduate Certificate

The Graduate Certificate in Energy Systems Management focuses on the combination of analysis and integration of energy systems engineering technology with a focus on the art and the science of planning, organizing, allocating, directing, and controlling the activities and resources of organizations engaged in engineering activities and technology development.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills in a management setting to analyze energy systems and to propose effective and efficient technology solutions based on data-driven and economic-based decisions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENSY 5000	Fundamentals of Energy System Integration	4
EMGT 5220	Engineering Project Management	4

Electives

Code	Title	Hours
Complete one of the following:		4
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
Complete one of the following:		4
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5400	Power Plant Design and Analysis	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ME 5685	Solar Thermal Engineering	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Engineering Business, Graduate Certificate

The Graduate Certificate in Engineering Business is part of the Galante Engineering Business Program. The Galante Engineering Business Program offers a progressive opportunity for engineering students to complement their technical engineering education with business skills. Galante is founded on the values of student engagement and leadership to strengthen interpersonal and professional skills.

The certificate seeks to provide students opportunities to apply the technical aspects of an engineering skill foundation in corporate settings through both academic and programmatic elements. Programmatic elements include workshops, speaker series, site visits, seminars, and other related personal and professional development activities as a connected cohort. These activities equip students to manage projects, lead people, make data-driven and market-based decisions, and advance economically sound initiatives.

The Galante Engineering Business Program can be completed alongside a Master of Science in Engineering Management, Industrial Engineering, Operations Research, Data Analytics Engineering, Civil Engineering with a Concentration in Construction Management, and Chemical Engineering. There are two possible paths to earning the Graduate Certificate in Engineering Business. The first option is to begin an eligible PlusOne program and then apply for the Galante Engineering Business Program. The second option is for those who have completed their BS in engineering in good standing and have been admitted to a master's program listed above. Please note that the BS in engineering needs to be completed at Northeastern.

The Graduate Certificate in Engineering Business involves 15 semester hours from four courses across three categories. These four courses count as the electives required for each of the master's programs above. Students need to ensure that these four courses are cross-listed with the master's program.

Refer to the Galante Engineering Business Program webpage (http://www.coe.neu.edu/galante/) for additional details and description.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete four courses from at least three of the following categories. Students can only take one course from outside the College of Engineering.		15
Business Innovation Development		
ENTR 6212	Business Planning for New Ventures	
ENTR 6218	Business Model Design and Innovation	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5020	Engineering Product Design Methodology	
GE 5030	Iterative Product Prototyping for Engineers	
GE 5100	Product Development for Engineers	
Organizational Excellence		
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6600	Engineering Team Performance	
IE 5617	Lean Concepts and Applications	
SCHM 6201	Operations and Supply Chain Management	
SCHM 6223	Managing Healthcare Supply Chain Operations	
Financial Analysis		
ACCT 6200	Financial Reporting and Managerial Decision Making 1	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ENTR 6219	Financing Ventures from Early Stage to Exit	
Information and Business Analysis		
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
DA 5030	Introduction to Data Mining/Machine Learning	
DAMG 6210	Data Management and Database Design	
DAMG 7290	Data Warehousing and Business Intelligence	
DS 5110	Introduction to Data Management and Processing	
IE 5640	Data Mining for Engineering Applications	

IE 6600	Computation and Visualization for Analytics
INFO 6215	Business Analysis and Information Engineering

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Engineering Economic Decision Making, Graduate Certificate

The Graduate Certificate in Engineering Economic Decision Making focuses on developing economic decision-making skills in the context of engineering operations and projects with attention to decision-making models, causes of risk and uncertainty, decisions under uncertainty, and ways to change and influence the degree of risk and uncertainty.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills in a management setting to build decision-making models and to make data-driven, financial-based, and economic-based decisions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Engineering Management, Graduate Certificate

The Graduate Certificate in Engineering Management focuses on bridging the gaps between the fields of engineering, technology, and business with a focus on the art and the science of planning, organizing, allocating, directing, and controlling the activities and resources of organizations engaged in engineering activities and technology development.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills in a management setting to build decision-making models and make data-driven and/or economic-based decisions.

Note: Students enrolled in the master's in engineering management program are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
EMGT 5220	Engineering Project Management	4
EMGT 6225	Economic Decision Making	4
IE 6200	Engineering Probability and Statistics	4

Elective

Code	Title	Hours
Complete one of the following:		4
EMGT 5300	Engineering/Organizational Psychology	
EMGT 6305	Financial Management for Engineers	
OR 6205	Deterministic Operations Research	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Lean Six Sigma, Graduate Certificate

The Graduate Certificate in Lean Six Sigma focuses on enhancing engineering knowledge and skills with the fundamentals of lean manufacturing thinking and six sigma concepts to improve business processes through optimizing flow, eliminating waste, and emphasizing quality.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of lean six sigma concepts across an enterprise to contribute to an organization's continuous improvement initiatives by identifying and employing lean and quality tools and techniques, along with utilizing statistical methods to achieve quality control.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 5617	Lean Concepts and Applications	4
IE 6200	Engineering Probability and Statistics	4
IE 7280	Statistical Methods in Engineering	4
IE 7285	Statistical Quality Control	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Renewable Energy, Graduate Certificate

The Graduate Certificate in Renewable Energy focuses on the combination of analysis and integration of energy systems engineering technology with key renewable engineering technology, including solar and wind generation, with environmental protection and manufacturing considerations.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to analyze energy systems with a specific focus on renewable energy technologies along with EPA regulatory structure, including the LEED certification program, as well as industrial ecology, including life-cycle analysis and technical cost modeling.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENSY 5000	Fundamentals of Energy System Integration	4
ENSY 5585	Wind Energy Systems	4
ME 5685	Solar Thermal Engineering	4

Elective

Code	Title	Hours
Complete one of the following:		4
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Sustainable Energy Systems, Graduate Certificate

The Graduate Certificate in Sustainable Energy Systems focuses on the integration of energy systems engineering technology with sustainable building systems, including the design and operation of buildings with minimal energy and environmental impact.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to analyze energy systems as they relate to sustainable engineering building design with a focus on renewable energy with LEED certification or with a focus on industrial ecology, including life-cycle analysis and technical cost modeling.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
SBSY 5200	Sustainable Engineering Systems for Buildings	4
ENSY 5000	Fundamentals of Energy System Integration	4

Electives

Code	Title	Hours
Complete two of the following:		8
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5585	Wind Energy Systems	
ME 5685	Solar Thermal Engineering	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Supply Chain Engineering Management, Graduate Certificate

The Graduate Certificate in Supply Chain focuses on acquiring and applying the knowledge and skills associated with designing, analyzing, managing, and improving supply chains within technology companies with attention on optimizing parts of a supply chain for effective and efficient functioning.

This four-course graduate certificate seeks to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to supply chains using deterministic and probabilistic decision-making models, lean concepts, mass customization principles, and methods of manufacturing including logistics, warehousing, and scheduling.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
IE 5617	Lean Concepts and Applications	4
IE 7200	Supply Chain Engineering	4

Electives

Code	Title	Hours
Complete two of the following:		8
EMGT 5300	Engineering/Organizational Psychology	
IE 6200	Engineering Probability and Statistics	
IE 6300	Manufacturing Methods and Processes	
OR 7310	Logistics, Warehousing, and Scheduling	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Technology Systems Management, Graduate Certificate

The Graduate Certificate in Technology Systems Management focuses on bridging the fields of technology, engineering, and business with a focus on the art and the science of managing organizational activities, including project and human resources engaged in engineering and technology development.

This four-course graduate certificate seeks to provide students with opportunities to apply technological knowledge and skills in a management setting to make data-driven, financial-based, and economic-based decisions.

Note: This certificate is for graduate engineering students as well as non-engineers and non-graduate engineering students.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
EMGT 5220	Engineering Project Management	4
EMGT 5300	Engineering/Organizational Psychology	4
EMGT 6225	Economic Decision Making	4
EMGT 6305	Financial Management for Engineers	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Multidisciplinary Programs

Website (http://www.coe.neu.edu/graduate-school/multidisciplinary/)

Dana Research Center, 5th Floor

617.373.5424

The multidisciplinary graduate engineering Master of Science programs integrate engineering solutions from the fields of technology and business by developing technical and engineering skills through advanced coursework and complex technical projects. Each program focuses on the application of knowledge and skills to business and industrial settings. The software, data, and network systems programs blend academic and corporate experience to enable students to enhance their professional capabilities, thereby facilitating career transformation. Given an applied focus, each program provides learning opportunities to develop the skills needed to create innovative, practical, and effective solutions that can be easily applied to current professional challenges.

The multidisciplinary graduate engineering programs are designed to prepare students for direct entry into the workforce. Students who are seeking preparation for entry into PhD programs should consider specific department MS programs (p. 334) aligned with their research interests.

Graduate Certificate Options

Students enrolled in a graduate degree program in the College of Engineering have the opportunity to pursue an engineering graduate certificate in addition to or in combination with the MS degree. For more information please refer to Graduate Certificate Programs (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP OPTION

Students have the opportunity to pursue the Gordon Engineering Leadership Program (p. 1145) in combination with the MS degree.

Programs

Master of Science in Information Systems (MSIS)

- Information Systems (p. 539)
- Information Systems—Bridge (p. 541)

Master of Science (MS)

- Cyber-Physical Systems (p. 542)
- Data Architecture and Management (p. 544)
- Software Engineering Systems (p. 545)
- Telecommunication Networks (p. 547)

Graduate Certificates

- Blockchain and Smart Contract Engineering (p. 549)
- Broadband Wireless Systems (p. 550)
- Engineering Leadership (p. 551)
- IP Telephony Systems (p. 553)
- Software Engineering Systems (p. 554)

Information Systems, MSIS

We offer cutting-edge expertise in a variety of courses that combine technological advances and business practices. We stress creative and inventive approaches to problem solving, which necessitates empowering students so that they can take charge of their own software projects to become originally productive. Our information systems program (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-insy/) is as much an art as a science. It bypasses mechanical learning and highlights the value and excitement of engineering thinking that gets things done efficiently as well as imaginatively. We balance theory and practice, on the premise that they are always intertwined and interdependent.

We seek to provide a basic foundation for our students and then seek to push them to new heights to advance their information technology skills in a way that keeps up and, better yet, exceeds the necessarily fast pace of this progressive field. It is not for us just a question of not being left behind; we strive to be at the forefront of software innovation in an effort to transform contemporary society even more radically than technology has already done—to take gigantic strides in business, medicine, education, and security.

The program offers a wide range of courses that reflect current and future industry trends:

- Cryptocurrency and Smart Contract Engineering
- Engineering of Big-Data Systems
- Business Intelligence and Data Analytics
- Cyber-Security Engineering and Development
- Digital Business
- Full-Stack Software Engineering
- User Experience Design
- Data Science and Machine Learning Systems Engineering

Gordon Institute of Engineering Leadership

MASTER'S DEGREE IN INFORMATION SYSTEMS WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a master's degree in Information Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved information systems technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INFO 5100 and INFO 5101	Application Engineering and Development and Lab for INFO 5100	4

General Information Systems Concentration

Code	Title	Hours
Complete 16 semester hours from the following subject code:		16
INFO		

Electives

Code	Title	Hours
Complete 12 semester hours from the following subject codes: [1]		12
CSYE (except CSYE 6220)		
DAMG		
INFO		
TELE		

[1] Specific electives may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Information Systems, MSIS—Bridge

The Master of Science in Information Systems—Bridge (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-insy-bridge/) (MSIS-Bridge) addresses the needs of the digital revolution by preparing students with non—STEM, nontechnical bachelor's degrees to become information systems professionals. MSIS-Bridge students are the link between business users and technologists. As industries launch into a digitized future, professionals with a clear understanding of how technology can be used to address significant societal challenges are in demand. The MSIS-Bridge program closes the gaps between business management, software engineering, and information technology to help students solve complex real-world issues in business and society. It also upskills and reskills to help individuals or businesses identify organizational skills gaps and create a tactical training plan to fill them with new skills and knowledge. Through specially created and selected core courses, students gain the engineering foundation needed to excel in the classroom and in the IT sector.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INFO 5001	Application Modeling and Design	4
INFO 5002	Introduction to Python for Information Systems	4
INFO 5100 and INFO 5101	Application Engineering and Development and Lab for INFO 5100	4

Restricted Electives

Code	Title	Hours
Complete 12 semester hours from the following:		12
INFO 6150	Web Design and User Experience Engineering	
INFO 6205	Program Structure and Algorithms	
INFO 6215	Business Analysis and Information Engineering	
INFO 6245	Planning and Managing Information Systems Development	
INFO 7245	Agile Software Development	
INFO 7385	Managerial Communications for Engineers	

Electives

Code	Title	Hours
Complete 16 semester hours from the following subject codes: [1]		16
CSYE (except CSYE 6220)		
DAMG		
INFO		
TELE		

[1] Specific electives may be required at certain Northeastern campuses. Students should consult with their program advisor when developing a plan of study.

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Cyber-Physical Systems, MS

The Master of Science in Cyber-Physical Systems with a concentration in the Internet of Things (IoT) (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-cyps/) prepares our graduates for a world of connected devices. This innovative multidisciplinary program is designed to meet the demand for a new kind of specialist, one who can engineer and develop new interactive services; acquire, fuse, and process the data collected from sensors, actuators, controllers, and other devices; and develop architectures to interconnect these elements as part of larger, more diverse systems. It is expected that careers in this rapidly evolving area will encompass industry sectors ranging from energy, healthcare, transportation, infrastructure, to manufacturing.

This concentration integrates the study of wireless networking, protocols, sensor networks, security, software development, embedded systems, data analytics, and big data to provide students with the knowledge and tools to develop IoT applications, to analyze and design IoT architectures for different application domains, and to develop data analytic tools to analyze the large amounts of data generated by the massive deployment of IoT devices.

Degree Requirements

The program requires that a mix of core required courses and elective courses be taken—16 semester hours of core course work and a minimum of 16 semester hours of elective course work. Although there are some dependencies among the core courses, the program may be started in either the fall or spring semester.

Special topics courses, as well as other courses not in the list of electives, may be used as electives with prior approval of the program director. A maximum of two courses from the Khoury College of Computer Sciences may be used as electives. Before taking any course from Khoury, prior approval is required from the program director.

Independent Study (TELE 5978), usually 1 or 2 semester hours, or a Master's Project in Cyber Physical Systems (TELE 7945) must be carried out under the supervision of a professor and must have prior approval of the program director. Proposals for independent study or a master's project need to be submitted at least one month before the start of the semester.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. Students may not register for more than 9 semester hours in the fall and spring terms and 4 semester hours in each of the three summer terms. Any exceptions must be approved by the program director.

Core Requirements

Code	Title	Hours
TELE 6510	Fundamentals of the Internet of Things	4
TELE 6530	Connected Devices	4
Choose two of the following three courses:		8
CSYE 6200	Concepts of Object-Oriented Design	
INFO 6105	Data Science Engineering Methods and Tools	
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	

Electives

Code	Title	Hours
Any core course not used to meet the required core course requirement may be taken as an elective. Otherwise, complete four of the following. A maximum of 8 semester hours of nontechnical electives may be taken. Students may take elective coursework outside these lists only with the prior approval of the program director. A maximum of 9 semester hours may be taken outside of the College of Engineering.		16
Technical Electives		
CSYE 6205	Concepts of Object-Oriented Design with C++	
CSYE 6225	Network Structures and Cloud Computing	
CSYE 6230	Operating Systems	
CSYE 7215	Foundations of Parallel, Concurrent, and Multithreaded Programming	
CSYE 7370	Deep Learning and Reinforcement Learning in Game Engineering	
DAMG 6210	Data Management and Database Design	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5155	Wireless Sensor Networks and the Internet of Things	

EECE 7352	Computer Architecture
EECE 7390	Computer Hardware Security
EECE 7397	Advanced Machine Learning
IE 7275	Data Mining in Engineering
INFO 6150	Web Design and User Experience Engineering
INFO 6205	Program Structure and Algorithms
TELE 5360	Internet Protocols and Architecture
TELE 6550	IoT Embedded System Design
TELE 7374	Special Topics in the Internet of Things
Nontechnical Electives	
EMGT 5220	Engineering Project Management
INFO 6660	Business Ethics and Intellectual Property for Engineers

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Data Architecture and Management, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-daam/).

Many MS programs in the data area deal with data collection and analysis but do not, however, address a crucial activity that data scientists, data analysts, business analysts, and many software engineers need to perform to make that data valuable, namely, data integration. That activity may also be referred to as data preparation, data curation, application integration, and data engineering based on the integration of use cases and integration persona. The Master of Science in Data Architecture and Management focuses on these activities.

Data systems engineering occurs because data is fragmented and usually scattered across many data sources. However, even if all the data one needed were in one place, there is still an intensive need for integration. Information is data in context and the context of data as collected is different than the many ways it needs to be transformed so as to generate useful information.

The data engineering field could be thought of as a superset of business intelligence and data warehousing that brings in more elements from software engineering. This discipline also integrates specialization around the operation of so called Big Data distributed systems, along with concepts around the extended Hadoop ecosystem, stream processing, and in computation at scale.

The Master of Science in Data Architecture and Management offers a multitude of courses in data engineering in addition to supplementary courses that are required to deliver the data results in a meaningful way to management. We plan to cover data management, advanced data management, data warehousing and business intelligence, column databases, data science engineering, and Big Data engineering. On the software engineering side, we offer advanced Big Data programming using the powerful Scala language and a course on advanced data science as well as cloud computing. Multithread concurrent computing is also offered as it is important for synchronizing a huge set of servers working in parallel to do large-scale analytics to make things run faster by hundredfold increases in speed. Due to the high-level mathematical operations required to make these programs run, only software engineers can make the necessary mathematical algorithms execute quickly enough to work in these complicated areas and get the finest results.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DAMG 6105	Data Science Engineering with Python	4
DAMG 6210	Data Management and Database Design	4
DAMG 7250	Big Data Architecture and Governance	4
DAMG 7370	Designing Advanced Data Architectures for Business Intelligence	4

Electives

Code	Title	Hours
Complete 16 semester hours from the following subject codes:		16
CSYE		
DAMG		
INFO		
TELE		

Program Credit/GPA Requirements

32 total semester hours required

Minimum 3.000 GPA required

Software Engineering Systems, MS

Website (http://www.coe.neu.edu/degrees/ms-cse/)

The Software Engineering Systems program takes a sociotechnical, engineering approach to software. This engineering foundation is designed to enable students to embrace real-world complexity as a golden opportunity, especially for the more technically advanced student. We are committed to shaping our students to be intuitive problem solvers, experienced engineering architects, and result leaders who will have a great impact at the exciting three-way intersection of computer science, engineering, and ethics.

Our program offers a multitude of courses in big-data engineering and analytics in addition to supplementary courses that are required to deliver the data-analytics results in a meaningful way to management. We cover data management, advanced data management, business intelligence, column databases, data science, and big-data engineering. We offer advanced functional programming using the powerful Scala language and a course on advanced data science as well as cloud computing. Multi-thread concurrent computing is also offered as it is important for synchronizing a huge set of servers working in parallel to do large-scale analytics to make things run faster by a hundredfold increase in speed. Due to the high-level mathematical operations required to run these programs, only software engineers have the capacity to work in such complicated areas. Only they can make the necessary mathematical algorithms execute quickly enough to get the finest results.

Our engineers become fluent in data science for the sake of building the actual system. They study how to write machine-learning algorithms on top of statistical packages.

- Students study the fundamentals of logical computing formulation and program construction as well as the mathematical modeling and analysis of algorithms—an essential aspect of data science analytics.
- Students study clustering techniques, along with topic modeling and classification and logical regression techniques, as well as Bayesian statistics.
- Students study how to configure and operate a Hadoop environment (large clusters of commodity hardware) and in the process how to integrate data from diverse sources, to move and manage data through big-data platforms (in-house or in the cloud). Data ingestion, the filtering and firing of millions of operations to run over large clusters of commodity hardware, is a software-engineering technique that we teach our students how to perform through Scala, multi-threading, Spark programming, and “map-reduce” techniques.
- We show students how to make the business case for analytics projects and how to follow an execution road map that involves understanding the architectures underpinning such gigantic platforms as well as the resourcing and cost issues.

Graduate Certificate Options

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Software Engineering Systems with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Software Engineering Systems in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate will require 16 hours of advisor-approved software design engineering technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CSYE 6200	Concepts of Object-Oriented Design	4
INFO 6205	Program Structure and Algorithms	4

Electives

Code	Title	Hours
Complete 12 semester hours from the CSYE subject code:		12
CSYE		
Complete 12 semester hours from any of the following subject codes:		12
CSYE		
DAMG		
INFO (INFO 6250 excluded)		
TELE		

PROGRAM CREDIT/GPA REQUIREMENTS

32 total semester hours required

Minimum 3.000 GPA required

Telecommunication Networks, MS

For program contact information, please visit this website (https://coe.northeastern.edu/academics-experiential-learning/academic-departments/mgen/ms-tnet/).

The Master of Science in Telecommunication Networks is designed for professionals currently in the telecommunications or networking field who either wish to enhance their technical skills and credentials or who wish to make a transition to the business side of telecommunications or networking. We also welcome applications from prospective students with limited industry experience. This program, which may be pursued on a full- or part-time basis, is one of only a very few master's programs in telecommunications and networking in the United States that is truly multidisciplinary, giving students the flexibility to tailor the curriculum to their specific interests, backgrounds, and career goals.

Degree Requirements

The program requires that a mix of core required courses and elective courses be taken—16 semester hours of core course work and a minimum of 16 semester hours of elective course work. Although there are some dependencies among the core courses, the program may be started in either the fall or spring semester. The four core courses each carry 4 semester hours of credit.

The technical electives include courses on network and communications technology and on the development of software systems and applications. The business electives are focused on engineering management and entrepreneurship. Electives come from approved lists of courses supplied by the colleges of engineering, business, and computer sciences. Students may take elective course work outside these lists only with the prior approval of the program director.

It is expected that students beginning this program will have an adequate background in the following areas: C, C++, or Java programming languages; probability and statistics; and differential and integral calculus.

Special topics courses, as well as other courses from outside the program, may be used as electives with prior approval of the program director.

Independent Study, usually 1 or 2 semester hours, or a Master's Project must be carried out under the supervision of a professor and must have prior approval of the program director. Proposals for Independent Study or a Master's Project need to be submitted at least one month before the start of the semester.

Directed Study, also for 1 or 2 semester hours, is sometimes available for students. For directed study projects, a student follows a prescribed curriculum, usually with some form of an exam at the end of the semester.

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Telecommunication Networks with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Telecommunications Networks in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 32-semester-hour degree and certificate require 12 hours of technical core courses from the telecommunication networks program and 4 hours from the technical course list provided for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. Students may not register for more than 10 semester hours in the fall and spring terms and 4 semester hours in each of the three summer terms. Any exceptions must be approved by the program director.

Core Requirements

Code	Title	Hours
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	4
TELE 5340	Telecommunications Public Policy and Business Management	4
TELE 5350	Telecom and Network Infrastructure	4
TELE 5360	Internet Protocols and Architecture	4

Electives

Code	Title	Hours
Complete a minimum of 16 semester hours from the course lists below. At least one elective course must be taken from the technical course list. (p. 548)		16

BUSINESS COURSE LIST

Code	Title	Hours
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
ENTR 6212	Business Planning for New Ventures	
ENTR 6218	Business Model Design and Innovation	
ENTR 6219	Financing Ventures from Early Stage to Exit	
ENTR 6240	Emerging and Disruptive Technologies	
ENTR 6241	Entrepreneurial Marketing and Selling	
ENTR 6250	Lean Design and Development	
ENTR 6300	Managing a Technology-Based Business	
HRMG 6200	Managing People and Organizations	
INFO 6245	Planning and Managing Information Systems Development	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6214	Negotiations	
MKTG 6200	Creating and Sustaining Customer Markets	

TECHNICAL COURSE LIST

Code	Title	Hours
CS 5520	Mobile Application Development	
CS 6710	Wireless Network	
CY 5150	Network Security Practices	
CY 6740	Network Security	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6225	Network Structures and Cloud Computing	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5576	Wireless Communication Systems	
EECE 7364	Mobile and Wireless Networking	
INFO 6205	Program Structure and Algorithms	
INFO 6350	Smartphones-Based Web Development	
TELE 5600	Linux/UNIX Systems Management for Network Engineers	
TELE 6350	Unified Communications and Collaboration	
TELE 6400	Software-Defined Networking	
TELE 6420	Infrastructure Automation Design and Tools	
TELE 6510	Fundamentals of the Internet of Things	
TELE 6603	Special Topics—Networking	

Program Credit/GPA Requirements

Minimum of 32 total semester hours required
Minimum 3.000 GPA required

Blockchain and Smart Contract Engineering, Graduate Certificate

The Graduate Certificate in Blockchain and Smart Contract Engineering addresses the rapidly growing and revolutionary field of distributed ledger (blockchain) technology. Companies from different industries are preparing to enhance their business practices through cryptocurrency, decentralized computing, digital security, smart contracts, and more. The certificate program covers blockchain platforms such as Ethereum that bring about transparency and trust to all participants in complex multiparty relationships. The implication is tremendous—from new currency and incentive systems to faster, less expensive, and more efficient transactions of all kinds, from banking to healthcare. Students have an opportunity to learn how blockchain platforms and their underlying trust models will impact the future of legally binding multiparty contracts. In addition, students also have an opportunity to learn how crypto-engineering techniques can be used to create digital trust fabrics that could safely facilitate the movement of any kind of transactions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
INFO 7500	Cryptocurrency and Smart Contract Engineering	4
INFO 7510	Smart Contract Application Engineering and Development	4
INFO 7520	Engineering of Advanced Cryptocurrency Systems	4
INFO 7525	Regulatory Aspects of Smart Contract Automation	2
INFO 7535	Digital Smart Contracts Product Innovations	2

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Broadband Wireless Systems, Graduate Certificate

The broadband wireless systems graduate certificate program focuses on the fundamentals of wireless communications, IP networks and protocols, and telecommunications infrastructure as preparation for developing expertise in ongoing developments in mobile networking, broadband wireless communications, and mobile apps.

The four-course graduate certificate requires that two TNET core technical courses be taken along with two other specified courses. With the approval of the certificate director, one of the core courses may be waived with another technical course taken in its place. Mobile Wireless Communications and Networking (TELE 6100) may not be waived under any circumstances.

Note: Master of Science in Telecommunication Networks students are eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	4
TELE 5350	Telecom and Network Infrastructure	4
TELE 6100	Mobile Wireless Communications and Networking	4
EECE 5576	Wireless Communication Systems	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Engineering Leadership, Graduate Certificate

The Gordon Engineering Leadership Program is a transformational, technical, and challenging graduate-level learning experience targeted for engineering professionals.

The Gordon Engineering Leadership Program directed by the Gordon Institute of Engineering Leadership offers a graduate certificate that pairs with over 20 master's degrees in the College of Engineering, College of Science, and Khoury College of Computer Sciences. The Gordon Program is a transformational graduate program designed to build a future corps of engineering leadership professionals.

Pursuing the graduate certificate allows participants to:

- Take part in a hands-on curriculum taught by industry-experienced professors
- Work with peers from across engineering fields on leadership skills development
- Receive one-on-one mentoring from industry experts and faculty

The Gordon Engineering Leadership Program anchors around an intense, market-worthy challenge project based on your organization's strategic needs. This is a unique opportunity to apply your classroom experience in a professional setting, potentially further accelerating your career.

How to Earn a Graduate Certificate in Engineering Leadership

If you already have a Master of Science, then you can complete the one-year program to earn a Graduate Certificate in Engineering Leadership.

If you do not have a Master of Science, then you can still be considered for the Graduate Certificate in Engineering Leadership if you have at least three years of engineering work experience.

Additional information can be found on the Gordon Engineering Leadership Program website. (http://www.northeastern.edu/gordonleadership/)

Beyond a Graduate Certificate

Most candidates pursue the Gordon Engineering Leadership Program as part of a Master of Science degree in the engineering discipline of their choice. Upon completion, they earn both a Master of Science degree and a Graduate Certificate in Engineering Leadership.

Students can enroll in the Engineering Leadership Graduate Certificate while pursuing the following degrees:

- MS Advanced and Intelligent Manufacturing (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/advanced-and-intelligent-manufacturing/)
- MS Biotechnology (http://www.northeastern.edu/gordonleadership/degree/ms-in-biotechnology/)
- MS Computer Science (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/computer-science/)
- MS Cybersecurity (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/ms-in-information-assurance-and-cyber-security/)
- MS Data Analytics Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-data-analytics-engineering/)
- MS Engineering and Public Policy (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-and-public-policy/)
- MS Human Factors (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/human-factors/)
- MS Robotics (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/robotics/)
- MS Telecommunication Networks (http://www.northeastern.edu/gordonleadership/degree/ms-in-telecommunication-networks/)
- MSBioE Bioengineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-bioengineering/)
- MSChE Chemical Engineering (http://www.northeastern.edu/gordonleadership/degree/chemical-engineering/)
- MSCivE Civil Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-civil-engineering/)
- MSCSE Software Engineering Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-computer-systems-engineering/)
- MSECE Electrical and Computer Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering/)
- MSECEL Electrical and Computer Engineering Leadership (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering-leadership/)
- MSEM Engineering Management (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-management/)
- MSENE Energy Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-energy-systems/)
- MSEnvE Environmental Engineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-environmental-engineering/)

- MSIE Industrial Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-industrial-engineering/)
- MSIS Information Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-information-systems/)
- MSME Mechanical Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-mechanical-engineering/)
- MSOR Operations Research (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-operations-research/)
- MSSBS Sustainable Building Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-sustainable-building-systems/)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENLR 5121	Engineering Leadership 1	2
ENLR 5122	Engineering Leadership 2	2
ENLR 5131	Scientific Foundations of Engineering 1	2
ENLR 5132	Scientific Foundations of Engineering 2	2
Complete the following two courses based on the discipline of your master's program:		
ENLR 7440	Engineering Leadership Challenge Project 1	4
or EECE 7440	Electrical and Computer Engineering Leadership Challenge Project 1	
or ENSY 7440	Energy Systems Engineering Leadership Challenge Project 1	
or IE 7440	Industrial Engineering Leadership Challenge Project 1	
or ME 7440	Mechanical Engineering Leadership Challenge Project 1	
or TELR 7440	Technology Leadership Challenge Project 1	
ENLR 7442	Engineering Leadership Challenge Project 2	4
or EECE 7442	Electrical and Computer Engineering Leadership Challenge Project 2	
or ENSY 7442	Energy Systems Engineering Leadership Challenge Project 2	
or IE 7442	Industrial Engineering Leadership Challenge Project 2	
or ME 7442	Mechanical Engineering Leadership Challenge Project 2	
or TELR 7442	Technology Leadership Challenge Project 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

IP Telephony Systems, Graduate Certificate

The Graduate Certificate in IP Telephony Systems focuses on the fundamental knowledge in communications, IP networks and protocols, media transport, and signaling as preparation to developing expertise into ongoing developments in VoIP networks and services, the IP Multimedia Subsystem (IMS), unified communications, and video networks.

The four-course graduate certificate requires that three TNET core technical courses be taken along with a specified fourth course. With the approval of the certificate director, one of the core courses may be waived with another technical course taken in its place. Unified Communications and Collaboration (TELE 6350) may not be waived under any circumstance.

Note: Master of Science in Telecommunication Systems Management/Telecommunication Networks students are not eligible for this graduate certificate.

Program Requirements

Core Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
TELE 5330 and TELE 5331	Data Networking and Lab for TELE 5330	4
TELE 5350	Telecom and Network Infrastructure	4
TELE 5360	Internet Protocols and Architecture	4
TELE 6350	Unified Communications and Collaboration	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Software Engineering Systems, Graduate Certificate

The Graduate Certificate in Software Engineering Systems focuses on the sociotechnical approach to software engineering with attention on using engineering tools and considering real-world complexities to design and construct practical and viable software solutions.

This four-course graduate certificate is designed to provide students with opportunities to apply the fundamentals of engineering knowledge and skills to software development with attention on enterprise design and integration, secure systems design and creation, and data integration and architecture.

Note: Master of Science in Software Engineering Systems students are not eligible for this graduate certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
CSYE 6200	Concepts of Object-Oriented Design	4
INFO 6205	Program Structure and Algorithms	4

Electives

Code	Title	Hours
Complete two of the following:		8
CSYE 6225	Network Structures and Cloud Computing	
CSYE 7215	Foundations of Parallel, Concurrent, and Multithreaded Programming	
CSYE 7280	User Experience Design and Testing	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Interdisciplinary Graduate Programs

Doctor of Philosophy (PhD)

- Cybersecurity (p. 302)
- Interdisciplinary Engineering (p. 357)

Master of Science (MS)

- Climate Science and Engineering (p. 385)
- Product Development (p. 565)

Cybersecurity, PhD

A research-based, interdisciplinary Doctor of Philosophy (PhD) in Cybersecurity combines a strong security technical foundation with a security policy and social sciences perspective. It seeks to prepare graduates to advance the state of the art of security in systems, networks, and the internet in industry, academia, and government. The interdisciplinary nature of the program distinguishes it from traditional doctoral degree programs in computer science, engineering, or social sciences and makes it unique in the Boston area.

Students who choose the PhD in Cybersecurity program have a strong desire to pursue academic research solving critical cybersecurity challenges facing today's society. The PhD program is a natural path for students in the college's Master of Science in Cybersecurity (http://www.ccs.neu.edu/graduate/degree-programs/m-s-in-information-assurance/)program who want to pursue research and students with bachelor's degrees and an interest in research-focused careers. Students who pursue careers in advancing the state of the art of cybersecurity have an opportunity to gain:

- A strong technical foundation in cybersecurity and an interdisciplinary perspective based on policy and social science
- A path to a research-focused career coupled with depth in information assurance research at a leading institution, one of the earliest designees by NSA/DHS as a National Center of Academic Excellence in Information Assurance Research, Information Assurance/Cyber Defense, and Cyber Operations
- The opportunity to work with and learn from faculty who are recognized internationally for their expertise and contributions in information assurance from Northeastern University's Khoury College of Computer Sciences, the Department of Electrical and Computer Engineering, and the College of Social Sciences and Humanities
- Access to research projects at Northeastern's research centers focused on security:
  - The Cybersecurity and Privacy Institute (https://cyber.ccis.northeastern.edu/about/): The mission of Northeastern's Cybersecurity and Privacy Institute is to safeguard critical technology. Forging partnerships with experts in industry, government, and academia worldwide, the Institute's faculty and students develop, protect, and enhance technologies on which the world relies—from mobile devices and "smart" IoT applications to tomorrow's self-driving cars and delivery drones. Their expertise spans algorithm auditing; cloud security; cryptography; differential privacy; embedded device security; internet-scale security measurements; machine learning; big data; security, malware, and advanced threats; network protocols and security; web and mobile security; and wireless network security.
  - The International Secure Systems Lab (http://www.iseclab.org/), affiliated with Northeastern, a collaborative effort of European and U.S. researchers focused on web security, malware, and vulnerability analysis; intrusion detection; and other computer security issues.
  - The ALERT Center (http://www.northeastern.edu/alert/), where Northeastern is the lead institution, a multiuniversity Department of Homeland Security Center of Excellence involved in research, education, and technology related to threats from explosives.

The benefits of the Boston area:

- World-renowned for academic and research excellence, the Boston area is also home to some of the nation's largest Department of Defense contractors and government and independent labs such as MIT Lincoln Lab, MITRE, and Draper Lab.

Degree Requirements

The PhD in Cybersecurity degree requires completion of at least 48 semester credit hours beyond a bachelor's degree. Students who enter with an undergraduate degree will typically need four to five years to complete the program, and they will be awarded a master's degree en route to the PhD.

Doctoral Degree Candidacy

A student is considered a PhD degree candidate after completing the core courses with at least a 3.500 GPA, with no grades lower than a B in the core courses, and either publishing a paper in a strong conference or journal or passing an oral exam that is conducted by a committee of three cybersecurity faculty members and based on paper(s) written by the student.

RESIDENCY

One year of continuous full-time study is required after admission to the PhD candidacy. During this period, the student will be expected to make substantial progress in preparing for the comprehensive examination.

TEACHING REQUIREMENT

All cybersecurity PhD students must satisfy the teaching requirement in order to graduate. This requirement is fulfilled when the student works as a teaching assistant or instructor of record for one semester and during this semester:

- Teaches at least three hours of classes
- Prepares at least one assignment or quiz or equivalent

PhD students are expected to satisfy the teaching requirement some time after completing their first year and at least one semester prior to scheduling their PhD defense.

DISSERTATION ADVISING
The doctoral dissertation advising team for each student consists of two cybersecurity faculty members, one in a technical area. When appropriate, the second faculty advisor will be from the policy/social science area.

DISSERTATION COMMITTEE
With the help of the advisor, a student selects the committee, consisting of at least four members, to be approved by the PhD cybersecurity curriculum committee. The four members must include the advisor, two internal members, and an external member.

COMPREHENSIVE EXAMINATION
A PhD student must submit a written dissertation proposal and present it to the dissertation committee. The proposal should identify the research problem, the research plan, and the potential impact of the research on the field. The presentation of the proposal will be made in an open forum, and the student must successfully defend it before the dissertation committee after the public presentation.

DISSERTATION DEFENSE
A PhD student must complete and defend a dissertation that involves original research in cybersecurity.

AWARDING OF MASTER'S DEGREES
Students who enter the PhD in Cybersecurity program with a bachelor's degree have the option of obtaining a master's degree from one of the departments participating in the program. To do so, they must meet all of the department's degree requirements.

Program Requirements
Bachelor's Degree Entrance
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirements
A grade of B or higher is required in each core course. A cumulative 3.500 grade-point average is required for the core requirement.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	
EECE 7390	Computer Hardware Security	
Machine Learning		
CS 6140	Machine Learning	
CS 7150	Deep Learning	
CY 6720	Machine Learning in Cybersecurity and Privacy	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	

EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Degree Requirements

Incoming PhD in cybersecurity students who have already completed a Master of Science in an adjacent field may petition to the graduate program administration for advanced entry. Advanced entry petitions are reviewed by the program administration on a case-by-case basis. Please note that

advanced entry does not waive by itself any part of the PhD coursework requirements. As a degree conferral requirement, a minimum of 16 semester hours of coursework beyond the 32 semester hours of the master's degree is required of advanced entry PhD students (48 semester hours is required of standard entry PhD students). A grade of B or higher is required in each course. A cumulative 3.500 GPA is required for the core requirement.

Doctoral Degree Candidacy

Refer to the PhD Cybersecurity overview (p. 302) for admission to candidacy requirements.

Residency

Refer to the PhD Cybersecurity overview (p. 302) for residency requirements.

Teaching Requirement

Refer to the PhD Cybersecurity overview (p. 302) for teaching requirements.

Dissertation Advising

Refer to the PhD Cybersecurity overview (p. 302) for dissertation advising requirements.

Dissertation Committee

Refer to the PhD Cybersecurity overview (p. 302) for dissertation committee requirements.

Comprehensive Examination

Refer to the PhD Cybersecurity overview (p. 302) for comprehensive examination requirements.

Dissertation Defense

Refer to the PhD Cybersecurity overview (p. 302) for dissertation defense and completion requirements.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Teaching
Qualifying exam and area exam
Annual review
Dissertation proposal
Dissertation committee
Dissertation defense

Core Requirement

Students are required to take all core courses unless otherwise determined by the program. Students must maintain a minimum GPA of 3.500 as well as earn a grade of B or better in each core course.

Code	Title	Hours
Foundations		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
CY 5770	Software Vulnerabilities and Security	4
or EECE 5641	Introduction to Software Security	
CY 6740	Network Security	4
or EECE 5699	Computer Hardware and System Security	

Electives and Tracks

Students are required to take all courses unless otherwise determined by the program.

Code	Title	Hours
Note: Consult faculty advisor for other acceptable courses.		
Tracks		
Select at least two courses from one track:		8
Hardware Security		
CS 6410	Compilers	
CS 6710	Wireless Network	
EECE 5666	Digital Signal Processing	
EECE 7352	Computer Architecture	
EECE 7364	Mobile and Wireless Networking	

EECE 7390	Computer Hardware Security
Machine Learning	
CS 6140	Machine Learning
CS 7150	Deep Learning
CY 6720	Machine Learning in Cybersecurity and Privacy
EECE 5644	Introduction to Machine Learning and Pattern Recognition
EECE 7397	Advanced Machine Learning
Network Security	
CS 5700	Fundamentals of Computer Networking
CS 6710	Wireless Network
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 5155	Wireless Sensor Networks and the Internet of Things
EECE 5576	Wireless Communication Systems
EECE 7336	Digital Communications
EECE 7364	Mobile and Wireless Networking
EECE 7374	Fundamentals of Computer Networks
Systems Security	
CS 6410	Compilers
CS 7600	Intensive Computer Systems
CS 7610	Foundations of Distributed Systems
CY 5130	Computer System Security
EECE 7352	Computer Architecture
Theory	
CS 7800	Advanced Algorithms
CS 7805	Complexity Theory
EECE 7337	Information Theory
Usable Security and Privacy	
CS 6350	Empirical Research Methods
CS 6760	Privacy, Security, and Usability
CS 7340	Theory and Methods in Human Computer Interaction
INSH 6300	Research Methods in the Social Sciences
INSH 6302	Qualitative Methods
INSH 6500	Statistical Analysis
INSH 7400	Quantitative Analysis
Cybersecurity Policy	
CRIM 6200	Criminology
CRIM 6262	Evidence-Based Crime Policy
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5250	Decision Making for Critical Infrastructure
POLS 7341	Security and Resilience Policy
Electives	
Selected in consultation with advisor from graduate-level CS and ECE courses and graduate-level courses offered by the College of Social Sciences and Humanities.	20

Dissertation

Code	Title	Hours
CY 9990	Dissertation Term 1	
CY 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
CY 9996	Dissertation Continuation	

Program Credit/GPA Requirements

Minimum 16 semester hours required
Minimum 3.000 GPA required

Interdisciplinary Engineering, PhD

130 Snell Engineering Center
617.373.2711

The College of Engineering offers an interdisciplinary engineering Doctor of Philosophy degree involving substantial work in two or more academic departments or disciplines. This is an individually designed program for the student who wishes to pursue graduate studies in an area that substantially overlaps two or more units. In such cases, that student may design, in consultation with their faculty advisor(s), an interdisciplinary program. The program will correspond in scope and depth to Northeastern University's established degree standards but need not agree exactly with the regulations of individual units. Individually designed interdisciplinary degree programs must be approved by the appropriate graduate office(s).

The interdisciplinary engineering program admits applicants into the PhD program either directly after earning a suitable bachelor's degree (i.e., direct entry) or after earning a suitable master's degree (i.e., advanced entry). Upon acceptance into the program, an applicant is designated as a doctoral student. This designation is changed to doctoral candidate upon successful completion of the doctoral qualifying requirements as well as all the required coursework.

Program Requirements

In order to pursue an individually designed interdisciplinary engineering graduate program, a student must have been accepted into an approved graduate program that will serve as the administrative home unit for the interdisciplinary engineering program:

- Department of Bioengineering (p. 348)
- Department of Chemical Engineering (p. 364)
- Department of Civil and Environmental Engineering (p. 380)
- Department of Electrical and Computer Engineering (p. 409)
- Department of Mechanical and Industrial Engineering (p. 473)

Students who have been dismissed from any of the COE departments will not be able to enroll into the interdisciplinary engineering PhD program with the department from which they were dismissed as either home or participating department. Successful application for admission to an individually designed interdisciplinary program consists of a written proposal describing the areas of proposed study and research. Part of this proposal will be a list of courses to be taken, a description of the qualifying and comprehensive examination process to be used, a timeline, and any other requirements of the program.

The interdisciplinary engineering PhD requires the commitment by a faculty member at Northeastern to be the advisor of the student and chair of the interdisciplinary committee for the student. This faculty member may or may not be a member of the administrative home unit. The committee must be assembled within the first semester of the program and must include faculty members from all of the participating units. At least two units must be represented on the committee. This committee will be responsible for overseeing the completion of the degree requirements. It will also be responsible for the administrative elements of the program, such as the monitoring of satisfactory progress; the design and grading of the preliminary and comprehensive exams, if applicable; graduation clearance; etc. This interdisciplinary committee is also responsible for an annual review of the progress of the student and for reporting this progress to the administrative home unit on an annual basis.

Qualifying Examination and Degree Candidacy

Interdisciplinary engineering PhD students must register for and pass the doctoral qualifying examination of their home department. In some cases, if deemed necessary by the interdisciplinary committee, students may be required to take some part of the doctoral qualifying examinations of the other department(s) involved with the student's program of study. To qualify as an interdisciplinary engineering doctoral candidate, students must successfully complete the doctoral qualifying examinations in addition to all their required coursework.

Dissertation

Students must present their dissertation proposal no more than 12 months after successfully completing their doctoral qualifying examinations. In addition, the presentation of the dissertation proposal and the actual dissertation defense shall be no less than six months apart. Interdisciplinary engineering PhD students must follow the dissertation guidelines of their home department.

Residency Requirement

After achieving PhD candidacy, students must complete at least two successive semesters of full-time study on campus to establish residency. The total effort for a PhD program involves a minimum of three years of full-time work beyond the bachelor's degree. Students who enter the doctoral program with a Master of Science degree may complete the requirements in less time but should anticipate at least two years of full-time effort.

Language Requirement

Each doctoral candidate must be proficient in technical writing and oral presentation in the English language. The qualifying examination committee may require additional coursework in the case of any deficiency in these areas.

Program Requirements

Direct Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 48 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		48

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	
or CHME 9991	Dissertation Term 2	
or CIVE 9991	Dissertation Term 2	
or EECE 9991	Dissertation Term 2	
or IE 9991	Dissertation Term 2	
or ME 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced Entry

Complete all requirements listed below unless otherwise indicated.

Milestones

Doctoral qualifying exams (both written comprehensive and oral area exams)
Annual review
Dissertation committee formation
Dissertation proposal
Dissertation defense

Requirements

Code	Title	Hours
A minimum of 20 semester hours of academic coursework is required. Consult your faculty advisors for acceptable courses.		20

Dissertation

Code	Title	Hours
BIOE 9990	Dissertation Term 1	
or CHME 9990	Dissertation Term 1	
or CIVE 9990	Dissertation Term 1	
or EECE 9990	Dissertation Term 1	
or IE 9990	Dissertation Term 1	
or ME 9990	Dissertation Term 1	
BIOE 9991	Dissertation Term 2	

or CHME 9991	Dissertation Term 2
or CIVE 9991	Dissertation Term 2
or EECE 9991	Dissertation Term 2
or IE 9991	Dissertation Term 2
or ME 9991	Dissertation Term 2

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Product Development, MS

Product development is in demand across many technology industries and is widely thought to be the engine of innovation. The Sherman Center for Entrepreneurial Engineering Education is uniquely positioned to offer students a combination of product process and technical skills. The mission of the center is to enable interdisciplinary student entrepreneurship in the broadest sense by providing education about tools, concepts, and resources to foster creativity and the ability to develop commercially viable ideas.

Products ranging from smart devices, to the Internet of Things, to software as a service all require people with product development skills. These positions guide product innovation and lead in crafting products for users. A look at any careers page for any technology firm currently hiring shows many positions open for individuals that have a mix of technical and product development knowledge.

The Master of Science in Product Development program contains a core of courses that span the product development cycle and then allows students to customize the rest of their degree to fit their chosen industry or path. The core courses cover topics such as customer acquisition, technical market analysis, product life cycle, intellectual property, prototyping, iterative development, product design, user testing, and manufacturing.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
GE 5010	Customer-Driven Technical Innovation for Engineers	4
GE 5020	Engineering Product Design Methodology	4
GE 5030	Iterative Product Prototyping for Engineers	4
GE 5100	Product Development for Engineers	4

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 16 semester hours from the course list below. (p. 565)		16

PROJECT OPTION

Code	Title	Hours
GE 7945	Master's Project	4
Complete 12 semester hours from the course list below. (p. 565)		12

THESIS OPTION

Code	Title	Hours
GE 7990	Thesis	8
Complete 8 semester hours from the course list below. (p. 565)		8

COURSE LIST

Code	Title	Hours
College of Engineering		
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5810	Design of Biomedical Instrumentation	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6205	Concepts of Object-Oriented Design with C++	
CSYE 7280	User Experience Design and Testing	
EECE 5155	Wireless Sensor Networks and the Internet of Things	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5580	Classical Control Systems	
EECE 5639	Computer Vision	
EECE 5666	Digital Signal Processing	
IE 5617	Lean Concepts and Applications	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6200	Engineering Probability and Statistics	

IE 6500	Human Performance
IE 7200	Supply Chain Engineering
IE 7270	Intelligent Manufacturing
INFO 6660	Business Ethics and Intellectual Property for Engineers
ME 5245	Mechatronic Systems
ME 5250	Robot Mechanics and Control
ME 5645	Environmental Issues in Manufacturing and Product Use
ME 5650	Advanced Mechanics of Materials
ME 5659	Control Systems Engineering
TELE 6510	Fundamentals of the Internet of Things
TELE 6530	Connected Devices
D'Amore McKim School of Business	
ENTR 6240	Emerging and Disruptive Technologies
ENTR 6250	Lean Design and Development
INNO 6200	Enterprise Growth and Innovation
INNO 6230	Platform Innovation
MKTG 6200	Creating and Sustaining Customer Markets
College of Arts, Media and Design	
ARTG 5120	Research Methods for Design
ARTG 5310	Visual Cognition
ARTG 5610	Design Systems
ARTG 5640	Prototyping for Experience Design
ARTG 6310	Design for Behavior and Experience
GSND 5110	Game Design and Analysis
GSND 5122	Business Models in the Game Industry
GSND 5130	Mixed Research Methods for Games
GSND 6320	Psychology of Play
GSND 6340	Biometrics for Design
Bouvé College of Health Sciences	
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Graduate Certificate Programs

The College of Engineering offers numerous graduate engineering certificates for professionals at every career stage. These certificates may be completed as stand-alone credentials or in combination with a graduate degree. They typically consist of 16 to 20 semester hours and allow the learner to quickly gain a credential to advance their skills and knowledge, meet an emerging career market need, or add to their professional preparation. In many cases, graduate coursework completed as part of a certificate program may be applied toward a graduate degree in the College of Engineering. Whether you are a working professional seeking new career opportunities, or a full-time graduate student looking to enhance your credentials, our broad and continuously expanding range of certificates are ready to help move your preparation forward.

Programs

The College of Engineering offers numerous graduate certificates that may be completed alone or in combination with an MS degree. Please see for Certificate Policies and Procedures (https://coe.northeastern.edu/wp-content/uploads/pdfs/coe/gse/policies/CertPolicy.pdf) for detailed information regarding College of Engineering graduate certificates.

Chemical Engineering

- Process Safety Engineering (p. 379)

Civil and Environmental Engineering

- Climate and Engineering (p. 407)
- Sustainability Engineering (p. 408)

Mechanical and Industrial Engineering

- Data Analytics Engineering (p. 526)
- Energy Systems (p. 527)
- Energy Systems Management (p. 528)
- Renewable Energy (p. 534)
- Sustainable Energy Systems (p. 535)

Engineering Business

- Engineering Business (p. 529)

Engineering Management

- Engineering Economic Decision Making (p. 531)
- Engineering Management (p. 532)
- Lean Six Sigma (p. 533)
- Supply Chain Engineering Management (p. 536)
- Technology Systems Management (p. 537)

Gordon Institute of Engineering Leadership

- Engineering Leadership (p. 551)

Multidisciplinary

- Blockchain and Smart Contract Engineering (p. 549)
- Software Engineering Systems (p. 554)

Telecommunication Networks

- Broadband Wireless Systems (p. 550)
- IP Telephony Systems (p. 553)

Bouvé College of Health Sciences

Website (https://bouve.northeastern.edu/)

Carmen C. Sceppa, MD, PhD, FGSA, Dean

Jennifer Kirwin, PharmD, BCPS, FNAP, Associate Dean for Academic Affairs
Clinical Professor—Department of Pharmacy and Health Systems Sciences, School of Pharmacy

215 Behrakis Health Sciences Center
617.373.3323
Bouve_College_of_Health_Sciences@northeastern.edu

The Bouvé College of Health Sciences strongly supports the mission of Northeastern University as a practice-oriented, student-centered, experiential research institution. The college is committed to the goals of the university, which include excellence in education, research, scholarship, clinical practice, experiential learning, access to educational opportunities, and a strong professional orientation.

Bouvé offers students an education in health, health profession fields, and public health that features a curriculum of highly relevant, closely integrated, basic and applied courses in the physical, biological, behavioral, social, environmental, and health systems sciences. Students engage in interprofessional patient care, interdisciplinary translational research, and experiential learning opportunities through service-learning, research, and global experiences.

Bouvé leverages interdisciplinary and interprofessional collaboration to tackle the world's most pressing health challenges. The college seeks to prepare students to become clinicians, researchers, and leaders in healthcare and in the promotion of health of individuals and populations.

Students are provided a broad range of services and programs to ensure their academic success and professional development. Faculty are deeply committed to student success, as students interact with world-class healthcare and educational institutions nationally and globally, to advance health for all.

Academic Policies and Procedures

I. General Information and Overview

- Academic and Professional Conduct
- Scientific or Research Misconduct
- Accommodations for Students with Disabilities

II. Experiential Education

- Background Checks
- Health Requirements (p. 571)
- Liability Insurance
- Experiential PhD Opportunities (https://phd.northeastern.edu/experientialphd/)
- Requirements for Clinical, Internships, and Practicum Courses

III. Financial Awards

- Financial Awards
- PhD Funding

IV. Advising

- Academic Advising and Student Advisement Responsibilities

V. Courses and Grades

- Grading Policies (see Academic Progression)
- Course Substitution
- Transfer of Credit

VI. Program Status and Progression

- Academic Affairs Appeals Process
- Academic Dismissal
- Academic Probation Policy
- Academic Progression
- Academic Standing (p. 584)
- Graduation Policies
- Leave of Absence (see Academic Progression)
- Program Extension Procedures (p. 583) (see Academic Progression)
- Conditional Acceptances (see Academic Progression)
- Withdrawal Procedures (p. 583) (see Academic Progression)

VII. Current Student Resources

- BCHS Student Forms
- BCHS Student Handbooks (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Handbooks.aspx)

Background Checks

Clinical education sites require background checks and/or drug screenings for employees, as well as for students who come to their facilities. All Northeastern University students will need to have background checks/drug screenings completed if their assigned clinical placement requires it. The college contracts with third-party vendors (such as Universal Background Screening, American DataBank, etc.) to perform these checks and screenings. These companies charge fees to conduct background checks/screenings, depending on the type of background check/screening needed. Students are responsible for any fees charged by companies conducting background checks/screenings.

All background check information is confidential. Results are posted to the company website in a secure, protected environment. A student may view their results online using a password. A student will be contacted by their program director, chair, or assistant dean if there is a question about the results. Neither a student nor the company is required to reveal the actual results of the background check to the clinical site. However, a student may be unable to be placed at that clinical site based on the site's requirements.

If an assigned clinical site requires a student to have a background check/screening, the on-campus clinical coordinator/clinical placement office will post the requirements and provide instructions and a deadline for completing the check. To ensure adequate processing time prior to the start of the clinical experience, it is crucial that the check be completed in advance of the deadline given. Failure to complete the check in a timely manner could jeopardize progression in the academic program.

These policies and/or procedures apply to Bouvé's undergraduate and graduate students.

Health Requirements

Students must comply with any university-wide health requirements (https://catalog.northeastern.edu/undergraduate/information-entering-students/health-requirements-uhcs/).

As a condition of matriculation at Northeastern University, all students are required to submit the completed University Health Report form. Consult the UHCS website (https://www.northeastern.edu/uhcs/forms/university-health-report/) for instructions and deadlines to submit the University Health Report form. UHCS may block the registration of those students who do not file the required form(s).

Clinical Clearance

Based on clinical education site requirements and associated clinical affiliation agreements, some programs in the Bouvé College of Health Sciences will require additional medical documentation and health certification. Additional requirements may include, but are not limited to, exam or statement of good health prior to registration, annual proof of physical examination, and/or proof of additional immunities. This "clinical clearance" may be required by some programs prior to engaging in clinical, internship, or fieldwork. Students should review the UHCS website (https://www.northeastern.edu/uhcs/forms/clinical-clearance/) for general information about clinical clearance as well as consult their major/program handbook and/or consult their program's director or clinical placement coordinator for more information.

These policies and/or procedures apply to Bouvé's undergraduate and graduate students.

Liability Insurance

Students on clinicals, clinical practicum, or clinical internships, under a clinical agreement with the university, are covered by Northeastern University's liability insurance program for claims arising out of the student performing assigned duties in the scope of their studies. Students should consult their clinical placement office, program director, and program policies for more information about liability insurance. If students have questions about their placement and the insurance provided, they may contact Risk Services (http://www.northeastern.edu/risk_services/).

Requirements for Clinical, Internships, and Practicum Courses

- Some Bouvé programs require courses with clinical, internship, or fieldwork components. Such components are offered at affiliated hospitals, clinics, schools, medical facilities, or other institutions and involve contractual agreements with these institutions or sites.
- Some Bouvé programs have cooperative education requirements. Students secure co-ops through a job search process and are employees of an institution while on co-op. Co-op students are subject to the policies, procedures, and requirements of their employers.
- The university is affiliated with numerous clinical sites across the country and around the world. Depending on the program, students may be required to travel outside of Massachusetts to complete clinical courses. Students are responsible for any costs associated with transportation and/or housing.
- Evaluation for clinical courses will be based on established guidelines and policies that students will receive prior to and/or during the clinical component. Periodic performance evaluations will take place during the course of the academic term. See specific program clinical policies and procedures, handbooks, or course syllabi for details.
- In order to enroll students in university-sponsored accidental injury insurance, elements of students' demographic information (including date of birth, address, and phone number) will be communicated via a university-contracted third-party clinical database to Risk Services and to the company providing the coverage. In addition, programs may use elements of a student's demographic information in the process of site onboarding. Students may refer to the university privacy policy (https://www.northeastern.edu/privacy-information/) and contact their program director or clinical placement office for more details.

Student Conduct

- Students assigned to an institution or site for instruction are expected to adhere to the rules and regulations of that institution. Failure to adhere to these rules may result in dismissal from that institution or site.
- Students should be aware that, while participating in any form of clinical practice, they continue to be under the jurisdiction of the university. Any breaches of conduct committed by a student in a clinical setting that would be a violation of the university Code of Student Conduct (http://www.northeastern.edu/osccr/code-of-student-conduct/) or relevant unit-specific Professional Code of Conduct shall also be considered a cause for disciplinary action against the student.
- All students are required by federal and state law to respect the confidentiality of the patients' and/or students' records under the Health Insurance Portability and Accountability Act and/or Family Educational Rights and Privacy Act, respectively, to which they may be privy. This includes, but is not limited to, patient/student identity and identifiers, diagnostic tests performed, medical history, special needs, and medications prescribed. For more information, students should contact their on-campus clinical education coordinator and/or clinical education site coordinator.

Health Clearance, Background Check, and Training Requirements

- Evidence of health clearance is required for experiential courses (including clinicals, internships, and practicums) in their field of study. All students, regardless of age, must have a current physical exam, tuberculin test, and documentation of immunity on file at University Health and Counseling Services (https://www.northeastern.edu/uhcs/) and provide such documentation to their on-campus clinical coordinator/clinical placement office as requested.
- Students must meet the health clearance requirements of their academic program and any site-specific requirements prior to entering the clinical setting. This means that students must make arrangements for their physical exams and immunizations months before they are scheduled for a clinical course or rotation. Students who do not present the appropriate health certification will be prohibited from attending a clinical course or rotation until satisfactory evidence is provided. Students who do not meet site-specific requirements may not be able to pass a clinical course and risk their ability to complete the degree program.
- Some programs use clinical clearance software packages (such as Exxat, Complio, or CastleBranch) to ensure compliance with health clearance requirements. In these cases, students are responsible for software account fees. Fees will be paid by the student directly to the software company.
- More specific guidelines are available from UHCS in 135 Forsyth, online at UHCS (https://www.northeastern.edu/uhcs/forms/clinical-clearance/), or from the individual program's clinical placement office. Guidelines are updated periodically, and students must meet the most current guidelines or they will not be allowed into a clinical area.
- School of Nursing students must provide evidence of health documentation utilizing an immunization tracker in order to ensure that documents are updated on a yearly basis. All fees required for the immunization tracking will be paid by the student directly to the tracking service.
- In preparation for clinical education experiences, all students will complete on-site training in universal precautions and safe practices offered by the Office of Academic and Research Safety (https://oars.northeastern.edu/) or training vetted and approved by the Office of Environmental Health and Safety and offered by their program. Students must also complete an annual online refresher course in blood-borne pathogens exposure.
- Students may be required to complete background checks/drug screening prior to engaging in clinical, internship, or fieldwork courses as outlined in this catalog (p. 570).

POLICIES FOR INTERNATIONAL STUDENTS

- Students in F-1 visa status must consult with the university's Office of Global Services (https://international.northeastern.edu/ogs/) before enrolling in clinical, internship, practicum, off-campus directed study, or capstone courses in order to discuss proper documentation for these

curriculum requirements (see also F-1 Curricular Practical Training (https://international.northeastern.edu/ogs/employment/curricular-practical-training-cpt-f1/)).

- Graduate international nursing students must have a current U.S. nursing license.

Academic, Professional, or Research Misconduct

The healthcare professions represented by the programs in Bouvé College require more of their members than simple mastery of technical knowledge and skills. Equally important is the ability to earn the respect and confidence of those who seek medical care. The nearly universal existence of codes of conduct and standards of professional ethics and behavior in these disciplines is evidence that certain types of conduct are expected in order to promote this respect and confidence. Fundamental to most of these codes is an understanding that healthcare professions require individuals who conduct their activities in a manner that reflects a total concern for the well-being of the patient. Violations of ethical conduct may be grounds for dismissal from the program. Students are expected to learn and practice the conduct that is appropriate to their professions and promotes the physical and mental well-being of the patient.

Bouvé students are expected to adhere to the highest academic and professional standards. The university Code of Student Conduct (http://www.northeastern.edu/osccr/code-of-student-conduct/) sets forth the university's expectations of behavior that promotes the safety and welfare of the Northeastern University community. The university Code of Student Conduct defines various aspects of academic misconduct, such as cheating and plagiarism. Lack of knowledge of these definitions does not negate the student's responsibility for upholding them. Academic misconduct is regarded as a serious violation of ethical standards and may result in the student's immediate dismissal from the program.

Failure to meet these standards, including misconduct in academic, professional, or research activities, will result in disciplinary action. Such actions may include a lowered or failing grade in the course, probation, suspension, or immediate dismissal from the program. **Students found responsible for academic, professional, or research misconduct will have a letter placed in their permanent file stating the pertinent findings of their case.** No student may withdraw from a course in which they have been notified that they will fail for a specific finding of academic dishonesty.

In addition to maintaining complete honesty in all academic work, students admitted to clinical or professional programs in the Bouvé College of Health Sciences are expected to familiarize themselves with the code of ethical conduct of the professional discipline they are entering and to agree to uphold these principles.

Similarly, students who participate in research programs are expected to familiarize themselves with the code of ethics in research. Such a code is outlined in Guidelines for the Conduct of *(*https://oir.nih.gov/sourcebook/ethical-conduct/research-ethics/nih-guidelines/*)Research.* Ethical codes of conduct for researchers are also presented in the National Academy of Sciences' (https://www.nap.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in/) On Being a Scientist, A Guide to Responsible Conduct in Research *(*https://www.nap.edu/catalog/12192/on-being-a-scientist-a-guide-to-responsible-conduct-in/*).* Violations of research ethics can include, but are not limited to, falsification or fabrication of data, plagiarism, malicious allegations of misconduct in science, covering up or failing to report misconduct, obstructing due process in investigations of misconduct, and reprisals against those revealing misconduct.

See also the *Scientific or Research Misconduct* section of the Academic Appeals Policies and Procedures (p. 70) page in this catalog.

These policies and/or procedures apply to Bouvé's undergraduate and graduate students, unless specifically indicated otherwise in this section of the catalog.

Financial Awards

Northeastern University and the Bouvé College of Health Sciences offer a variety of financial awards to graduate students. For further information about awards, please refer to the Financial Aid Assistance (p. 36) section of this catalog and the Student Financial Services (https://studentfinance.northeastern.edu/applying-for-aid/graduate/) website.

If a student is offered other grant aid from the university, they will only receive the scholarship of higher value.

Advising

The unit director or another faculty member will be appointed by the program director to serve as the student's academic advisor throughout their course of study at the Bouvé graduate school.

The advisor will assist the student in understanding program requirements and in defining career goals and objectives of graduate work. The advisor will also monitor the student's progress toward successful completion of the degree.

Student Advisement Responsibilities

Students share responsibility with their advisor for successful matriculation and progression in their graduate program. In many programs, students are required to make appointments for academic advisement at least twice a year and must regularly update their curriculum plan with their advisor. The curriculum plan is kept on file in the respective program's office. Both student and advisor retain a copy of the curriculum plan. Students must contact their academic advisor prior to making changes to their curriculum plan and must seek assistance regarding academic issues in a timely manner.

Course Substitution

A student must obtain approval from the student's academic advisor and the Bouvé Office of Student Services to substitute a graduate course completed for a prior degree for the student's program requirement. The student must provide official transcripts of completed coursework, accompanied by the respective course syllabi, to the advisor in order to verify its equivalency to the proposed course substitution. The student then must submit the signed Course Substitution (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form and the official transcript to the Bouvé Office of Student Services. If the Course Substitution (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form is approved, the student must still complete a course of equivalent number of credits as a replacement for the substituted course to fulfill the program's academic requirements. The course must be listed in this catalog as either a core or elective course for the program.

Transfer of Credit

For general regulations concerning transfer credit in Northeastern's graduate degree programs, please visit Regulations and Requirements for All Degree Programs (p. 91).

Students who wish to take a course for transfer at another institution while enrolled at Bouvé should first receive preapproval from their academic advisor and the Bouvé Office of Student Services. The Graduate Petition to Transfer Credit form can be found at the Office of the University Registrar (https://registrar.northeastern.edu/article/transfer-credit/).

A Bouvé student may not complete coursework at another institution during the last term of the student's program intending to transfer back to Northeastern to complete the student's program.

Academic Affairs Appeals Process

Purpose of the Bouvé College Academic Affairs Committee

- The college Academic Affairs Committee acts on matters relating to the academic and professional standing of all Bouvé students in the college who have already appeared before the unit's Academic Standing Committee and school dean, department chair, or designee.
- Issues pertaining to academic and co-op status and professional behaviors violations, including but not limited to warning, probation, permission to resume studies, changes in requirements, and repeating courses, fall within the jurisdiction of the AAC. The AAC also considers student appeals relative to academic or cooperative education judgments by faculty, coordinators, or others acting on behalf of the university, when such appeals arise from a violation, misinterpretation, or inequitable application of the academic provisions outlined in the University Catalog, Cooperative Education Handbook, or student handbooks.
- Appeals arising from allegations of discrimination or harassment on the basis of a protected category should be referred to the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/). The Disability Resource Center (http://www.northeastern.edu/drc/) provides an appeal process for students with disabilities who believe their accommodation requests were unduly denied. If other allegations remain at the conclusion of those inquiries, then the student may refer them to the dean for review by the AAC of the college.

Graduate Student Academic Appeals Procedures

The university policy on graduate student appeals of academic standing or other academic decisions may be found in the graduate sections of this catalog. Academic, professional, scientific, and research misconduct is addressed in the Academic Appeals Policies and Procedures (p. 70) page as well as on the Requirements for Clinical, Internships, and Practicum Courses page in this catalog.

LEVELS OF THE APPEAL PROCESS

Please see the Academic Appeals Policies and Pro (http://catalog.northeastern.edu/graduate/academic-policies-procedures/appeals/)cedures (http://catalog.northeastern.edu/graduate/academic-policies-procedures/appeals/) page in the graduate catalog for the process steps involved in graduate student appeals.

Step 1:
Discuss concerns with instructor and/or administrator.

Step 2:
If the concern remains unresolved after discussions in step 1, prepare and submit an appeal statement. Students are encouraged to contact their academic advisor for guidance.

Step 3A: BCHS Unit-Level Appeal

The first step in an appeal in the Bouvé College of Health Sciences is to the unit-level Academic Standing Committee of the unit offering the course. Such appeals should be submitted within 28 calendar days of the day when the student learns of the academic determination. The unit's ASC must provide the student and involved faculty member with a written report of the finding(s) and decision within 10 business days.

Step 3B: Department Chair- or School Dean-Level Appeal
If the student believes they have been erroneously, capriciously, or otherwise unfairly treated with the unit-level committee's decision, they may pursue a secondary appeal to the next level as specified below:

School of Clinical and Rehabilitation Sciences: department chair of the unit offering the course or program

School of Community Health and Behavioral Sciences: department chair of the unit offering the course or program

School of Nursing: school dean

School of Pharmacy: school dean

The student must request the appeal by contacting the specified office in writing via email within 10 business days of receiving the report from the previous step. After consideration, the department chair or school dean, or their representative, shall provide the student and involved faculty member with a written report of their finding(s) and decision within 10 business days of receiving the appeal request.

Step 3C: College-Level Appeal
If the student is not satisfied with the disposition of the matter at the previous step, they may proceed with the appeal through the BCHS AAC. The BCHS AAC hears cases that have been unsatisfactorily resolved at the prior school and unit levels for "students who believe that they have been erroneously, capriciously, or otherwise unfairly treated" or may directly hear appeals concerning final course grades or when a unit does not have a unit-level committee.

The student must request an appeal hearing in writing (via email) within 10 business days of receiving the report from the previous step. After consideration, the college dean or their representative shall provide the student and involved faculty member with a written report of their finding(s) and decision within 10 business days of receiving the appeal request.

Processes for College-Level Appeals to the BCHS AAC

- Students wishing to bring an appeal before the college AAC should first consult with their appointed academic advisor, or when the appeal involves the academic advisor, with the assistant dean of student services.
- The chair of the college AAC will convene the college appeals panel from among the regular members of the BCHS AAC. The appeals panel will include three voting members of the BCHS AAC that appropriately represent the breadth and depth of programs within the college. At minimum, two schools will be represented on the panel and at least one member who teaches within a similar degree-level program. Members of the panel shall have no known conflicts of interest with the student. The assistant dean of student services and the chair of the AAC will attend the appeal panel hearing as nonvoting members.
- The chair for the appeal panel shall be selected from among the panel members and is responsible for producing a formal recommendation of the committee for communication to the college dean.
- The chair of the AAC will be responsible for scheduling the meeting, notifying the student and other participants in a timely manner so they may attend, and keeping and archiving records of the proceedings according to committee procedures.
- The chair of the appeal panel will notify the college dean of the findings and recommended decision. The college dean will have the final decision.
- The college dean will notify the student and other relevant parties of the decision in writing no later than 10 business days after the decision.

Step 4: University Level

If the student is not satisfied with the college's disposition of the matter or if the appeal is not resolved within the timeline outlined in the Academic Appeals Policies and Procedures, the student may appeal to the university level, as outlined in this catalog.

Academic Dismissal

A student may be dismissed from a graduate program when they have failed to maintain academic requirements or have violated a policy that specifies immediate dismissal. All students shall have an opportunity to correct academic deficiencies during an appropriate probationary period before dismissal is instituted, except when the policy specifies "immediate dismissal."

Students may be subject to dismissal from a program under the following conditions. *(Note:* Additional requirements that are not included in this list, but are specific to the student's major, may also apply.)

- The student exhibits unethical behavior or misconduct in their academic program, practicum, internship, or research.
- The faculty instructor and/or the clinical supervisor determines that the student has demonstrated unsafe or inappropriate behavior in a clinical setting.
- The student does not register for at least one class for two consecutive semesters and does not have an approved leave of absence.
- The student has a cumulative grade-point average below 3.000 at the end of the probationary period specified by the action plan.
- The student does not demonstrate satisfactory performance in achieving the objectives of a clinical course.
- The student fails to meet all the requirements of the program within the specified time limit mandated by the program and has not been approved for a formal extension.
- The student in a PhD program fails to successfully complete the PhD qualifying/comprehensive exams as stipulated by the program.
- The student fails to progress satisfactorily in research or fails to identify a committee for their thesis or dissertation within the time specified by the policies of the specific program.
- The student has failed to file an action plan within one month of notification of probation.
- The student has failed to meet the requirements of the action plan, including requirements that are specific to the student's major.
- The student has failed three courses or has failed the same course twice.

Dismissal Procedures

Dismissal of a student from a program is initiated by the program director once the basis for the dismissal is provided to and reviewed by the Bouvé Office of Student Services. The program director will then notify the student of the dismissal. Students may then appeal the dismissal via the Bouvé College Academic Affairs Appeals Process (p. 579). *Note:* Students dismissed from their major/program but who are otherwise in good standing with the university are allowed to remain at Northeastern University for up to two semesters as a provisional Bouvé student, by the end of which, the student is expected to move into a new major. If not moved into a new major by the end of two semesters, the student will be blocked from further registration.

When a student is dismissed from the university, they are not permitted to remain registered for courses in the immediate next academic term. If the university dismissal is successfully appealed, a student may register for classes in the following academic term.

Academic Probation Policy

Academic probation is a period of time when a student must address and remediate academic deficiencies.

A Bouvé graduate student may repeat a course only once to achieve a passing grade and may repeat only two courses during the entire program of study. A student may be on probation for only two semesters, or until the course is offered again, unless the advisor approves an action plan that specifies a longer (but definite) period. A student may only be placed on probation twice during enrollment in Bouvé and must correct all deficiencies, as specified, in each respective action plan during the applicable probationary period. Failure to remediate the deficiency within the agreed time may result in dismissal from the program. During the period of probation, the student must earn a GPA of 3.000 or better each semester, or the student is subject to dismissal from Bouvé. Note that individual graduate programs may have additional requirements that must be included in the probation action plan.

A student will be removed from academic probation after the student has attained a cumulative GPA of 3.000, earned a passing grade in a repeated course, and/or demonstrated satisfactory performance in a clinical course.

Academic Probation Procedure

Academic standing is determined at the conclusion of every term and students on academic probation are notified via email. Students on probation are required to meet with their advisor before the end of week two of their probationary semester to complete an Academic Probation Contract (https://bouve.northeastern.edu/student-services/webforms/). Once the contract is completed and signed, students are required to submit it to both their program and their Student Services designee, no later than the end of week three of the probationary term. Failure to submit an Academic Probation Contract in a timely manner may result in dismissal from the college.

The program will review the student's contract and provide any additional feedback or recommendations for the student and return a signed copy to the student. Advisors or a Student Services representative will meet with students on academic probation throughout the semester to benchmark progress and assess compliance with the contract during weeks four, 10, and 12.

A review of the student's progress will occur at the end of the term.

- If a student returns to good standing, they will no longer be on academic probation.
- If a student does not return to good academic standing, their compliance with their contract will be reviewed:

    1. If a student was compliant with the contract, they will be required to submit a second Academic Probation Contract to the unit.
    2. If a student did not comply with the contract, they may be dismissed from Bouvé with an option to appeal.

Academic Progression

Program Status and Progression

All degree requirements must be completed within seven years of matriculation, although individual academic programs may require completion in a shorter time frame. Each student is responsible for reviewing the requirements for the student's particular program. A student's failure or inability to register does not extend the amount of time allowed to complete the program. Students should be registered by the first week of each semester (fall, spring, and, where indicated, summer). Course credits earned in programs of graduate study are valid for a maximum of seven years. A student may request an extension of these time frames from the program director and the Bouvé associate dean for academic affairs.

After reaching candidacy, students must register for Dissertation for a minimum of two semesters. Continuation status enrollment is for students who are postcandidacy, have completed all coursework and their residency requirement, and are actively engaged in completing a dissertation.

In order to progress in clinical courses that are sequenced, a student must receive a passing grade in all prior courses in the sequence. In the event that a student fails a clinical course that is not part of a sequence, progression is at the discretion of the student's academic advisor and/or the program director. When a student fails a clinical course that is part of a sequence of courses, the course instructor must notify the Bouvé Office of Student Services. Course material related to the student's failure (e.g., examination reports, clinical reports) must be made available to the student for review.

ANNUAL REVIEW FOR PHD STUDENTS

The academic progress of each PhD student will be evaluated through an annual review. A copy of each review shall be submitted to the student and the Graduate Office. If the annual academic review reports that a student is not making sufficient academic progress due to research performance, the PhD student will be placed on academic probation. After two consecutive semesters on academic probation, the student may be dismissed from the program.

CONDITIONAL ACCEPTANCES

A student who is accepted *conditionally* to a graduate program at Bouvé College of Health Sciences must meet the conditions set in the acceptance letter *before* the student matriculates into the program and prove that they have fulfilled the stated condition(s). Examples of conditions include receipt of official verification of previous degree completion, completion of missing prerequisite courses, receipt of a missing recommendation, receipt of standardized test scores, and translation of international documents.

Students who fail to meet the conditions of their acceptance may be subject to dismissal from the program.

PROGRAM EXTENSION PROCEDURES

Students may seek an extension to complete their program of study only under documented extenuating circumstances. The student must complete the Graduate Program Status Change (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form and an action plan to complete the degree requirements. The form and the proposed action plan must be submitted to the program director and to the Bouvé Office of Student Services for approval. After the form is reviewed, a program extension may be granted.

LEAVE OF ABSENCE

Students planning on taking a leave of absence should first meet with their academic advisor to discuss their intention to submit a request for a leave of absence one month prior to the start of the semester during which they plan to take the leave. After meeting with their academic advisor, the student should then submit the leave of absence petition through the Student Hub. Students returning from a leave of absence should notify the Bouvé Office of Student Services of their intent to return at least one month prior to the start of the semester. Students with an approved leave of absence who do not return at the end of the leave of absence period will be withdrawn by the university. Please refer to the Leaves of Absence and University Withdrawal (p. 57) in this catalog for more information and policies on leaves of absence. Individual programs may have additional procedures related to leaves of absence. Consult the program's overview and requirements page in this catalog in addition to the information above.

WITHDRAWAL PROCEDURES

Students can withdraw from the university only through the Student Hub. *Students are responsible for dropping any courses in which they are currently registered and should have an exit interview with their financial aid advisor.* Faculty members are not responsible to notify the university of a student's withdrawal. For more information on withdrawal procedures, please refer to the Graduate Academic Policies and Procedures (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/) page. For information concerning refund policies, please refer to the Student Financial Services website (http://www.northeastern.edu/financialaid/policies/).

GRADING POLICIES

Requirements for fulfillment of a degree in the Bouvé College of Health Sciences graduate school vary by program. Students must consult their individual academic program's requirements page in this catalog, as well as program directors *(if applicable),* for specific credit and noncredit requirements necessary to earn a specific degree. See also Graduate Academic Policies and Procedures (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/) for more information.

Academic Standing

Academic standing in Bouvé is determined by the student's cumulative grade-point average and performance in academic and clinical courses that are required by the student's program. All Bouvé students are expected to maintain a cumulative GPA of 3.000 each semester to remain in good academic standing and to progress toward graduation. Students who do not maintain a cumulative GPA of 3.000 each semester will be placed on academic probation (p. 582).

Each program has its own minimum grade requirements. Please review the program's requirements page in this catalog for details.

Academic Standing Petitions

Students must submit petitions to their program's academic standing committee, graduate committee, or program director (as applicable) to request:

- A leave of absence (https://registrar.northeastern.edu/article/leaves-of-absence/)
- A waiver of policy
- A change in probationary status (see webform here (https://bouve.northeastern.edu/student-services/webforms/))
- A change in program (see Graduate Program Status Change form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx))
- A change of status in program (e.g., full-time to part-time or vice versa; see Graduate Program Status Change form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx))
- A different course of action regarding their academic standing, progression, probation, or dismissal (see webform here (https://bouve.northeastern.edu/student-services/webforms/))
- An extension of degree completion time (see Graduate Program Status Change form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx))
- A transfer or waiver of credits or preapproval for course to be taken for transfer (see Graduate Petition to Transfer Credit (https://registrar.northeastern.edu/article/transfer-credit/))
- Directed study (see Individual Instruction Registration (https://registrar.northeastern.edu/article/individual-instruction-registration/))

The petition must include all relevant information. Students may be required to provide extra documentation such as official transcripts and/or course descriptions. A copy of this action is filed in the student's permanent record in the Bouvé College of Health Sciences Office of Student Services.

Graduation Policies

Eligibility to Graduate

Students are eligible for graduation under the following conditions:

- The student is in good academic standing with a cumulative grade-point average of 3.000 or above.
- The student has earned at least the minimum number of credits required to complete the student's program of study.
- The student has fulfilled other program requirements and any outstanding issues.

Apply to Graduate

Students must apply to graduate through the Student Hub, review their degree audit for accuracy, and may choose to meet with their academic advisor for academic clearance.

Issuance of Diplomas and Certificates

Diplomas and certificates are issued three times a year (December, May, and August), but there is only a spring Commencement ceremony. Please visit the Commencement Office website (https://www.northeastern.edu/commencement/) to confirm eligibility to participate in the spring Commencement ceremony.

Completing a Thesis for a Master's Program

Students completing a thesis as part of the program's academic requirements are required to complete the following **at least five business days before the final grade submission deadline for the academic term:**

- Upon successful defense of the thesis, the student must have the Thesis Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form signed by the members of the thesis committee.
- The student must submit an electronic copy of the thesis to ProQuest, following the directions outlined at the University Library (https://library.northeastern.edu/archives/archives-special-collections/use-our-collections/theses-dissertations/) website.
- The student must have the Thesis Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form approved by a representative from the Bouvé Office of Student Services.

PhD Program Completion

PhD degree completion has additional requirements.

- The PhD hooding and degree conferral ceremony is only held during the spring semester. PhD students may not be hooded until they have successfully defended their dissertations and completed all academic requirements.
- Students completing a dissertation must complete the following **at least five business days before the final grade submission deadline for the academic term:**
    - Upon successful defense of the dissertation, the student must have the Dissertation Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form signed by the dissertation committee members.
    - The student must submit an electronic copy of the dissertation to ProQuest, following the directions outlined in the University Library (https://library.northeastern.edu/archives/archives-special-collections/use-our-collections/theses-dissertations/) website.
    - The student must complete an exit survey, at which time the Dissertation Approval (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Forms.aspx) form will be approved.
    - Students must submit a copy of the Survey of Earned Doctorates Certification of Completion (https://sed-ncses.org/login.aspx) to the Bouvé Office of Student Services before graduation. Instructions for submission of the survey will be sent to the student prior to the end of the student's last term.

Interdisciplinary Programs

Doctor of Medical Science (DMSc)

- Healthcare Leadership (p. 587)

Doctor of Philosophy (PhD)

- Network Science (p. 273)
- Personal Health Informatics (p. 314)

Master of Science (MS)

- Health Informatics (p. 314)
- Pharmaceutical Engineering (p. 374)
- Real-World Evidence in Healthcare and Life Sciences (p. 599)

Dual Degree

- Health Informatics, MS/Physician Assistant Studies, MS (https://catalog.northeastern.edu/graduate/health-sciences/medical-sciences/physician-assistant-studies-ms-health-informatics-ms/)
- Law, JD/Public Health, MPH (p. 602)
- Pharmacy, PharmD (p. 603)—Direct Entry/Public Health, MPH (p. 603)
- Physician Assistant Studies, MS/Public Health, MPH (https://catalog.northeastern.edu/graduate/health-sciences/medical-sciences/physician-assistant-studies-ms-public-health-mph/)
- Public Health, MPH/Health Informatics, MS (p. 605)

Graduate Certificate

- Early Intervention (p. 606)
- Health Informatics Management and Exchange (p. 607)
- Health Informatics Privacy and Security (p. 607)
- Health Informatics Software Engineering (p. 667)
- Patient Safety (p. 607)

Healthcare Leadership, DMSc

Northeastern University's Doctor of Medical Science (DMSc) is an interdisciplinary degree designed for medical professionals to advance their education and expand their career opportunities in the areas of healthcare leadership, administration, informatics, law, safety, and advocacy. Students from diverse healthcare backgrounds share the common goal of developing facility with healthcare systems and becoming leaders within the greater healthcare community.

In addition to taking core courses in healthcare leadership, administration, and research methods, students will have the opportunity to obtain additional education in one of several areas of specialization. These concentrations are designed to empower graduates from diverse backgrounds with the technical and analytical expertise that is both relevant and in high demand in today's healthcare environment. Students will have the opportunity to collaborate with faculty not only from the Department of Medical Sciences but also with world-renowned faculty from a variety of interdisciplinary fields within Northeastern University and the greater Boston community. This collaboration will allow students to access expertise and knowledge across disciplines that will culminate in the creation of an original thesis study.

Admission to the program requires a master's degree in a healthcare-related field or a bachelor's degree plus at least three years of full-time clinical experience.

This degree will take between 12 and 18 months to complete and can be fully completed online.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
Healthcare Leadership		
MSCI 6001	Principles of Healthcare Advocacy	3
MSCI 6002	Workforce Metrics: Measuring, Comparing, and Privileging the Interprofessional Healthcare Team	3
MSCI 6003	Healthcare Leadership Seminar	3
PHTH 6204	Society, Behavior, and Health	3
Research		
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	3
MSCI 6900	Research Methods and Design	3
MSCI 7990	Thesis	3
MSCI 7996	Thesis Continuation - Half-Time	0

Concentrations

Completing a concentration is required to complete this program. A minimum of 12 semester hours is required.

- Business Management (p. 588)
- Health Informatics (p. 588)
- Health Informatics Research (p. 588)
- Health Law (p. 588)
- Interdisciplinary Healthcare Leadership (p. 588)
- Patient Safety (p. 589)
- Pharmacy and Health Systems Science (p. 589)
- Public Health (p. 589)

Program Credit/GPA Requirements

Minimum of 33 total semester hours required

Minimum 3.000 GPA required

CONCENTRATION IN BUSINESS MANAGEMENT

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	

CONCENTRATION IN HEALTH INFORMATICS

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 3 semester hours from the following:		3
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	

CONCENTRATION IN HEALTH INFORMATICS RESEARCH

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 4 semester hours from the following:		4
CS 6350	Empirical Research Methods	
HINF 5300	Personal Health Interface Design and Development	

CONCENTRATION IN HEALTH LAW

Code	Title	Hours
Concentration Required		
LW 6102	Introduction to Legal Studies 2	3
Selective		
LW 6102 is a prerequisite for the LW courses listed below. Complete 9 semester hours from the following:		9
LW 6110	Law of Information and Records	
LW 6150	Law and Organizational Management	
LW 6180	Health Law Survey	
LW 6181	Healthcare Regulation and Compliance	
LW 6182	Patient Records, Privacy, and Security	

CONCENTRATION IN INTERDISCIPLINARY HEALTHCARE LEADERSHIP

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
Business Management for Healthcare		
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	
Health Informatics		
CS 6350	Empirical Research Methods	
HINF 5101	Introduction to Health Informatics and Health Information Systems	

HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5407	Business Application of Decision Support in Healthcare
HINF 6205	Creation and Application of Medical Knowledge
HINF 6220	Database Design, Access, Modeling, and Security
HINF 6400	Introduction to Health Data Analytics
Health Law	
HRM 6030	The Employment Contract
LW 6102	Introduction to Legal Studies 2
LW 6102 is a prerequisite for the following LW courses:	
LW 6110	Law of Information and Records
LW 6150	Law and Organizational Management
LW 6180	Health Law Survey
LW 6181	Healthcare Regulation and Compliance
LW 6182	Patient Records, Privacy, and Security
Pharmacy and Health Systems Science	
PHMD 5223	Evidence-Based Medicine
PHMD 5575	Pharmaceutical Industry
Public Health	
PHTH 5120	Race, Ethnicity, and Health in the United States
PHTH 5212	Public Health Administration and Policy
PHTH 6200	Principles and History of Urban Health
PHTH 6208	Urban Community Health Assessment

CONCENTRATION IN PATIENT SAFETY

Code	Title	Hours
Concentration Required		
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

CONCENTRATION IN PHARMACY AND HEALTH SYSTEMS SCIENCE

Code	Title	Hours
PHMD 5223	Evidence-Based Medicine	2
PHMD 5250	Pharmacy Care Management	4
PHMD 5270	Economic Evaluation of Pharmaceuticals and Pharmacy Practice	2
PHMD 5560	Applied Drug Information	2
PHMD 5575	Pharmaceutical Industry	2

CONCENTRATION IN PUBLIC HEALTH

Code	Title	Hours
Concentration Required		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Health Informatics, MS

Northeastern University's interdisciplinary Master of Science in Health Informatics was the first MS in the field and is now one of the few that is fully interdisciplinary between health science and computer science.

The program seeks to prepare students to address the combined clinical, technical, and business needs of health-related professionals. Students may opt to select a concentration to deepen their knowledge in a particular area. Successful students graduate with the knowledge of how technology, people, health, and the healthcare system interrelate; the ability to use technology and information management to improve healthcare delivery and outcomes; and the skills to communicate effectively among healthcare practitioners, administrators, information technology professionals, and patients.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B– or higher is required in each course.

Core Requirements

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5105	The American Healthcare System	3

Program Options

Choose one of the following options:

- Health Informatics (Without Concentration) (p. 314)
- Health Informatics with Health Informatics Analytics Concentration (p. 315)
- Health Informatics with Personal Health Informatics Concentration (p. 316)

Program Credit/GPA Requirements

Minimum 33 total semester hours required
Minimum 3.000 GPA required

HEALTH INFORMATICS (WITHOUT CONCENTRATION)

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	

HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
Complete two of the following:		6
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
HINF 6400	Introduction to Health Data Analytics	
PHTH 5202	Introduction to Epidemiology	
PHTH 5210	Biostatistics in Public Health	
PHTH 6210	Applied Regression Analysis	
PHTH 6400	Principles of Population Health 1	
PHTH 6440	Advanced Methods in Biostatistics	
One course from the following may count toward the technical core requirement:		
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
Capstone		
HINF 7701	Health Informatics Capstone Project	3
Electives		
Complete two of the following:		6
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
HINF 6345	Design for Usability in Healthcare	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

HEALTH INFORMATICS ANALYTICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	
HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Capstone		
HINF 7701	Health Informatics Capstone Project	3
Elective		
Complete one of the following:		4
IE 5137	Computational Modeling in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	

PERSONAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Health Informatics		
HINF 6205	Creation and Application of Medical Knowledge	3
Technical		
CS 5340	Computer/Human Interaction	4
Complete one of the following. Students must petition to take electives outside the approved list.		4
CS 5010	Programming Design Paradigm	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 6200	Information Retrieval	
Complete one of the following:		3
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
Theory and Evaluation		
PHTH 5210	Biostatistics in Public Health [1]	3
Complete one of the following:		4
CS 6350	Empirical Research Methods (On campus only)	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Culminating Experience		
Complete one of the two options below.		6
Thesis Option		
Students must enroll in HINF 7990 for two semesters for a total of 6 semester hours with director approval only and under supervision of Personal Health Informatics faculty.		
HINF 7990	Thesis	
Capstone Option		
HINF 7701	Health Informatics Capstone Project	
Complete any course for a minumum of 3 semester from the Health Informatics (without concentration) curriculum, that has not been used in previous requirements.		

[1] Student may petition director to take a more advanced stats course, such as Applied Regression Analysis (PHTH 6210).

Pharmaceutical Engineering, MS

The Master of Science in Pharmaceutical Engineering is offered jointly by Northeastern University's College of Engineering and Bouvé College of Health Sciences. The program prepares students with a fundamental understanding of pharmaceutical sciences and principles of engineering to develop the depth needed for advanced study of pharmaceutical engineering.

This program is generally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields in engineering, sciences, or mathematics. The program was designed in collaboration with the Department of Pharmaceutical Sciences to develop the depth needed for advanced study of pharmaceutical engineering. Students wishing to pursue the master's degree with undergraduate educational backgrounds other than engineering are required to demonstrate completion of mathematics coursework through differential equations or the equivalent to be admitted. Students are advised to work closely with their advisors and instructors to determine the electives that would meet their career goals.

Part-Time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit.

Master of Science students wishing to change their status from part time to full time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7600	Pharmaceutical Engineering I	4
CHME 7601	Pharmaceutical Engineering II	4
CHME 7602	Pharmaceutical Engineering Laboratory	2
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 7010	Pharmaceutical Sciences Laboratory	4

Restricted Elective Courses

Code	Title	Hours
At least 3 semester hours of total elective courses are required from pharmaceutical sciences (PHSC, PMST) and from chemical engineering (CHME). These semester hours could come from any elective group, as appropriate.		
Regulatory		
Complete 3 semester hours from the following:		3
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5500	Concepts in Regulatory Science	
BIOT 6320	Quality Management Systems and Validation	
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6002	Introduction to Regulatory Compliance and Practice	
Quality/Statistics		
Complete 4 semester hours from the following:		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
PHSC 6214	Experimental Design and Biostatistics	
Depth Electives		
Complete 7 semester hours from the following:		7
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6340	Sterile Manufacturing Operations	
BIOT 7250	Advanced Biotechnology Applications Laboratory	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5160	Drug Delivery: Engineering Analysis	

CHME 5179	Complex Fluids and Everyday Materials
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 7330	Chemical Engineering Thermodynamics
CHME 7350	Transport Phenomena
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5310	Cellular Physiology
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5555	Pharmaceutical Toxicology
PHSC 5560	Nanotoxicity
PHSC 5619	Mass Spectrometry in Drug Development
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Real-World Evidence in Healthcare and Life Sciences, MS

Overview

The Master of Science in Real-World Evidence (RWE) is an interdisciplinary, flexible, and contemporary degree that focuses on best practices for the appropriate acquisition and analysis of observational health data. Housed in the Department of Health Sciences and the Roux Institute, learners explore how observational research produces a comprehensive understanding of disease, including experience with appropriate methods and software to conduct this research.

RWE#is the clinical evidence regarding the usage and potential benefits, or risks, of a medical product derived from analysis of real-world data (RWD). RWE can be generated by different study designs or analyses, including but not limited to randomized trials, pragmatic trials, and observational studies. RWDare the data relating to patient health status and/or the delivery of healthcare routinely collected from a variety of sources, for example, electronic health records, claims, and billing activities.

RWD and RWE are playing an increasing role in healthcare decisions. The FDA uses RWD and RWE to monitor postmarket safety and to make regulatory decisions. The healthcare community uses these data to support coverage decisions and to develop guidelines and decision support tools for clinical practice. Medical product developers use RWD and RWE to support clinical trial designs and observational studies to generate innovative, new treatment approaches.

This program is based on open, reproducible science—including the use of common data models and open-source analytics software to codify these practices into consistent, transparent, reproducible solutions—and applies these tools and practices to answer clinical questions by generating evidence to guide healthcare policy and improve patient outcomes.

The program seeks to educate two key professionals: analysts and researchers.

An analyst is a technician (e.g., solution architect, epidemiologist, data scientist, etc.) who is engaging in RWE studies by utilizing statistical tools and epidemiologic methods to operationalize and analyze RWD. Technicians may be carrying out activities on behalf of an institution or may be working as individuals interested in the technology that RWD offers. They may be involved in any stage of the RWD/RWE continuum (extract-transform-load [ETL]/data quality processes, tool enablement and self-service analytics, visualization, communication) and are often interested in extending these resources to serve additional use cases or new functionality.

A researcher is one who originates from any number of backgrounds (statistics, clinical training, public health, biological sciences, data science, etc.) who engages in the RWD community for the sake of designing and conducting a research study. Researchers want to know how to run their own observational research studies. In their day, researchers were often responsible for translating the science into better decisions and better care.

The intent of this program is to curate interdisciplinary expertise to support the evidence-generation process in the pharmacoepidemiology research community. The curriculum aims to ensure that learners can obtain in-demand skills that are immediately deployable in roles at pharmaceutical companies, regulatory authorities, health systems, technology companies, and consulting groups specializing in life sciences and healthcare.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
HSCI 5130	Introduction to Real-World Evidence	2
HSCI 5140	Foundations of Data Models	2
HSCI 5150	Methods for Observational Research 1	3
HSCI 5151	Methods for Observational Research 2	3
HSCI 5160	Standardization of Real-World Data	2
HSCI 5170	Data Model Transformation	2
PHSC 5212	Research Skills and Ethics	2
Capstone Requirement		
HSCI 6980	Real-World Evidence Capstone	3

Selectives

Code	Title	Hours
Complete a minimum of 6 semester hours from the following:		6-12
HSCI 5180	Phenotyping	
HSCI 5190	Cohort Building	

HSCI 6110	Advanced Population Characterization
HSCI 6120	Advanced Population Estimation
HSCI 6130	Advanced Patient Prediction

Electives

Code	Title	Hours
Complete up to 6 semester hours from the following (electives are selected in consultation with the program director):		6
HINF 5300	Personal Health Interface Design and Development	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Health Informatics, MS / Physician Assistant, MS

The Northeastern University health informatics and physician assistant dual degree program allows qualified and interested students to achieve their goal of obtaining a more robust understanding of healthcare technology while also completing robust clinical training in the physician assistant program. This prepares a select group of exceptionally qualified clinicians to become leaders in healthcare technology application and development and fosters interdisciplinary collaboration in order to address problems in the healthcare and health information environments both locally and across the globe. The dual degree program is designed to provide students a greater understanding of technological issues in clinical practice, quantitative methods, and the use of scientific evidence and cutting-edge technology to optimize clinical workflows and improve patient outcomes.

This dual degree takes 34 months to complete (as opposed to 48 months, if each degree were pursued separately), and a total number of 8 semester hours are shared between both degrees.

Law, JD / Public Health, MPH

Northeastern University's School of Law and Bouvé College of Health Sciences offer a JD/MPH dual degree. Given the worldwide trend toward urbanization, the Master of Public Health (MPH) recognizes the growing need for professionals trained to respond to unique public health challenges and opportunities facing urban populations. The MPH program brings together interdisciplinary faculty (from the School of Law, D'Amore-McKim School of Business, College of Social Sciences and Humanities, Khoury College of Computer Sciences, and the Bouvé College of Health Sciences) with expertise in collaborating with diverse urban populations to offer students an opportunity to obtain practice-based knowledge, skills, and experience needed to address public health problems.

Up to 9 credit hours of coursework in the JD program may count toward the MPH, while up to 12 credit hours of coursework in the MPH program may count toward the JD. See the JD/MPH program page (https://law.northeastern.edu/academics/programs/jd/dual-degrees/public-health-bouve/) for more information.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Pharmacy, PharmD—Direct Entry / Public Health, MPH

The School of Pharmacy and Pharmaceutical Sciences and the Department of Health Sciences offer a combined Doctor of Pharmacy (PharmD) and Master of Public Health (MPH) program.

The combined PharmD/MPH program recognizes and reinforces the importance of public health in pharmacy practice. Central to addressing public health concerns, and in particular those associated with racial and ethnic health disparities, the program is committed to building a strong, diverse, and activist public health workforce. The goal of the program is to graduate professionals who are well educated in the complex issues associated with disparate health status and healthcare access. The combined PharmD/MPH program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree while also completing their PharmD.

Refer to the School of Pharmacy and Pharmaceutical Sciences PharmD—Direct Entry (p. 720) and Department of Health Sciences Master of Public Health (p. 650) pages of this catalog for program requirements and technical standards. Students must adhere to all PharmD and MPH program standards, policies, and requirements as listed in the catalog, unless otherwise specified.

The Northeastern University Master of Public Health Program is accredited by the Council of Education for Public Health. CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Physician Assistant, MS / Public Health, MPH

The Northeastern University physician assistant program and Department of Health Sciences offer a dual degree program: Master of Science in Physician Assistant/Master of Public Health. The dual MS and MPH degree program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree, while also completing their Master of Science degree in the PA program.

The Northeastern Master of Public Health program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health. The MPH program has a strong commitment to providing a flexible course of study for working professionals. This flexibility allows for easy incorporation into a dual degree program.

The dual degree program is designed to help diversify the public health workforce and improve graduates' ability to approach clinical situations with cultural sensitivity and awareness. Graduates of the program benefit from having a greater understanding of public health issues in clinical practice, including the racial and ethnic health disparities prevalent in the U.S. healthcare system, as well as a strong grounding in epidemiology, quantitative and qualitative research methods, and the use of scientific evidence, skills critical to many fields of healthcare practice.

This dual degree takes less than three years to complete (as opposed to four years, if each degree were pursued separately), and a total of 12 semester hours are shared between both degrees.

For more information, including the application and admissions process, please visit the dual degree program website (https://bouve.northeastern.edu/health-sciences/programs/pa-mph/).

Public Health, MPH / Health Informatics, MS

Website (https://bouve.northeastern.edu/health-sciences/programs/ms-hinf-mph/)

The Master of Public Health and Master of Science in Health Informatics dual degree allows qualified and interested students to prepare to lead healthcare at the nexus between public health and health informatics. Graduates of this program will be well-educated in the complex issues associated with improvements in information technology, as well as changes to the public health and healthcare delivery systems. Recognizing the increasing overlap between health informatics and public health, this program incorporates course work from both the MPH and MSHI curricula for both degrees, reducing tuition costs and saving one year of study compared to obtaining both degrees individually.

The Northeastern University Master of Public Health program is accredited by the Council on Education for Public Health (CEPH). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Up to 15 credits of coursework in the dual-degree program can be counted toward both the MPH and MS degrees.

Early Intervention, Graduate Certificate

Northeastern University's Certificate Program in Early Intervention is an interdisciplinary, preservice training program that is designed to fulfill requirements for certification as an early intervention specialist, at the advanced provisional level, as set forth by the Massachusetts Department of Public Health (DPH).

The interdisciplinary nature of the program is facilitated by the interaction of graduate students from several disciplines (including school psychology, counseling psychology, and speech-language pathology); undergraduate students from majors such as speech-language pathology and audiology and psychology; and working professionals in the field. Personnel working in the field may use their work sites for field training.

The program is delivered in a hybrid format. Classes meet on campus one day each month, and additional course content is delivered online.

This graduate certificate program can be completed by non-degree-seeking students or integrated with master's or clinical doctoral degree programs. Application of course work from certain degree programs will be approved to apply to requirements of this graduate certificate; students are encouraged to speak with their academic advisors early in their programs to explore these options.

The goals for the early intervention certificate program are:

- To prepare personnel to provide services to infants and toddlers with disabilities and their families, from linguistically and culturally diverse backgrounds in urban environments
- To prepare personnel who have attained all competencies relative to early intervention, specified by the Massachusetts DPH, and that are consistent with best practice and research
- To prepare personnel in an interdisciplinary manner, drawing from Northeastern University's multidisciplinary resources
- To prepare personnel to function effectively across teams (individualized family service plan teams, community teams, interagency teams) and to understand the roles of their interdisciplinary teammates

Upon graduation, students are eligible for employment in an early intervention service delivery setting.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all courses.

Code	Title	Hours
Required Core		
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
SLPA 5152	Early Intervention: Planning and Evaluating Services	3
CAEP 5153	Early Intervention: Assessment and Intervention	3
Practicum		
SLPA 5154	Early Intervention Practicum 1	2
SLPA 5155	Early Intervention Practicum 2	2

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Patient Safety, Graduate Certificate

Overview

The Graduate Certificate in Patient Safety informs and empowers the next generations of innovative patient safety experts by providing the knowledge and practical skills to promote a culture of safety and design safer systems of care. Future leaders incorporate clinician wellness strategies in care delivery models that are accountable, honest, and transparent. The purpose of this certificate is to support healthcare clinicians and leaders in advancing patient safety and the safety of healthcare providers by expanding their fundamental skills and knowledge in patient safety science principles, workforce wellness, and quality improvement strategies.

This is a four-course, interdisciplinary graduate certificate, tailored to accommodate a busy healthcare professional's schedule. Courses are delivered in an online format, structured to enhance the curriculum with peer-to-peer discussions and experience developing tools, protocols, and process improvement strategies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

A grade of B or higher is required in each course.

Code	Title	Hours
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.00 GPA required

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The School of Clinical and Rehabilitation Sciences within the Bouvé College of Health Sciences at Northeastern University brings together the clinical fields of physical therapy (https://bouve.northeastern.edu/physical-therapy/), speech-language pathology and audiology (https://bouve.northeastern.edu/csd/), medical sciences, and physician assistant studies (https://bouve.northeastern.edu/physician-assistant/).#Students and fellows in the school are prepared for clinical and research excellence, training with interdisciplinary experts in habilitation and rehabilitation sciences, epidemiology, neuroscience, engineering, physiology, exercise science, clinical medicine, design, diagnostic and therapeutic imaging, and communication. Working at the intersection of rehabilitation, clinical practice, data, and engineering, students and fellows engage in transformative research and experiential learning that is designed to prepare them to improve the quality of life and self-care for patients and communities, while promoting and developing innovative approaches to the future of healthcare.

Communication Sciences and Disorders

Our mission is to advance the science of human communication and its disorders, understand the science of human communication untethered from traditional limitations of the field, and make a direct impact on the world through targeted learning experiences and research opportunities, while creating an inclusive community. Our faculty are researchers, practicing clinicians, and scientists who bring real-world experience into the classroom to facilitate bench-to-bedside application. They develop, use, and address technology that improves communication and health beyond traditional boundaries.

The Department of Communication Sciences and Disorders offers a five-year PlusOne advanced degree pathway (BS-MS in Speech-Language Pathology) and a two-year Master of Science in Speech-Language Pathology degree. Our goal is to educate students to the highest levels of professionalism, consistent with the American Speech-Language-Hearing Association and the Council on Academic Accreditation, Northeastern University accreditation standards, and Massachusetts licensure requirements. We provide an interprofessional and practice-oriented

education in our urban university environment, which affords students clinical experiences with clients, patients, and families from a diverse population base. Students are prepared with academic coursework informed by the most current scientific knowledge and evidence-based clinical practice.

Master of Science (MS)

- Speech-Language Pathology (p. 611)

Medical Sciences

The mission of the Department of Medical Sciences is to educate and inspire diverse and interdisciplinary professionals to be leaders and innovators in medical science. We offer an interdisciplinary doctoral degree in healthcare leadership, a Master of Science in Physician Assistant Studies, two interdisciplinary dual master's degree programs, and a graduate certificate in extreme medicine.

Our flagship program in PA studies was established in 1971 and has a long-standing history of, and expertise in, the education and training of PAs. The PA program is located in close proximity to Boston's major academic medical centers and was the first generalist PA training program in the nation to offer a master's degree in 1985. This rigorous, highly integrated curriculum offers our students the opportunity to obtain broad generalist training that is designed to prepare them for successful employment in all fields of clinical practice.

The Doctor of Medical Science (DMSc) in Healthcare Leadership is an interdisciplinary online degree for healthcare professionals from diverse backgrounds to advance their education and expand their career opportunities in the areas of healthcare leadership, entrepreneurship, medical education, and community engagement and advocacy.

The Graduate Certificate in Extreme Medicine is an online interprofessional program offered in collaboration with World Extreme Medicine. The program is designed to prepare healthcare professionals to provide medical services in austere conditions. The core didactic courses provide foundational instruction in human factors, crisis resource management, efficiency of highly skilled teams, and theory and ethics of care in humanitarian crises.

Our faculty members are practicing clinicians, researchers, and healthcare leaders who bring real-world experience to the classroom. Northeastern University's graduates are in high demand and are employed in positions across the United States and internationally. In addition to clinical practice, our graduates are employed in research, administration, education, and leadership.

Doctor of Medical Science (DMSc)

- Healthcare Leadership (p. 587)

Master of Science (MS)

- Physician Assistant (p. 616)

Dual Degree

- Health Informatics, MS / Physician Assistant, MS (p. 601)
- Physician Assistant, MS / Public Health, MPH (p. 604)

Graduate Certificate

- Extreme Medicine (p. 631)

Physical Therapy, Movement, and Rehabilitation Sciences

The mission of the Department of Physical Therapy, Movement, and Rehabilitation Sciences is to impact the health and well-being of the global community by developing leaders in our fields through interprofessional experiential education, translational research, and excellence in clinical practice. This aligns well with the mission and academic plans of Bouvé College of Health Sciences and Northeastern University. That is, the programs within the department enhance and extend students' learning through experiential education, interdisciplinary collaborations, interprofessional education, and research opportunities, making an impact across our global campus and beyond. Our faculty members are leaders in education, research, and practice. Students have the opportunity to work with faculty to conduct ongoing research in one of the many diverse Department of Physical Therapy, Movement, and Rehabilitation Sciences' research groups and laboratories, including Neuromotor Systems Laboratory, Laboratory for Locomotion Research, ReGame-XR Laboratory, Movement Neuroscience Laboratory, Musculoskeletal Epidemiology and Biomechanics Laboratory, Neurophysiology Laboratory, Occupational Biomechanics and Ergonomics Laboratory, Teaching and Learning with Innovation Laboratory, the Programmable and Reconfigurable Soft Engineered Systems Lab, and the Center for Cognitive and Brain Health.

Our flagship program is the Doctor of Physical Therapy. It is one of the oldest programs within Bouvé with the first graduates in 1915. The 37-month program provides comprehensive and rigorous graduate-level courses with a unique and valuable cooperative education experience, a six-month paid work opportunity in a physical therapy setting. In addition, concentrations are available in sports performance and pediatric physical therapy.

The PhD in Human Movement and Rehabilitation Sciences prepares its graduates to conduct independent (original) basic, translational, and applied research to restore and maximize human functional capacity and well-being across the life span. The interdisciplinary program and its faculty emphasize core competencies in motor control and motor learning, movement measurement and analysis, knowledge translation theory, and the use of traditional and emerging technologies.

The new Master of Science in Human Movement and Rehabilitation Sciences at Northeastern University prepares students through revolutionary breakthroughs about how our bodies can work better. This 12-month program focuses on innovative rehabilitation solutions through enhanced research and education on topics including, but not limited to. biomechanics, musculoskeletal disorders, control of movement, motor learning, health and well-being through movement and design, human-cybernetic system interactions, and neurorehabilitation of movement and function. We offer this master's as a PlusOne option with several other Northeastern departments, especially within the College of Engineering.

The Department of Physical Therapy, Movement, and Rehabilitation Sciences has partnered with Massachusetts General Hospital Sports Physical Therapy to offer a 13-month full-time clinical residency program for physical therapists interested in pursuing a career in sports physical therapy. This program advances the knowledge and clinical competency of sports physical therapists, as well as to foster a culture of continued learning and scientific inquiry while demonstrating a commitment to patients, students, and athletes at all levels.

Doctor of Philosophy (PhD)

- Human Movement and Rehabilitation Sciences (p. 620)

Doctor of Physical Therapy (DPT)

- Doctor of Physical Therapy—Postbaccalaureate Entry (p. 623)
- Transitional Doctor of Physical Therapy—Direct Entry (p. 814) (with the College of Professional Studies)

Master of Science (MS)

- Human Movement and Rehabilitation Sciences (p. 629)

Speech-Language Pathology, MS

Adhering to the highest professional standards, the speech-language pathology graduate program seeks to prepare future speech-language pathologists for the rigors of clinical practice in educational and healthcare settings. Graduates of the program will influence society in profound ways—for example, enabling children with autism to communicate effectively, relieving adolescents' fears of speaking dysfluently in the classroom, and helping stroke survivors resume activities in which they had previously participated. The comprehensive program of study emphasizes teamwork and interdisciplinary approaches to complex service delivery issues. SLP graduate students acquire the knowledge and skills needed for a lifetime of professional achievement and social contribution.

Prerequisite or Equivalent Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework with content equivalent in the following courses with a minimum grade of C.

Code	Title	Hours
SLPA 1102	Language Development	
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	
SLPA 1200	Phonetics	
SLPA 1203	Introduction to Audiology	
SLPA 1205	Speech and Hearing Science	

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Disorders		
SLPA 5201	Diagnostic Testing in Speech-Language Pathology	2
SLPA 6219	Aural Rehabilitation (or elective) [1]	3
SLPA 6303	Stuttering	3
SLPA 6304	Augmentative and Alternative Communication	3
SLPA 6305	Articulation and Phonology	3
SLPA 6307	Voice Disorders	3
SLPA 6308	Dysphagia	3
SLPA 6313	Counseling in Speech-Language Pathology	2
SLPA 6321	Motor Speech Disorders	3
SLPA 6339	Language Literacy in Practice	1
SLPA 6340	Language Disorders in Children 1	3
SLPA 6341	Language Disorders in Children 2	3
SLPA 6342	Speech-Language Disorders In Adults 1	3
SLPA 6343	Speech-Language Disorders in Adults 2	3
Science		
SLPA 5109	Neurology of Communication	3
SLPA 6300	Speech Science	2
Research		
SLPA 6211	Research and Evidence-Based Practice	3
SLPA 6420	Practical Statistics for Speech-Language Pathology and Audiology	3
Diversity, Equity, and Inclusion		
SLPA 6329	Diversity, Equity, and Inclusion in Speech-Language Pathology	2
Practicum		
SLPA 6415	Speech-Language Pathology Advanced Clinical Practicum 1	3
SLPA 6416	Speech-Language Pathology Advanced Clinical Practicum 2	2

SLPA 6417	Speech-Language Pathology Advanced Clinical Practicum 3	2
SLPA 6418	Speech-Language Pathology Advanced Clinical Practicum 4	2

[1] Students with previous coursework in aural rehabilitation may replace SLPA 6219 with 3 semester hours from the elective course list.

Electives

Code	Title	Hours
Students with previous aural rehabilitation coursework may complete 3 semester hours from the elective course list or select other course options in consultation with a faculty advisor.		
SLPA 6310	Speech-Language Pathology in Medical Settings	
SLPA 6320	Autism	
SLPA 6325	Accent Modification for Speech-Language Pathology	
SLPA 6332	Seminar in Communication Disorders	

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.000 GPA required

Healthcare Leadership, DMSc

Northeastern University's Doctor of Medical Science (DMSc) is an interdisciplinary degree designed for medical professionals to advance their education and expand their career opportunities in the areas of healthcare leadership, administration, informatics, law, safety, and advocacy. Students from diverse healthcare backgrounds share the common goal of developing facility with healthcare systems and becoming leaders within the greater healthcare community.

In addition to taking core courses in healthcare leadership, administration, and research methods, students will have the opportunity to obtain additional education in one of several areas of specialization. These concentrations are designed to empower graduates from diverse backgrounds with the technical and analytical expertise that is both relevant and in high demand in today's healthcare environment. Students will have the opportunity to collaborate with faculty not only from the Department of Medical Sciences but also with world-renowned faculty from a variety of interdisciplinary fields within Northeastern University and the greater Boston community. This collaboration will allow students to access expertise and knowledge across disciplines that will culminate in the creation of an original thesis study.

Admission to the program requires a master's degree in a healthcare-related field or a bachelor's degree plus at least three years of full-time clinical experience.

This degree will take between 12 and 18 months to complete and can be fully completed online.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
Healthcare Leadership		
MSCI 6001	Principles of Healthcare Advocacy	3
MSCI 6002	Workforce Metrics: Measuring, Comparing, and Privileging the Interprofessional Healthcare Team	3
MSCI 6003	Healthcare Leadership Seminar	3
PHTH 6204	Society, Behavior, and Health	3
Research		
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	3
MSCI 6900	Research Methods and Design	3
MSCI 7990	Thesis	3
MSCI 7996	Thesis Continuation - Half-Time	0

Concentrations

Completing a concentration is required to complete this program. A minimum of 12 semester hours is required.

- Business Management (p. 588)
- Health Informatics (p. 588)
- Health Informatics Research (p. 588)
- Health Law (p. 588)
- Interdisciplinary Healthcare Leadership (p. 588)
- Patient Safety (p. 589)
- Pharmacy and Health Systems Science (p. 589)
- Public Health (p. 589)

Program Credit/GPA Requirements

Minimum of 33 total semester hours required

Minimum 3.000 GPA required

CONCENTRATION IN BUSINESS MANAGEMENT

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	

CONCENTRATION IN HEALTH INFORMATICS

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 3 semester hours from the following:		3
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	

CONCENTRATION IN HEALTH INFORMATICS RESEARCH

Code	Title	Hours
Concentration Required		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6400	Introduction to Health Data Analytics	3
Selective		
Complete 4 semester hours from the following:		4
CS 6350	Empirical Research Methods	
HINF 5300	Personal Health Interface Design and Development	

CONCENTRATION IN HEALTH LAW

Code	Title	Hours
Concentration Required		
LW 6102	Introduction to Legal Studies 2	3
Selective		
LW 6102 is a prerequisite for the LW courses listed below. Complete 9 semester hours from the following:		9
LW 6110	Law of Information and Records	
LW 6150	Law and Organizational Management	
LW 6180	Health Law Survey	
LW 6181	Healthcare Regulation and Compliance	
LW 6182	Patient Records, Privacy, and Security	

CONCENTRATION IN INTERDISCIPLINARY HEALTHCARE LEADERSHIP

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
Business Management for Healthcare		
ENTR 6212	Business Planning for New Ventures	
INNO 6200	Enterprise Growth and Innovation	
MGMT 6225	Sustainability and Leadership	
MGMT 6226	Sustainability and the Business Environment	
STRT 6200	Strategic Decision Making in a Changing Environment	
Health Informatics		
CS 6350	Empirical Research Methods	
HINF 5101	Introduction to Health Informatics and Health Information Systems	

HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
HINF 5407	Business Application of Decision Support in Healthcare
HINF 6205	Creation and Application of Medical Knowledge
HINF 6220	Database Design, Access, Modeling, and Security
HINF 6400	Introduction to Health Data Analytics
Health Law	
HRM 6030	The Employment Contract
LW 6102	Introduction to Legal Studies 2
LW 6102 is a prerequisite for the following LW courses:	
LW 6110	Law of Information and Records
LW 6150	Law and Organizational Management
LW 6180	Health Law Survey
LW 6181	Healthcare Regulation and Compliance
LW 6182	Patient Records, Privacy, and Security
Pharmacy and Health Systems Science	
PHMD 5223	Evidence-Based Medicine
PHMD 5575	Pharmaceutical Industry
Public Health	
PHTH 5120	Race, Ethnicity, and Health in the United States
PHTH 5212	Public Health Administration and Policy
PHTH 6200	Principles and History of Urban Health
PHTH 6208	Urban Community Health Assessment

CONCENTRATION IN PATIENT SAFETY

Code	Title	Hours
Concentration Required		
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

CONCENTRATION IN PHARMACY AND HEALTH SYSTEMS SCIENCE

Code	Title	Hours
PHMD 5223	Evidence-Based Medicine	2
PHMD 5250	Pharmacy Care Management	4
PHMD 5270	Economic Evaluation of Pharmaceuticals and Pharmacy Practice	2
PHMD 5560	Applied Drug Information	2
PHMD 5575	Pharmaceutical Industry	2

CONCENTRATION IN PUBLIC HEALTH

Code	Title	Hours
Concentration Required		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3

Physician Assistant, MS

Physician assistants are healthcare providers who practice medicine with physician supervision. They are highly sought after members of the healthcare team who provide diagnostic and therapeutic patient care. The physician assistant studies program is a full-time, two-year graduate program that provides an opportunity to earn a Master of Science degree.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C or higher is required in each course.

Code	Title	Hours
Required Core		
PA 6208	Professional Issues for Physician Assistants	2
PA 6326	Aspects of Primary Care	4
PA 6327	Emergency Medicine and Critical Care	2
PA 6328	Aging and Rehabilitation Medicine	2
PA 6329	Healthcare Delivery	2
PA 6330	Research Design	2
Anatomy and Physiology		
PA 6200	Anatomy and Physiology 1	3
PA 6201	Anatomy and Physiology 2	3
Diagnosis and Evaluation		
PA 6203	Physical Diagnosis and Patient Evaluation 1	3
PA 6204	Physical Diagnosis and Patient Evaluation 2	3
PA 6209	Clinical Laboratory and Diagnostic Methods 1	3
PA 6210	Clinical Laboratory and Diagnostic Methods 2	1
Pharmacology		
PA 6205	Pharmacology 1	2
PA 6206	Pharmacology 2	2
Principles		
PA 6311	Principles of Medicine 1	4
PA 6312	Principles of Medicine 2	4
PA 6313	Principles of Medicine 3	4
PA 6320	Principles of Obstetrics and Gynecology	2
PA 6321	Principles of Surgery	2
PA 6322	Principles of Orthopedics	2
PA 6323	Clinical Neurology	2
PA 6324	Principles of Pediatrics	2
PA 6325	Principles of Psychiatry	2
Clinical		
PA 6400	Applied Clinical Study in Medicine	5
PA 6401	Applied Clinical Study in Ambulatory Medicine	5
PA 6402	Applied Clinical Study in Family Practice	5
PA 6403	Applied Clinical Study in Emergency Medicine	5
PA 6404	Applied Clinical Study in Women's Health	5
PA 6405	Applied Clinical Study in Pediatrics	5
PA 6406	Applied Clinical Study in Surgery	5
PA 6407	Applied Clinical Study in Mental Health	5
PA 6408	Applied Clinical Study Elective	5

Program Credit/GPA Requirements

103 total semester hours required

Minimum 3.000 GPA required

Health Informatics, MS / Physician Assistant, MS

The Northeastern University health informatics and physician assistant dual degree program allows qualified and interested students to achieve their goal of obtaining a more robust understanding of healthcare technology while also completing robust clinical training in the physician assistant program. This prepares a select group of exceptionally qualified clinicians to become leaders in healthcare technology application and development and fosters interdisciplinary collaboration in order to address problems in the healthcare and health information environments both locally and across the globe. The dual degree program is designed to provide students a greater understanding of technological issues in clinical practice, quantitative methods, and the use of scientific evidence and cutting-edge technology to optimize clinical workflows and improve patient outcomes.

This dual degree takes 34 months to complete (as opposed to 48 months, if each degree were pursued separately), and a total number of 8 semester hours are shared between both degrees.

Physician Assistant, MS / Public Health, MPH

The Northeastern University physician assistant program and Department of Health Sciences offer a dual degree program: Master of Science in Physician Assistant/Master of Public Health. The dual MS and MPH degree program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree, while also completing their Master of Science degree in the PA program.

The Northeastern Master of Public Health program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health. The MPH program has a strong commitment to providing a flexible course of study for working professionals. This flexibility allows for easy incorporation into a dual degree program.

The dual degree program is designed to help diversify the public health workforce and improve graduates' ability to approach clinical situations with cultural sensitivity and awareness. Graduates of the program benefit from having a greater understanding of public health issues in clinical practice, including the racial and ethnic health disparities prevalent in the U.S. healthcare system, as well as a strong grounding in epidemiology, quantitative and qualitative research methods, and the use of scientific evidence, skills critical to many fields of healthcare practice.

This dual degree takes less than three years to complete (as opposed to four years, if each degree were pursued separately), and a total of 12 semester hours are shared between both degrees.

For more information, including the application and admissions process, please visit the dual degree program website (https://bouve.northeastern.edu/health-sciences/programs/pa-mph/).

Human Movement and Rehabilitation Sciences, PhD

The Department of Physical Therapy, Movement, and Rehabilitation Sciences offers a PhD program in human movement and rehabilitation sciences. The PhD program seeks to prepare graduates to conduct independent (original) basic, translational, and applied research with the goal of creating new knowledge about neuromotor mechanisms and methods of restoring and maximizing human functional capacity and well-being across the life span. The program emphasizes core competencies in motor control and motor learning, movement measurement and analysis, knowledge translation theory, and the use of traditional and emerging technologies. The program is based on the integration of core skills and concepts across the multiple disciplines that are associated with human movement and rehabilitation sciences, coupled with the acquisition of research methodology, analyses, and skills, as well as specialization within specific areas of human movement and rehabilitation research.

The program showcases the unique faculty and research laboratories in human movement and rehabilitation sciences, as well as highly ranked programs in Bouvé College of Health Sciences, the College of Science, and the College of Engineering. Northeastern is dedicated to advancing the field of human movement and rehabilitation sciences and translating research from bench to clinic. Students benefit from our new research laboratories utilizing state-of-the-art movement and rehabilitation methods including virtual reality, ultrasound, neuroscience, neurophysiology, robotics, and movement measurement technologies.

Advanced Entry

Based on a student's background in their preceding master's or clinical doctorate degree, core coursework and total hours for the advanced entry program may vary. The graduate program director will consider all the program requirements and applicants' previous experience when advising students on a plan of study. All students, whether entering from traditional or advanced PhD pathways, will complete the milestones as documented in the curriculum.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Milestones

All students, whether entering from traditional or advanced PhD pathways, will complete the following milestones:

- Annual review
- Qualifying exam
- Dissertation committee
- Dissertation proposal
- Dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
Students must enroll in the following course every semester until start of the dissertation phase of the program (the course is repeatable two times for 1 semester hour and four times for 0 semester hours):		2
PT 7030	Interdisciplinary Seminar in Rehabilitation Science	
Rehabilitation Science and Human Movement		
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
PT 7020	Technologies in Movement and Rehabilitation Science	4

Electives

Code	Title	Hours
Complete 19 semester hours from the list below chosen in consultation with a faculty advisor.		19
Some courses may require prerequisite coursework.		
BIOE 5235	Biomedical Imaging	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CAEP 6326	Behavioral Concepts and Principles	
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing	
HLTH 5450	Healthcare Research	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6500	Human Performance	

IE 7315	Human Factors Engineering
ME 5250	Robot Mechanics and Control
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 7247	Advanced Control Engineering
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6202	Intermediate Epidemiology
PHTH 6210	Applied Regression Analysis
PHTH 6440	Advanced Methods in Biostatistics
PT 5133	Kinesiology
PT 5138	Neuroscience
PT 5150	Motor Control, Development, and Learning
PT 5209	Neurological Rehabilitation 1
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 6221	Neurological Rehabilitation 2
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Dissertation

Code	Title	Hours
PT 9990	Dissertation Term 1	
PT 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Based on a student's background in their preceding master's degree, core coursework and total hours for the advanced entry program may vary. The graduate program director will consider the following program requirements when advising students on a plan of study.

Code	Title	Hours
Seminar		
Students must enroll in the following course every semester until the start of the dissertation phase of the program:		2
PT 7030	Interdisciplinary Seminar in Rehabilitation Science (Repeatable 2 times for 1 semester hour and 4 times for 0 semester hours)	
Rehabilitation Science and Human Movement		
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
PT 7020	Technologies in Movement and Rehabilitation Science	4

Electives

Code	Title	Hours
Some courses may require a prerequisite course.		
BIOE 5235	Biomedical Imaging	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CAEP 6326	Behavioral Concepts and Principles	

EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing
HLTH 5450	Healthcare Research
IE 5630	Biosensor and Human Behavior Measurement
IE 6500	Human Performance
IE 7315	Human Factors Engineering
ME 5250	Robot Mechanics and Control
ME 5659	Control Systems Engineering
ME 5665	Musculoskeletal Biomechanics
ME 7247	Advanced Control Engineering
PHTH 5202	Introduction to Epidemiology
PHTH 5210	Biostatistics in Public Health
PHTH 6202	Intermediate Epidemiology
PHTH 6210	Applied Regression Analysis
PHTH 6440	Advanced Methods in Biostatistics
PT 5133	Kinesiology
PT 5138	Neuroscience
PT 5150	Motor Control, Development, and Learning
PT 5209	Neurological Rehabilitation 1
PT 5321	Applications of Biomechanics in Human Function and Movement
PT 6221	Neurological Rehabilitation 2
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Dissertation

Code	Title	Hours
PT 9990	Dissertation Term 1	
PT 9991	Dissertation Term 2	

GPA Requirement

A minimum 3.000 GPA required

Physical Therapy, DPT—Postbaccalaureate Entry

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Our Postbaccalaureate Doctor of Physical Therapy (DPT) (http://www.northeastern.edu/bouve/pt/programs/pbdpt.html) program is designed for individuals who hold a minimum of a baccalaureate degree in any major other than physical therapy and have satisfied the prerequisite requirements. Over the course of three years, this rigorous curriculum provides didactic and experiential learning experiences, the cornerstone of our program. These experiences include cooperative education, simulated patient interactions, interprofessional education, human cadaver lab, engagement with consumer clients, service-learning, clinical research, and integrated and full-time clinical education experiences.

The DPT program recognizes that becoming a physical therapist is a developmental process that allows students the opportunity to take risks, reflect, learn from mistakes, and continue to grow to promote lifelong learning. We are committed to a process of actively engaged learning that occurs in the classroom, the research laboratory, the community, and clinical settings regionally and internationally. We strive to provide challenging and leading-edge academic content in an environment supportive of professional development. Our educational philosophy is based upon a strong foundation of biological, psychological, social, and clinical sciences; experiential learning; evidence-based practice; cultural agility and humanistic values; and ethical and professional expectations. This is supported by a commitment of promoting and improving the health of clients and society locally, nationally, and globally. Academic content is student-centered and delivered using both traditional and innovative teaching methods including, but not limited to, lectures, small group projects and discussions, multimedia presentations, expert panel discussions, human cadaver lab, problem-based approaches, case studies, faculty-led research, patient simulation, interprofessional education opportunities, virtual and online learning activities, and self-reflection. Experiential learning, a cornerstone of our curriculum, is embedded in academic course requirements including clinical education, cooperative education, service-learning, and capstone research projects. These experiences are intentional and align with the Bouvé College and Northeastern University.

We offer a direct guaranteed acceptance* for Northeastern undergraduate students interested in continuing their studies in the DPT program. Undergraduate students interested in this pathway can work with their academic advisor to complete the required prerequisite coursework (https://bouve.northeastern.edu/physical-therapy/programs/pbdpt/). Students may also be able to participate in physical-therapy-related experiential **cooperative education** to gain experience prior to enrolling. Northeastern graduates are eligible for the Double Husky Scholarship when enrolling in the DPT program, which offers a 25% tuition discount.

Please visit our website (https://bouve.northeastern.edu/physical-therapy/programs/pbdpt/) to learn more or email PB_DPT_INQUIRIES@northeastern.edu for more information.

*For guaranteed acceptance, students must maintain a 3.200 cumulative and prerequisite science GPA; complete the required prerequisite coursework (https://bouve.northeastern.edu/physical-therapy/programs/pbdpt/); and submit a resumé, transcript, letter of reference, and personal statement.

The DPT program offers two concentrations with application process.

- A pediatric physical therapy concentration designed to enhance the entry-level physical therapy graduate's ability to engage in interprofessional, family centered services with children from infancy through young adulthood in a variety of settings.
- A sports performance concentration designed to prepare the physical therapist student to confidently#pursue a sports physical therapy position working with athletes of all ages in a variety of settings. Students take additional coursework, focused on research and clinical rotations that expand upon the entry-level physical therapy curriculum.
- Both concentrations are beneficial for students who may wish to pursue clinical residency programs in the area of sports or pediatric physical therapy including the Massachusetts General Hospital/Northeastern University Sports Physical Therapy Residency Program.

Emphasis on Experiential Learning

COOPERATIVE EDUCATION

Our DPT program provides students with six months of full-time experiential learning in addition to the required clinical education experiences necessary for licensure. Through cooperative education, the hallmark of Northeastern, students are able to integrate semesters of academic study with semesters of cooperative education experiences in hospitals and clinics throughout the country. Students may be employed as physical therapy co-ops or perform other health-related duties.

As a part of cooperative education experiences, students will be completing an Integrated Clinical Experience (ICE) during Co-op Work Experience (PT 6964). This experience will provide clinical experience integrated within the didactic portion of the DPT curriculum. Students will observe and/or participate in patient interview, examination, evaluation, intervention, communication, and documentation skills previously learned in the classroom and cooperative educational experiences. Students will have the opportunity to increase their exposure and familiarity in a clinical setting and develop

emerging competency in physical therapy skills. Students will demonstrate personal and professional growth and be able to identify learning needs for success on their future first full-time clinical experience.

CLINICAL EDUCATION

The curriculum also includes three rotations for a total of 36 weeks of full-time clinical education under the direct supervision of a licensed physical therapist. We are affiliated with world-class medical centers and clinical sites throughout the United States, providing students with access to master clinicians and clinical scholars. Every effort is made to accommodate individual circumstances, but students should be prepared to travel out of state for two of the three clinical placements. Availability of a car may be required, as most sites are not accessible by public transportation. All expenses associated with clinical education, including travel and housing, are the responsibility of the student.

GLOBAL OUTREACH

Students may participate in short cultural immersion experiences abroad whereby they engage in community service projects under the direction of a physical therapy faculty member or on physical therapy academic exchanges with partner academic institutions.

SERVICE-LEARNING

During the curriculum, students participate in service-learning opportunities in the local community in which they learn and apply skills and knowledge related to program objectives. These opportunities start during the first academic year and continue throughout the program in a variety of settings.

STUDENT RESEARCH

The Department of Physical Therapy, Movement, and Rehabilitation Sciences' research mission is to build the evidence for best practices to maintain and improve the health and well-being of local, national, and global community members. Students have the opportunity to work with faculty to conduct ongoing research in world-renowned medical centers and in one of the eight Department of Physical Therapy, Movement, and Rehabilitation Sciences' labs and centers, including Neuromotor Systems Lab, Laboratory for Locomotion Research, Movement Neuroscience Laboratory, Musculoskeletal Epidemiology and Biomechanics Laboratory, Occupational Biomechanics and Ergonomics Laboratory, Teaching and Learning Innovation Lab, Neuroscience Wet Lab, and the Center for Cognitive and Brain Health Program.

Progression in the DPT Program

To progress in the program, students must maintain acceptable standards of academic performance as stated in the program requirements section, including successful completion of all didactic, integrated clinical education cooperative education and full-time clinical education experiences. Students must demonstrate appropriate skills and professional behaviors to progress in the program. Students must develop appropriate motor skills, professional behaviors, and emotional maturity as outlined in the essential functions. The program in physical therapy is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

Graduates of the DPT program are eligible to sit for the National Physical Therapy Examination in pursuit of licensure.

PROFESSIONAL BEHAVIORS REQUIREMENT

In order to promote professionalism in the classroom, local and global communities, and clinical settings, the physical therapy program requires the demonstration of professional behaviors in accordance with the professional behaviors policy. The purpose of professional behaviors procedures is to help remediate students who have been identified as having professional behavior issues in an academic, cooperative, or clinical education setting. Professional standards are outlined in the student manual and may include but are not limited to the APTA Code of Ethics for the Physical Therapist (https://www.apta.org/uploadedFiles/APTAorg/About_Us/Policies/Ethics/CodeofEthics.pdf) and/or the APTA Guide for Professional Conduct (http://www.apta.org/uploadedFiles/APTAorg/Practice_and_Patient_Care/Ethics/GuideforProfessionalConduct.pdf).

Any faculty member who has a concern about a student's professional behavior will arrange to meet with the student to discuss the issue. If the faculty member has met with the student and there is satisfactory resolution of the unprofessional conduct, only a form for tracking purposes is needed.

The tracking form shall be kept on record in order to track these students while they are in the program. A request for committee reviews as indicated on the tracking form must occur under the following conditions:

a. A faculty member has attempted to correct the behavior and it has not been corrected after meeting with the student and taking initial steps to improve the identified professional behavior issues.

b. The incident is egregious.

c. A second breach of professional standards has occurred.

Full Professional Behaviors Violation Review Process

a. The chairperson of the PTMRS Academic Affairs Committee will send a letter to students about whom concerns have been raised and instruct each student to complete a Self-Assessment of Professional Behaviors. A meeting date will be set to discuss the concern. If the committee finds there is sufficient evidence to support a violation of the professional standards previously defined, one will be noted in the student's record.

b. The AAC will develop an appropriate remediation plan in collaboration with the student and appropriate faculty.

c. Depending on the situation, students may have the opportunity to improve professional behaviors.

d. Any of the following may result in a dismissal from the program:

i. A third breach of professional standards

ii. A second offense of the same professional standard

iii. An egregious breach of a professional standard as outlined in the student manual and/or behaviors that may include but are not limited to violation of the APTA Code of Ethics for the Physical Therapist and/or the APTA Guide for Professional Conduct

If a student believes they have been erroneously, capriciously, or otherwise unfairly treated in the process or decision, they may appeal decisions made by the PTMRS AAC to the chair of PTMRS.

If the student has been suspected of cheating or in any way violating the Academic Code of Conduct, the student will be referred to the AAC as well as Office of Student Conduct and Conflict Resolution. Any concern regarding the student's professional behavior will be brought to the attention of the faculty as appropriate.

Doctor of Physical Therapy Program Goals

STUDENT:

1. Demonstrate effective written, verbal, technological, and nonverbal communication skills in all professional settings.
2. Demonstrate leadership and advocacy skills.
3. Demonstrate professional and social responsibility by participating in local, national, and/or global initiatives.

GRADUATE:

1. Be clinically competent and culturally sensitive doctors of physical therapy who, guided by the APTA Core Values, excel in patient/client management.
2. Exhibit professionalism, commitment to lifelong learning, and use of evidence-based practice.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C or higher is required in all courses.

Code	Title	Hours
Foundations		
PT 6330 and PT 6331	Functional Anatomy 1 and Lab for PT 6330	3
PT 6340 and PT 6341	Functional Anatomy 2 and Lab for PT 6340	5
PT 5101 and PT 5102	Foundations of Physical Therapy and Lab for PT 5101	4
PT 6350 and PT 6351	Foundations of PT Examination and Therapeutic Activities and Lab for PT 6350	5
Core		
PT 5160	Psychosocial Aspects of Healthcare	3
PT 6243	Health Education, Promotion, and Wellness	3
PT 6245	Seminar for PT 6243	1
PT 5140	Pathology	4
PT 5500	Pharmacology for Physical Therapy	2
PT 5503 and PT 5504	Cardiovascular and Pulmonary Management and Lab for PT 5503	5
PT 5515 and PT 5516	Integumentary Systems and Lab for PT 5515	3
PT 5138 and PT 5139	Neuroscience and Lab for PT 5138	5
PT 5150 and PT 5151	Motor Control, Development, and Learning and Lab for PT 5150	5
PT 5209 and PT 5210	Neurological Rehabilitation 1 and Lab for PT 5209	5
PT 6221 and PT 6222	Neurological Rehabilitation 2 and Lab for PT 6221	5

PT 6550	Pediatric Aspects of Life Span Management	3
PT 6555	Geriatric Aspects of Life Span Management	2
PT 6305 and PT 6306	Musculoskeletal Management I and Lab for PT 6305	5
PT 6405 and PT 6406	Musculoskeletal Management II and Lab for PT 6405	5
PT 6505 and PT 6506	Musculoskeletal Management 3 and Lab for PT 6505	4
PT 6600	Special Topics	2
PT 6520 and PT 6521	Prosthetic Management and Lab for PT 6520	2
PT 6251	Diagnostic Imaging	3
PT 6420	PT Administration and Management within the U.S. Healthcare System	4
PT 5226	Physical Therapy Professional Seminar 2	2
PT 5540	Clinical Integration 1: Evidence and Practice	2
PT 6250	Clinical Integration 2: Evidence and Practice	2
Clinical		
PT 6441	Clinical Education 1	6
PT 6442	Clinical Education 2	6
PT 6450	Clinical Education 3	8
Research		
PT 6510	Evidence-Based Practice and Research Design	3
PT 6511	Research Methods and Statistics in PT	2
PT 6512	DPT Capstone 1	1
PT 6513	DPT Capstone 2	2
Co-op		
PT 5111	Professional Development for Bouvé Graduate Co-op	1
PT 6964	Co-op Work Experience (taken two semesters)	0

Optional Concentration

- Pediatric Physical Therapy (p. 626)
- Sports Performance (p. 626)

Program Credit/GPA Requirements

123 total semester hours required (138–143 semester hours with optional concentration)
Minimum 3.000 GPA required

Concentration in Pediatric Physical Therapy

Code	Title	Hours
Required		
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
PT 6512	DPT Capstone 1 [1]	1
PT 6513	DPT Capstone 2 [1]	2
PT 6550	Pediatric Aspects of Life Span Management	3
Complete one of the following:		6-8
PT 6442	Clinical Education 2	
PT 6450	Clinical Education 3	

Concentration in Sports Performance

Code	Title	Hours
Required		
PT 5165	Sports Medicine: Managing the Injured Athlete	4
PT 6237	Advanced Special Topics in Physical Therapy [2]	2
PT 6512	DPT Capstone 1	1

PT 6513	DPT Capstone 2	2
Complete one of the following:		6-8
PT 6442	Clinical Education 2	
PT 6450	Clinical Education 3	

1 Pediatric physical therapy concentration students will be assigned a faculty with expertise in pediatric physical therapy. Pediatric-focused PT project proposals will be reviewed and approved by the director of the pediatric physical therapy concentration in line with current course requirements.

2 Sports performance concentration students will be assigned a faculty project in sports, orthopedic, and/or anatomy. PT project proposals will be reviewed and approved by the director of the sports performance concentration in line with current course requirements.

Academic Progression Policies

ACADEMIC STANDING

Students must maintain an overall grade-point average of #3.000 #or higher and successfully complete all professional courses (including cooperative education, integrated clinical education, and full time clinical education experiences) with a grade of C or better (or Satisfactory for experiential education experiences) to progress into the subsequent semester of professional courses.

PROBATION IN THE PROFESSIONAL PHASE

Students in the professional phase of the program who fail any professional course or whose overall GPA drops below a 3.000 must request to the department's Academic Affairs Committee to be granted a semester of academic probation to remediate the deficiency by the semester deadline set by the PTMRS Academic Standing Committee in order to remain in the Doctor of Physical Therapy program. Failure to request probation in a timely manner will result in a student being dismissed from the program.

A DPT student may only be placed on academic probation for one semester at a time or until the failed course is offered again. A DPT student may only be placed on academic probation a maximum of twice during the entire professional phase of the program.

During probation, students must correct all deficiencies as specified in their respective signed probation plan during the applicable probationary period. Failure to remediate the deficiencies within the agreed-upon time will result in dismissal from the program. During the period of probation, the student must earn a semester GPA of 3.000 or better, or the student will be dismissed from the DPT program. Once the student has successfully completed their probation action plan, they should work with their academic advisor to be removed from probation.

The chair of the department's Academic Affairs Committee may grant a DPT student's request for probation without a formal meeting under the following circumstances:

- The student has not already reached their maximum two semesters of probation.
- The student is in good professional standing with the Professional Behaviors Committee in accordance with the professional behaviors policy.

PROFESSIONAL BEHAVIORS REQUIREMENT

See Progression in the DPT Program located in the overview text.

Academic Dismissal from Major

Students in the DPT program will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Failure to earn a grade of C or better in a total of three professional courses, regardless of remediation. Within the physical therapy program, each specific professional course (with separate registration number) will be counted as a separate failure even if content is related.
- Failure to remediate a prior deficiency outlined within the probation contract within the agreed-upon time frame.
- Failure to earn the minimum required grade in the same course twice.
- Failure to maintain an overall GPA of 3.000 or higher during the professional phase of the DPT program. Students will be dismissed if they are not eligible for a probationary status.
- Physical therapy students will be permitted only two changes in year of DPT graduation. Any additional changes to year of graduation will result in the student being dismissed from the program.
- Students who do not adhere to the professional standards of the program are violating academic policy and will be dismissed if any of the following occurs:
  - A third breach of professional standards
  - A second offense of the same professional standard
  - Any egregious breach of a professional standard as outlined in the student manual and/or behaviors that may include but are not limited to violation of the APTA Code of Ethics for the Physical Therapist and/or the APTA Guide for Professional Conduct

Appeal of Academic Standing

Students may request, through their academic advisor, to appeal to the chair of the department's Academic Standing Committee to meet with the committee for an exception to the Academic Progression and Probation Policy for DPT program for extenuating or capricious circumstances as provided in the student's respective handbook.

Essential Functions for Physical Therapy Students

The DPT program at Northeastern University is a challenging and intense program, which places specific demands on a student enrolled in the program. The academic rigor of the program closely corresponds to intellectual and physical demands that a graduate will encounter as a practicing physical therapist. Northeastern's DPT program is designed to prepare students to enter the physical therapy profession as a generalist with the skills, knowledge, and ability to successfully perform all the required functions of an entry-level physical therapist. Essential functions are the aptitudes and abilities required of physical therapist students to successfully complete the curriculum of the DPT program and to perform the clinical skills of a physical therapist consistent with patient/client management as detailed in the Guide to Physical Therapy Practice.

The purpose of this document is to delineate the essential functions that are fundamental to the DPT program. Upon admission, students must be able to perform each of the essential functions outlined below during classroom, laboratory, and experiential education learning activities (including, but not limited to, participation in one-on-one interactions, small group discussion and presentation, large group lectures, service-learning, and patient encounters) in both academic, community, and clinical settings.

Students are also required to demonstrate good judgment, responsibility, integrity, sensitivity, and compassion, while simultaneously being able to accurately synthesize and apply knowledge in a timely and safe manner.

Students are required to perform the following essential functions of the DPT program:

Communication Functions

1. Read, understand, and communicate information in written and spoken formats using the English language.
2. Interpret and respond to the verbal, nonverbal, and written communications of others in an appropriate, professional manner.

Affective Functions

1. Establish, value, and continue to develop professional, respectful, empathetic relationships with individuals from all lifestyles, cultures, ages, socioeconomic backgrounds, and abilities.
2. Develop, value, and maintain effective working relationships with faculty, students, professional colleagues, peers, patients/clients, families, and the general public.
3. Meet externally imposed deadlines and time requirements.
4. React effectively in challenging situations with use of appropriate resources.
5. Demonstrate an ability to function effectively in complex, highly stimulating environments.
6. Demonstrate responsibility for self-directed assessment, reflection, and professional growth.
7. Demonstrate core values of honesty, integrity, and accountability for the consequences of one's own actions.
8. Demonstrate ethical behavior, proper judgement, and decision-making skills.

Cognitive Functions

1. Demonstrate self-management skills including planning, organizing, time management, and adhering to legal/regulatory requirements.
2. Use a variety of sources, including reading material, lecture, discussion, observation, and physical examinations to:
    a. Recall, interpret, extrapolate, and apply information
    b. Measure, analyze, synthesize, and evaluate information
    c. Gather and prioritize information needed to solve a problem
3. Respond appropriately to emerging problems and potentially hazardous situations by making timely judgments to react effectively and seek assistance when necessary.
4. Accept and apply constructive feedback.

Psychomotor Functions

1. Possess physical strength, stamina, balance, movement, hand-eye coordination, and dexterity required to perform patient care tasks in a manner that does not compromise the safety of self or others.
2. Perform intermittent physical activity of the whole body throughout an 8- to 12-hour period.
3. Engage in complex, coordinated movements needed during a variety of activities including skills lab practice, manual techniques, patient examination, intervention, and guarding.
4. Utilize auditory, visual, and tactile senses to receive information from written, spoken, and nonverbal communication mechanisms; observation of human structures; postures and movements; and equipment and or technology.
5. Quickly and appropriately react to sudden or unexpected events or movements of others.

For further information and clarification please refer to the Post Baccalaureate Doctor of Physical Therapy (PBDPT) Student Handbook (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Handbooks.aspx) and Clinical Education Student Manual (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Handbooks.aspx).

Human Movement and Rehabilitation Sciences, MS

A strong global need exists for interdisciplinary, innovative, and translational research and practice directed toward improving quality of life and participation of all people in our communities. To meet this need, we offer a novel Master of Science in Human Movement and Rehabilitation Sciences. Human movement and rehabilitation sciences encompasses a broad range of topics including sports performance, functional assessments, occupational biomechanics and ergonomics, motor control and learning, neuroscience, musculoskeletal disorders, orthopedics, aging, assistive technology, injury prevention and rehabilitation, communication sciences, speech, and early development.

The objective of this program is to prepare graduates to assist in advancing basic, translational, and applied research, as well as practice in human movement and rehabilitation sciences. The program is based on the integration of core skills and concepts across the multiple disciplines that are associated with human movement and rehabilitation sciences, coupled with the acquisition of skills and tools, and specialization within specific areas and tracks.

The Master of Science in Human Movement and Rehabilitation Sciences program is housed in the Department of Physical Therapy, Movement, and Rehabilitation Sciences, offering excellent collaborative teaching and research programs across the departments and school of the Bouvé College of Health Sciences, the Khoury College of Computer Sciences, the College of Engineering, and the College of Science. The 12-month program requires 32 semester hours of required and elective courses, including 4 semester hours devoted to the capstone project.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminar		
Students must enroll for two semesters for a total of 2 semester hours:		2
PT 7030	Interdisciplinary Seminar in Rehabilitation Science	
Rehabilitation Science and Human Movement		
PT 5321	Applications of Biomechanics in Human Function and Movement	4
PT 6230	Capstone Project: Human Movement and Rehabilitation Sciences	4
PT 7001	Core Concepts in Rehabilitation Science and Research	3
PT 7005	Experimental Design and Applied Statistics	4
PT 7020	Technologies in Movement and Rehabilitation Science	4

Electives

Code	Title	Hours
Complete 11 semester hours from the list below. Students must petition to take electives outside the approved list.		11
Some courses may require prerequisite coursework.		
BIOE 5235	Biomedical Imaging	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
CAEP 6326	Behavioral Concepts and Principles	
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing	
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	
HLTH 5450	Healthcare Research	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6500	Human Performance	
IE 7315	Human Factors Engineering	
ME 5250	Robot Mechanics and Control	
ME 5659	Control Systems Engineering	
ME 5665	Musculoskeletal Biomechanics	
ME 7247	Advanced Control Engineering	
PHTH 5202	Introduction to Epidemiology	
PHTH 6202	Intermediate Epidemiology	

PHTH 6210	Applied Regression Analysis
PHTH 6440	Advanced Methods in Biostatistics
PT 5133	Kinesiology
PT 5138	Neuroscience
PT 5150	Motor Control, Development, and Learning
PT 5209	Neurological Rehabilitation 1
PT 5410	Functional Human Neuroanatomy
PT 6221	Neurological Rehabilitation 2
PT 7010	Measurement and Analysis of Human Movement and Bioinstrumentation

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Extreme Medicine, Graduate Certificate

Overview

The Graduate Certificate in Extreme Medicine is an online interprofessional program designed to prepare healthcare professionals to provide medical services in austere conditions. The core didactic courses provide foundational instruction in human factors, crisis resource management, efficiency of highly skilled teams, and theory and ethics of care in humanitarian crises.

In addition to the certificate courses, students may take one or more optional on-ground experiential practicum courses offered in an executive format. Experiential courses enable students to complete intensive, hands-on training and apply the principles covered in the didactic courses. This program is offered in collaboration with World Extreme Medicine (WEM (https://worldextrememedicine.com/)).

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each of the following:

Code	Title	Hours
MSCI 5001	Human Factors and Situational Awareness	3
MSCI 5002	Crisis Resource Management and Case Studies	3
MSCI 5003	Humanitarian Aid Practice and Principles	3
MSCI 5004	Humanitarian and Disaster Response Ethics	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Optional Courses

After completion of the above courses, students are eligible to register for any of the following using Bouvé College's Special Student (https://registrar.northeastern.edu/article/non-matriculated-registration/) registration process:

Code	Title	Hours
MSCI 5005	Care During Conflict	3
MSCI 5401	Human Factors and Situational Awareness Practicum [1]	2
MSCI 5402	Expedition and Cold Weather Medicine Practicum [1]	2
MSCI 5403	Expedition and Wilderness Medicine Practicum [1]	2
MSCI 5404	Tactical Medicine Practicum [1]	2
MSCI 5405	Humanitarian Medicine Practicum [1]	2

[1] *Please note:* Optional experiential courses may be restricted to licensed or credentialed professionals or to students in the last two years of study in a medical or allied health professional program. Additional fees may apply to experiential courses.

School of Community Health and Behavioral Sciences

Website

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Website (https://bouve.northeastern.edu/health-sciences/)

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The School of Community Health and Behavioral Sciences offers students interdisciplinary education and research excellence—drawing on novel health technologies and data literacy to address society's most pressing public health issues.

Students in the school are prepared to be the next generation of innovators and thought leaders in the health professions and public health. They will have an opportunity to be empowered to affect real change by leveraging new and emerging technologies and data.

The school is designed to improve individuals, communities, and society through three pillars of excellence:

- Health technologies
- Public mental health
- Social and environmental determinants of health to achieve social justice

Department of Applied Psychology

Graduate programs in the Department of Applied Psychology (including two doctoral programs accredited by the American Psychological Association) reflect Northeastern University's tradition of practice-oriented education with an ecological and multicultural focus. Faculty and students come from diverse ethnic and cultural backgrounds, providing an enriching learning experience. The department is a scientist-practitioner-based unit that generates new psychological knowledge through research, and the translation of research, to applications that promote mental and physical health across the life span.

The Bouvé College of Health Sciences emphasizes experiential and field-based learning, interdisciplinary and global knowledge, and integration of science and practice. The Department of Applied Psychology seeks to prepare students to become mental and behavioral health professionals in a variety of educational, government, community, organizational, and private settings. Our doctoral programs provide excellent educational opportunities for those interested in professional psychology with specialized training for future careers in academic or practice positions as licensed psychologists. Our students have an opportunity to acquire knowledge and competency needed for a lifetime of personal fulfillment and professional achievement.

Doctor of Philosophy (PhD)

- Counseling Psychology (p. 634)
- School Psychology (p. 636)

Certificate of Advanced Graduate Studies (CAGS)

- School Psychology (p. 638)

Master of Science (MS)

- Applied Behavior Analysis (p. 639)
- Applied Educational Psychology (p. 641)
- Applied Psychology (p. 642)

Master of Science in Counseling Psychology (MSCP)

- Counseling Psychology (p. 643)

Graduate Certificate

- Early Intervention (p. 606)

Department of Health Sciences

The Department of Health Sciences in the Bouvé College of Health Sciences at Northeastern University provides a unique, transdisciplinary setting that incorporates academics, research, and practice and seeks to prepare students for a wide range of career paths. We offer a bachelor's degree in health sciences and options for combined majors with the D'Amore-McKim School of Business, the College of Social Sciences and Humanities, the College of Science, the College of Engineering, and the Khoury College of Computer Sciences, in addition to minors in exercise science, public health, global health, and nutrition. We offer several graduate degrees: Master of Public Health, Master of Science in Exercise Science, and a combined master's in the two fields. We have exciting new programs that will begin enrolling in Fall 2023: a one-year accelerated, experiential Master of Public Health and a new Master of Science in Real-World Evidence in collaboration with the OHDSI Center at Northeastern's Roux Institute. We also collaborate with Khoury to offer a Master of Science in Health Informatics, as well as combined graduate degrees with the School of Pharmacy, the Physician Assistant Program, and the School of Law. At the doctoral level, we offer a PhD program in population health and, in cooperation with Khoury, a PhD degree in personal health informatics.

Our diverse faculty has expertise in the fields of population health; health disparities; biostatistics; epidemiology; exercise science; medical sociology; public policy; personal health technologies; neurodevelopmental disorders; and nutrition, environmental, occupational, and mental health, including addictive behaviors and responses to traumatic events. Students have the opportunity to work side-by-side with faculty in conducting cutting-edge research in these fields.

In line with Northeastern's commitment to interdisciplinary research and urban engagement, we teach and work closely with many other schools, centers, and institutes in the university, including the Institute for Health Equity and Social Justice Research; the Center for Community Health Education, Research and Service; the Social Science Environmental Health Research Institute; and the Center for Health Policy and Healthcare Research; as well as community agencies and neighborhood health centers in the local Boston area and beyond.

Doctor of Philosophy (PhD)

- Personal Health Informatics (p. 314)
- Population Health (p. 646)

Master of Public Health (MPH)

- Public Health (p. 650)
- Public Health—Accelerated (p. 652)

Master of Science (MS)

- Exercise Science, MS—Online (p. 654)
- Health Informatics (p. 314)
- Real-World Evidence in Healthcare and Life Sciences (p. 599)

Dual Degree

- Law, JD / Public Health, MPH (p. 602)
- Pharmacy, PharmD (p. 603)—Direct Entry / Public Health, MPH
- Physician Assistant Studies, MS / Public Health, MPH (p. 604)
- Public Health, MPH / Health Informatics, MS (p. 605)

Graduate Certificates

- Health Informatics Management and Exchange (p. 665)
- Health Informatics Privacy and Security (p. 666)
- Health Informatics Software Engineering (p. 667)

Counseling Psychology, PhD

The Doctor of Philosophy in Counseling Psychology program is accredited by the American Psychological Association (APA). It is designed to train the next generation of mental health professionals. The program offers doctoral education and training in psychology and seeks to prepare students for entry-level practice in counseling psychology. Doctoral-level counseling psychologists conduct research, teach at the university level, supervise students and professionals, consult with community agencies, and provide clinical services to people across the developmental life span. Counseling psychologists also enhance the science of health promotion and health psychology and emphasize community-based interventions. It is the mission of the PhD in Counseling Psychology program to train multiculturally competent counseling psychologists who are clinically adept in multiple settings with a variety of psychological and health-related issues and who are able to conceptualize, conduct, and evaluate research across biological, cultural, and relational systems in numerous social contexts, such as families, schools, neighborhoods, and communities.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Four qualifying examinations completed in the first three years—research, ethics, assessment, and intervention
Research team during the first year (two consecutive semesters)
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Basic		
CAEP 6390	History and Systems of Psychology	3
CAEP 6394	Advanced Multicultural Psychology	3
CAEP 7750	Biological Bases of Behavior	3
CAEP 7755	Cognitive and Affective Bases of Behavior	3
CAEP 7756	Social Psychology in an Organizational and Ecological Context	3
Fieldwork		
Complete 8 semester hours from the following:		8
CAEP 7741	Advanced Fieldwork 1	
CAEP 7742	Advanced Fieldwork 2	
CAEP 7743	Advanced Fieldwork 3	
CAEP 7744	Advanced Fieldwork 4	
Clinical		
CAEP 6350	Introduction to Cognitive Assessment	3
CAEP 6352	Personality Assessment	3
CAEP 6360	Consultation and Program Evaluation	3
CAEP 7710	Advanced Clinical Assessment	3
CAEP 7720	Advanced Clinical Interventions	3
CAEP 7758	Doctoral Seminar in Contemporary Theories of Psychotherapy	3
Elective		
Three semester hours can be chosen from any graduate level CAEP course or combination of graduate level CAEP courses outside of the PhD in Counseling Psychology program of study. Other electives may be chosen upon approval of the program director and faculty adviser:		3
Professional		
Complete 6 semester hours from the following:		6
CAEP 7701	Doctoral Seminar in Counseling Psychology (Repeatable 3 times for 1 credit and 3 times for 0 credits)	
CAEP 7732	Legal and Ethical Issues in Community and Educational Settings	
Research		

CAEP 7711	Measurement: Advanced Psychometric Principles	3
CAEP 7712	Intermediate Statistical Data Analysis Techniques	3
CAEP 7716	Advanced Research and Data Analyses 2	3
Internship		
Complete 3 semester hours. Prior to beginning internship consult with director, DCT, and/or the Doctoral Internship Seminar instructor.		3
CAEP 7798	Doctoral Internship	

Dissertation

Code	Title	Hours
CAEP 9990	Dissertation Term 1	
CAEP 9991	Dissertation Term 2	

Program Credit/GPA Requirements

62 total semester hours required
Minimum 3.000 GPA required

School Psychology, PhD

Northeastern University's Doctor of Philosophy in School Psychology program is accredited by the American Psychological Association and the National Association of School Psychologists. The program is designed to prepare the next generation of leaders in school psychology. The ecological perspective and scientist-practitioner training model provide the foundation for the program's educational goals. Students have an opportunity to learn how to conduct research, to use research to inform practice, and to contribute to the scientific foundation of professional practice.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Comprehensive examination
Annual review
Mentored research project
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Professional		
CAEP 6365	Seminar in School Psychology	3
CAEP 7702	Scholarship, Teaching, and Leadership in Applied Psychology	3
CAEP 7732	Legal and Ethical Issues in Community and Educational Settings	3
Basic		
CAEP 6206	Learning Principles	3
CAEP 6218	Infant, Child, and Adolescent Development	3
or CAEP 6220	Development Across the Life Span	
CAEP 6390	History and Systems of Psychology	3
CAEP 7750	Biological Bases of Behavior	3
CAEP 7755	Cognitive and Affective Bases of Behavior	3
CAEP 7756	Social Psychology in an Organizational and Ecological Context	3
Elective Course		
Complete a total of 3 semester hours with faculty advisor's prior approval.		3
Multicultural Competency		
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6394	Advanced Multicultural Psychology	3
Assessment and Intervention		
Coursework		
CAEP 6247	Child and Adolesent Psychopathology	3
CAEP 6345	Promoting Youth Academic Success in Schools	3
CAEP 6347	Behavior Management	3
CAEP 6350	Introduction to Cognitive Assessment	3
CAEP 6353	Curriculum-Based Assessment and Data-Based Decision Making	3
CAEP 6354	Social, Emotional, and Behavioral Assessment	3
CAEP 6360	Consultation and Program Evaluation	3
CAEP 6401	Counseling Children and Adolescents in Schools	3
CAEP 6402	Promoting Social, Emotional, and Behavioral Success in Schools	3
Practicum		
CAEP 6400	Prepracticum in School Psychology	1
CAEP 6999	Practicum Continuation	0
CAEP 8415	Practicum in School Psychology 1	2

CAEP 8416	Practicum in School Psychology 2	2
Fieldwork		
Complete a minimum of 2 semester hours required per course, for a total of 8 semester hours:		
CAEP 7741	Advanced Fieldwork 1	2
CAEP 7742	Advanced Fieldwork 2	2
CAEP 7743	Advanced Fieldwork 3	2
CAEP 7744	Advanced Fieldwork 4	2
Internship		
Complete 3 semester hours. Prior to beginning internship consult with director, DCT, and/or the Doctoral Internship Seminar instructor.		3
CAEP 7798	Doctoral Internship	
Research		
CAEP 6202	Research, Evaluation, and Data Analysis	3
or NRSG 7712	Quantitative Research Methods	
CAEP 6328	Single-Case Research Design	3
CAEP 7703	Grant Writing in the Health Professions	3
CAEP 7711	Measurement: Advanced Psychometric Principles	3
CAEP 7712	Intermediate Statistical Data Analysis Techniques	3
CAEP 7716	Advanced Research and Data Analyses 2	3

Dissertation

Code	Title	Hours
CAEP 9990	Dissertation Term 1	
CAEP 9991	Dissertation Term 2	

Program Credit/GPA Requirements

97 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Students who enter with a master's degree develop an individualized program of study with their advisor, which requires a minimum of 50 semester hours of credit.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Comprehensive examination
Annual review
Mentored research project
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all course work.

Code	Title	Hours
Complete 50 semester hours of approved course work. Consult your faculty advisor for acceptable courses.		50

Dissertation

Code	Title	Hours
Complete the following (repeatable) course twice:		
CAEP 9990	Dissertation Term 1	
CAEP 9991	Dissertation Term 2	

Program Credit/GPA Requirements

50 total semester hours required
Minimum 3.000 GPA required

School Psychology, CAGS

Northeastern University's Certificate of Advanced Graduate Study in School Psychology is approved by the National Association of School Psychologists and the Massachusetts Department of Elementary and Secondary Education. The overarching purpose of the program is to develop highly competent school psychologists. Some students also choose to concentrate in applied behavior analysis or concurrently enroll in the Graduate Certificate in Early Intervention (p. 606). The option to concurrently enroll in early intervention training is designed to prepare school psychologists to work with infants and toddlers and their families in community and related agencies, on interdisciplinary teams, and on the transition to school. The applied behavior analysis concentration is designed to prepare school psychologists to address the learning and behavioral needs of children and adolescents with challenging behaviors in school, home, and community settings, including children with autism spectrum disorders.

Please see also the Master of Science in Applied Educational Psychology (p. 641) program.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in all coursework.

Code	Title	Hours
Clinical/Applied		
CAEP 6345	Promoting Youth Academic Success in Schools	3
CAEP 6347	Behavior Management	3
CAEP 6353	Curriculum-Based Assessment and Data-Based Decision Making	3
CAEP 6354	Social, Emotional, and Behavioral Assessment	3
CAEP 6401	Counseling Children and Adolescents in Schools	3
CAEP 6402	Promoting Social, Emotional, and Behavioral Success in Schools	3
Elective course (with faculty advisement) [1]		3
Practicum		**4**
CAEP 8415	Practicum in School Psychology 1	2
CAEP 8416	Practicum in School Psychology 2	2
CAEP 6999	Practicum Continuation	0
Internship		
Complete 6 semester hours from the following:		6
CAEP 8501	Internship in School Psychology 1	
CAEP 8502	Internship in School Psychology 2	

[1] Courses taken to fulfill the optional concentration may be used to fulfill the elective requirement.

Optional Concentration

APPLIED BEHAVIOR ANALYSIS

Code	Title	Hours
CAEP 6326	Behavioral Concepts and Principles	3
CAEP 6327	Behavior Assessment	3
CAEP 6329	Service Administration	3
CAEP 6336	Systematic Inquiry 1	3
Optional Intensive Practicum		
An intensive practicum is optional in this concentration. Consult your faculty advisor.		
CAEP 8417	Intensive Practicum in Applied Behavior Analysis 1	2
CAEP 8418	Intensive Practicum in Applied Behavior Analysis 2	2
CAEP 8419	Intensive Practicum in Applied Behavior Analysis 3	2
CAEP 8421	Intensive Practicum in Applied Behavior Analysis 4	2

Program Credit/GPA Requirements

31 total semester hours required
Minimum 3.000 GPA required

Applied Behavior Analysis, MS

The Master of Science in Applied Behavior Analysis (ABA) program is designed to prepare graduates to assume supervisory behavior analyst roles in schools and service agencies and to serve as independent consultants. The Association for Behavior Analysis International has verified the following course meets the coursework requirements for eligibility to take the Board Certified Behavior Analyst® or Board Certified Assistant Behavior Analyst® examination. Applicants will need to meet additional requirements before they can be deemed eligible to take the examination. While retaining a practitioner focus, this program examines topics such as conditioned reinforcement, motivational influences on behavior, and errorless teaching procedures. Courses explore the principles and procedures of applied behavior analysis in-depth and address its philosophical underpinnings. With this background, successful graduates are prepared to address the most complex behavior problems and learning challenges. Students complete 7 core courses, plus an additional 3 courses that extend the student's familiarity with clinical procedures and with the research supporting their use. Students may elect to complete their supervised fieldwork hours by taking Intensive Practicum in Applied Behavior Analysis 1–4 (Intensive Practicum in Applied Behavior Analysis 1 (CAEP 8417); Intensive Practicum in Applied Behavior Analysis 2 (CAEP 8418); Intensive Practicum in Applied Behavior Analysis 3 (CAEP 8419); Intensive Practicum in Applied Behavior Analysis 4 (CAEP 8421), in addition to the 10 required courses.

Courses are delivered in an online format. Students attend lectures virtually and view supplementary material on their own schedules, taking advantage of technological advances that promote student learning and increase student-to-instructor and student-to-student communication.

Students take one or two courses each academic term, and courses are offered during the fall, spring, and summer full semesters. Behavioral Concepts and Principles (CAEP 6326) and Service Administration (CAEP 6329) serve as prerequisite courses to the remaining courses in the program.

Professional Portfolio

The capstone for the program is the professional portfolio. This portfolio, which is compiled electronically, documents the student's acquisition of critical behavioral procedures. This portfolio documents the student's behavioral competency in critical clinical skills. These skills, each of which is associated with a specific project, include:

- Preference and reinforce assessment
- Functional assessment of problem behavior
- Task analysis
- Discrete trial
- Stimulus equivalence
- Conditioned reinforcement
- Literature review

Each semester, students complete assignments associated with the above clinical skills, and each assignment culminates in professional documents to be included in the student's professional portfolio. A faculty member reviews and signs each assignment in the professional portfolio. The faculty member's signature indicates that the student has achieved the faculty-established standards for the project. Graduates are encouraged to use their professional portfolio when applying for employment.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Professional Portfolio

- Preference and reinforce assessment
- Functional assessment of problem behavior
- Task analysis
- Discrete trial
- Stimulus equivalence
- Conditioned reinforcement
- Literature review

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Basic		
CAEP 6326	Behavioral Concepts and Principles	3
CAEP 6327	Behavior Assessment	3
CAEP 6328	Single-Case Research Design	3

CAEP 6329	Service Administration	3
CAEP 6331	Advanced Learning Seminar 1	3
CAEP 6334	Applied Programming Seminar 1	3
CAEP 6336	Systematic Inquiry 1	3
Advanced		
CAEP 6324	Programmed Learning	3
CAEP 6332	Advanced Learning Seminar 2	3
CAEP 6335	Applied Programming Seminar 2	3

Practicum

Note: The intensive practicum is optional. Consult your faculty advisor.

Code	Title	Hours
CAEP 8417	Intensive Practicum in Applied Behavior Analysis 1	2
CAEP 8418	Intensive Practicum in Applied Behavior Analysis 2	2
CAEP 8419	Intensive Practicum in Applied Behavior Analysis 3	2
CAEP 8421	Intensive Practicum in Applied Behavior Analysis 4	2

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Applied Educational Psychology, MS

Within Northeastern University's MS in Applied Educational Psychology, students enroll in foundational courses in learning, human development, assessment, and diversity. Students also begin their practicum sequence with the pre-practicum, the purpose of which is to provide students with observational experiences and an early opportunity to learn about the school ecology. Following completion of the MS in Applied Educational Psychology, students in good academic standing will enter the CAGS in School Psychology program. Both the MS and CAGS are necessary to obtain licensure as a school psychologist.

Students who are interested in concurrently pursuing early intervention qualification should consider the Early Intervention Graduate Certificate (p. 606) . Please see also the CAGS School Psychology (p. 638) program.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in all coursework.

Code	Title	Hours
Clinical/Applied		
CAEP 6201	Introduction to Assessment	3
CAEP 6350	Introduction to Cognitive Assessment	3
CAEP 6400	Prepracticum in School Psychology	1
Foundations		
CAEP 6202	Research, Evaluation, and Data Analysis (course being added as additional way to fulfill stats requirement)	3
or HLTH 5410	Introduction to Statistics in Health and Behavioral Science	
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6206	Learning Principles	3
CAEP 6218	Infant, Child, and Adolescent Development	3
CAEP 6247	Child and Adolesent Psychopathology	3
CAEP 6328	Single-Case Research Design	3
CAEP 6360	Consultation and Program Evaluation	3
CAEP 6365	Seminar in School Psychology	3

Program Credit/GPA Requirements

31 total semester hours required
Minimum 3.000 GPA required

Applied Psychology, MS

The Master of Science in Applied Psychology program at Northeastern is committed to providing evidence-based knowledge in counseling psychology to students who seek entry into a PhD in Counseling Psychology program and to graduates of baccalaureate degrees in human services, psychology, and health sciences who desire quality training in applied psychology. The program is 30 semester hours and is intended to be completed in two semesters. It does not meet licensing regulations for mental health counselors in the Commonwealth of Massachusetts.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
CAEP 5877	Research Methods in Applied Psychology	3
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6260	Community Counseling Psychology	3
CAEP 6282	Ethics and Professional Development	3
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	3

Concentrations

Complete one of the following:

- Child, Adolescent, and Family Psychology (p. 642)
- Prevention Science (p. 642)

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

CHILD, ADOLESCENT, AND FAMILY PSYCHOLOGY

Code	Title	Hours
Complete five of the following:		15
CAEP 5150	Early Intervention: Family Systems	
CAEP 5878	Pediatric Psychology	
CAEP 5879	Trauma and Mental Health	
CAEP 6218	Infant, Child, and Adolescent Development	
CAEP 6222	Human Sexuality	
CAEP 6247	Child and Adolesent Psychopathology	

PREVENTION SCIENCE

Code	Title	Hours
CAEP 5876	Mental Health Education and Program Planning	3
CAEP 6220	Development Across the Life Span	3
CAEP 6242	Psychopathology: Diagnosis and Treatment Planning	3
CAEP 6360	Consultation and Program Evaluation	3
PHTH 6204	Society, Behavior, and Health	3

Counseling Psychology, MSCP

The Master of Science in Counseling Psychology program at Northeastern University is committed to the development of competent Licensed Mental Health Counselors (LMHC) through the disciplinary studies and contemporary professional practice of counseling psychology. The program complies with licensing regulations for mental health counselors in the Commonwealth of Massachusetts and is unique in its offer of a choice of specific specializations to gain additional depth in selected areas within the general Master of Science program.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

The MSCP program requires a grade of B or better in all courses. Practicum and internship courses require a grade of Satisfactory (S). Grades of B– and lower or Unsatisfactory (U) are inconsistent with this policy. If received, students will be required to pay for the course again, repeat the course, and earn a grade of B or better or a grade of Satisfactory (S) in clinical practice courses.

Core Requirements

Code	Title	Hours
Seminar		
CAEP 6380	Seminar in Feminist Psychology	3
Required Core		
CAEP 6200	Introduction to Counseling: Theory and Process in an Ecological Context	3
CAEP 6201	Introduction to Assessment	3
CAEP 6203	Understanding Culture and Diversity	3
CAEP 6220	Development Across the Life Span	3
CAEP 6235	Vocational, Education, and Career Development	3
CAEP 6242	Psychopathology: Diagnosis and Treatment Planning	3
CAEP 6250	Individual Interventions	3
CAEP 6260	Community Counseling Psychology	3
CAEP 6282	Ethics and Professional Development	3
CAEP 6287	Group Counseling	3
CAEP 6375	Substance Use and Treatment	3
CAEP 6399	Clinical Skills in Counseling Psychology	3
Research		
CAEP 6202	Research, Evaluation, and Data Analysis	3
Practicum		
CAEP 8401	Practicum in Counseling Psychology [1]	3
Internship		
CAEP 8510	Internship in Counseling Psychology 1	3
CAEP 8511	Internship in Counseling Psychology 2	3

[1] If a student enrolls in Practicum in Counseling Psychology (CAEP 8401) two times, the student may only choose 6 semester hours for electives. In rare cases where the student has chosen a *concentration and enrolls in CAEP 8401 two times*, the successful completion of Practicum in Counseling Psychology (CAEP 8401) for the second time takes priority. The student then must either forgo the concentration to complete the program with 60 semester hours or may choose to enroll in an additional course to complete the program plus concentration for a total of 63 semester hours.

Concentration or Electives

In addition to the core requirements, students may choose to complete either a concentration or electives.

- Child and Adolescent Counseling Concentration (p. 644)
- Early Intervention Concentration (p. 644)
- Research in Counseling Psychology Concentration (p. 644)
- Electives Option (p. 644)

Program Credit/GPA Requirements

60–63 total semester hours required

Minimum 3.000 GPA required

CHILD AND ADOLESCENT COUNSELING CONCENTRATION

Code	Title	Hours
CAEP 6247	Child and Adolesent Psychopathology	3
CAEP 6401	Counseling Children and Adolescents in Schools	3
Complete one of the following:		3
CAEP 6218	Infant, Child, and Adolescent Development	
CAEP 6402	Promoting Social, Emotional, and Behavioral Success in Schools	

EARLY INTERVENTION CONCENTRATION

Students who would like to earn a certification in early intervention must complete two semesters of internship at an early intervention site.

Code	Title	Hours
Complete 9 semester hours from the following:		9
CAEP 5150	Early Intervention: Family Systems	
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	
CAEP 5153	Early Intervention: Assessment and Intervention	
CAEP 6218	Infant, Child, and Adolescent Development	
SLPA 5152	Early Intervention: Planning and Evaluating Services	

RESEARCH IN COUNSELING PSYCHOLOGY CONCENTRATION

Code	Title	Hours
Complete 9 semester hours from the following:		9
CAEP 6328	Single-Case Research Design	
CAEP 7711	Measurement: Advanced Psychometric Principles	
CAEP 7712	Intermediate Statistical Data Analysis Techniques	
CAEP 7716	Advanced Research and Data Analyses 2	
CAEP 7771	Research Team Experience	
HLTH 5410	Introduction to Statistics in Health and Behavioral Science	
PHTH 6320	Qualitative Methods in Health and Illness	

ELECTIVES OPTION

When students are required to complete Practicum in Counseling Psychology (CAEP 8401) two times, students may only choose 6 semester hours as electives. Electives not on this list may be chosen with faculty advisor approval.

Code	Title	Hours
Complete 9 semester hours from the following:		9
CAEP 6218	Infant, Child, and Adolescent Development	
CAEP 6222	Human Sexuality	
CAEP 6247	Child and Adolesent Psychopathology	
CAEP 6283	Brief Therapies	
CAEP 6286	Family Counseling Interventions	
CAEP 6390	History and Systems of Psychology	
CAEP 6394	Advanced Multicultural Psychology	
CAEP 7720	Advanced Clinical Interventions	
CAEP 7758	Doctoral Seminar in Contemporary Theories of Psychotherapy	
PHTH 6320	Qualitative Methods in Health and Illness	

Early Intervention, Graduate Certificate

Northeastern University's Certificate Program in Early Intervention is an interdisciplinary, preservice training program that is designed to fulfill requirements for certification as an early intervention specialist, at the advanced provisional level, as set forth by the Massachusetts Department of Public Health (DPH).

The interdisciplinary nature of the program is facilitated by the interaction of graduate students from several disciplines (including school psychology, counseling psychology, and speech-language pathology); undergraduate students from majors such as speech-language pathology and audiology and psychology; and working professionals in the field. Personnel working in the field may use their work sites for field training.

The program is delivered in a hybrid format. Classes meet on campus one day each month, and additional course content is delivered online.

This graduate certificate program can be completed by non-degree-seeking students or integrated with master's or clinical doctoral degree programs. Application of course work from certain degree programs will be approved to apply to requirements of this graduate certificate; students are encouraged to speak with their academic advisors early in their programs to explore these options.

The goals for the early intervention certificate program are:

- To prepare personnel to provide services to infants and toddlers with disabilities and their families, from linguistically and culturally diverse backgrounds in urban environments
- To prepare personnel who have attained all competencies relative to early intervention, specified by the Massachusetts DPH, and that are consistent with best practice and research
- To prepare personnel in an interdisciplinary manner, drawing from Northeastern University's multidisciplinary resources
- To prepare personnel to function effectively across teams (individualized family service plan teams, community teams, interagency teams) and to understand the roles of their interdisciplinary teammates

Upon graduation, students are eligible for employment in an early intervention service delivery setting.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all courses.

Code	Title	Hours
Required Core		
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
SLPA 5152	Early Intervention: Planning and Evaluating Services	3
CAEP 5153	Early Intervention: Assessment and Intervention	3
Practicum		
SLPA 5154	Early Intervention Practicum 1	2
SLPA 5155	Early Intervention Practicum 2	2

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Population Health, PhD

This program seeks to train students to become public health researchers and leaders through simultaneous examination of multiple determinations of health, including social, environmental, nutritional, and behavioral risk factors. Our students investigate the underlying causes of adverse health, including disease, disparities, and disability, through training in core population health disciplines—biostatistics, epidemiology, and health services—together with individual-specific and specialized training in topics related to student research. Importantly, our students are mentored by Northeastern's distinguished faculty, who individually and together conduct innovative, solution-focused research in critical population health topics.

Our population health doctoral students have an opportunity to learn to conduct research that addresses five key health determinants:

1. Social and community contexts
2. Environment and neighborhoods
3. Health and healthcare delivery
4. Education
5. Economic stability

Our diverse faculty has expertise in numerous population health disciplines, including health services research, health disparities, environmental and social epidemiology, biostatistics, exercise science, medical sociology, public policy, personal health technologies, and mental health. Students have the opportunity to work side by side with faculty in conducting cutting-edge, transdisciplinary research in these fields.

Course Requirements

All population health PhD candidates must earn at least 33 semester hours by completing core research courses, selecting a concentration and taking courses for that concentration, and taking additional electives and directed study courses as needed and in consultation with their faculty advisors. They must complete a dissertation in order to earn their degree. Eight core courses (22–23 semester hours) must be taken by all students, in addition to a mandatory, non-credit-bearing seminar speaker series. All students must fulfill the requirements of their specific population health option: social and environmental determinants of health or health services and policy. There may be some flexibility in course selection based on a student's relevant experience and dissertation topic. Students must consult with their advisor before selecting elective courses (9–10 semester hours). Electives should be used to either help the student develop skills needed for research or to help the student develop new research ideas.

ADVANCED ENTRY

This program is strictly for students who already have a master's degree in public health or a closely related area and have full-time employment at a company or agency who has entered into an agreement with Northeastern to be the student's sponsor. Completion of the PhD program requires 21–23 semester hours, including a yearlong research methods seminar and other advanced research courses. All students must fulfill the course requirements of their specific population health option: social and environmental determinants of health (9 semester hours) or health services and policy (7 semester hours). There may be some flexibility in course selection based on a student's relevant experience and dissertation topic. Students must consult with their advisor before selecting elective courses. Electives can be used to either help the student develop skills needed for research or to help the student develop new research ideas but are not required.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Population Health (https://catalog.northeastern.edu/graduate/health-sciences/community-health-behavioral-sciences/population-health-ms/*) degree. Note that no students will be admitted directly into the Population Health program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Oral defense of dissertation proposal
Candidacy status
Dissertation defense

Core Requirements

Code	Title	Hours
Health Services		
PHTH 5232	Evaluating Healthcare Quality	3

or PHTH 5234	Economic Perspectives on Health Policy	
Population Health		
PHTH 6400	Principles of Population Health 1	3
PHTH 6410	Principles of Population Health 2	3
Epidemiology		
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Research Ethics		
BIOL 6381	Ethics in Biological Research	2
or PHSC 5212	Research Skills and Ethics	
Research and Analysis		
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3

Options

Complete one of the following options:

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH OPTION

Code	Title	Hours
PHTH 6224	Social Epidemiology	3
PHTH 6440	Advanced Methods in Biostatistics	3
PHTH 6800	Causal Inference in Public Health Research	3
Electives		2-4

HEALTH SERVICES AND POLICY OPTION

Code	Title	Hours
ECON 5110	Microeconomic Theory	4
PHTH 5234	Economic Perspectives on Health Policy	3
Electives		3-4

Electives

Code	Title	Hours
CS 6220	Data Mining Techniques	
CS 7280	Special Topics in Database Management	
ECON 5110	Microeconomic Theory	
ECON 5140	Applied Econometrics	
ECON 7200	Topics in Applied Economics	
EXSC 5200	Cardiopulmonary Physiology	
EXSC 5220	Advanced Exercise Physiology	
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HRMG 6220	Health Organization Management	
PHSC 6216	Human Physiology and Pathophysiology	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5540	Health Education and Program Planning	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
PHTH 6208	Urban Community Health Assessment	
PHTH 6320	Qualitative Methods in Health and Illness	
SOCL 7287	Social Movements in Health	
STRT 6220	Strategic Management for Healthcare Organizations	

Dissertation

Code	Title	Hours
PHTH 9990	Dissertation Term 1	
PHTH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Oral defense of dissertation proposal
Candidacy Status
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework. Students must complete all core requirements unless otherwise indicated:

Code	Title	Hours
Population Health		
PHTH 6400	Principles of Population Health 1	3
PHTH 6410	Principles of Population Health 2	3
Epidemiology		
PHTH 6202	Intermediate Epidemiology	3
Research Ethics		
BIOL 6381	Ethics in Biological Research	2
or PHSC 5212	Research Skills and Ethics	
Research and Analysis		
PHTH 6210	Applied Regression Analysis	3

Options

Complete one of the following options:

- Social and Environmental Determinants of Health Option
- Health Services and Policy Option

SOCIAL AND ENVIRONMENTAL DETERMINANTS OF HEALTH OPTION

Code	Title	Hours
PHTH 6224	Social Epidemiology	3
PHTH 6440	Advanced Methods in Biostatistics	3
PHTH 6800	Causal Inference in Public Health Research	3

HEALTH SERVICES AND POLICY OPTION

Code	Title	Hours
ECON 5110	Microeconomic Theory	4
PHTH 5234	Economic Perspectives on Health Policy	3

Electives

Students may elect to take additional course credits to support their dissertation work.

Code	Title	Hours
CS 6220	Data Mining Techniques	
CS 7280	Special Topics in Database Management	
ECON 5140	Applied Econometrics	

EXSC 5200	Cardiopulmonary Physiology
EXSC 5220	Advanced Exercise Physiology
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease
HINF 5200	Theoretical Foundations in Personal Health Informatics
HRMG 6220	Health Organization Management
PHSC 6216	Human Physiology and Pathophysiology
PHTH 5212	Public Health Administration and Policy
PHTH 5214	Environmental Health
PHTH 5226	Strategic Management and Leadership in Healthcare
PHTH 5230	Global Health
PHTH 5540	Health Education and Program Planning
PHTH 6200	Principles and History of Urban Health
PHTH 6204	Society, Behavior, and Health
PHTH 6208	Urban Community Health Assessment
PHTH 6320	Qualitative Methods in Health and Illness
SOCL 7287	Social Movements in Health
STRT 6220	Strategic Management for Healthcare Organizations

Dissertation

Code	Title	Hours
PHTH 9990	Dissertation Term 1	
PHTH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Minimum 21 total semester hours required
Minimum 3.000 GPA required

Public Health, MPH

Through innovation in experiential education, research, and service, the Master of Public Health at Northeastern University (https://bouve.northeastern.edu/health-sciences/programs/master-public-health/) trains diverse and skilled professionals who promote and protect the health of all communities. This program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

MPH—Traditional

In order to help prepare the next generation of public health leaders and professionals, the MPH offers our diverse graduate students an opportunity to:

- Participate in learning options that meet the needs of the working professional:
  - On-ground, Boston courses are offered in the evening (most classes meet once a week from 5:00 p.m. to 7:30 p.m.)
  - Enroll as either a full-time or part-time student
  - Complete your degree online, on-ground, or in hybrid format (combination of both)
  - MPH students on the Charlotte campus participate in residency courses to fulfill experiential and core coursework
- Take 9 semester hours of *concentration* coursework in emerging, relevant areas in the field, including public mental health and public health technologies, or choose electives from a wide range of topics, including cross-departmental offerings from Northeastern's other colleges (law, business, social sciences, and more)
- Enjoy a supportive learning environment that includes outstanding student mentoring

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Traditional Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each required course.

Code	Title	Hours
Public Health Core		
PHTH 5202	Introduction to Epidemiology	3
PHTH 5210	Biostatistics in Public Health	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 5540	Health Education and Program Planning	3
PHTH 6204	Society, Behavior, and Health	3
Social Determinants of Health Core		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3
Experiential Core		
PHTH 6966	Practicum	3
PHTH 6910	Public Health Capstone	3

Concentration or Electives Option

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration for a total of 9 semester hours.

- Public Health Technologies Concentration (p. 651)
- Public Mental Health Concentration (p. 651)
- Electives Option (p. 651)

Program Credit/GPA Requirements

42 total semester hours required
Minimum 3.000 GPA required

PUBLIC HEALTH TECHNOLOGIES CONCENTRATION

Code	Title	Hours
HINF 5102	Data Management in Healthcare	3
HINF 6400	Introduction to Health Data Analytics	3
PHTH 6130	Public Health Technologies: Ethics and Equity	3

PUBLIC MENTAL HEALTH CONCENTRATION

Code	Title	Hours
CAEP 6100	Prevention and Intervention: Evidence-Based Practices	3
CAEP 6110	Etiology-Psychopathology Across the Life Span	3
CAEP 6220	Development Across the Life Span	3

ELECTIVES OPTION

Code	Title	Hours
Complete 9 semester hours from the following (in consultation with your faculty advisor, you may complete electives from another discipline):		9
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 5330	Using Publicly Available Data in Public Health	
PHTH 5340	Writing for Peer-Reviewed Journals in Public Health	
PHTH 5350	Using SAS in Public Health Research	
PHTH 5540	Health Education and Program Planning	
PHTH 6202	Intermediate Epidemiology	
PHTH 6210	Applied Regression Analysis	
PHTH 6224	Social Epidemiology	
PHTH 6320	Qualitative Methods in Health and Illness	
PHTH 6400	Principles of Population Health 1	
PHTH 6410	Principles of Population Health 2	
PHTH 6440	Advanced Methods in Biostatistics	
PHTH 6800	Causal Inference in Public Health Research	
PPUA 6509	Techniques of Program Evaluation	

Public Health, MPH—Accelerated

Through innovation in experiential education, research, and service, the Master of Public Health at Northeastern University (https://bouve.northeastern.edu/health-sciences/programs/master-public-health/)trains diverse and skilled professionals who promote and protect the health of all communities. This program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

MPH—One-Year Accelerated

The one-year accelerated MPH pathway allows students to complete all degree components in 12 months with an emphasis on public health practice and industry partnerships. This is a full-time, asynchronous online program for midcareer professionals that offers an opportunity to:

- Take 9 semester hours of *elective* coursework from a wide range of practical, public health topics including cross-departmental offerings
- Fulfill experiential coursework through industry partnerships and faculty networking
- Enjoy a supportive learning environment that includes outstanding student mentoring

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each required course.

Code	Title	Hours
Required Core		
PHTH 5202	Introduction to Epidemiology	3
PHTH 5210	Biostatistics in Public Health	3
PHTH 5212	Public Health Administration and Policy	3
PHTH 5214	Environmental Health	3
PHTH 5540	Health Education and Program Planning	3
PHTH 6204	Society, Behavior, and Health	3
Social Determinants of Health Core		
PHTH 5120	Race, Ethnicity, and Health in the United States	3
PHTH 6200	Principles and History of Urban Health	3
PHTH 6208	Urban Community Health Assessment	3
Experiential		
PHTH 6910	Public Health Capstone	3
PHTH 6966	Practicum	3

Electives

Code	Title	Hours
Complete 9 semester hours from the following (in consultation with your faculty advisor, you may complete electives from another discipline):		9
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 5330	Using Publicly Available Data in Public Health	
PHTH 5340	Writing for Peer-Reviewed Journals in Public Health	
PHTH 5540	Health Education and Program Planning	
PHTH 6320	Qualitative Methods in Health and Illness	
PHTH 6400	Principles of Population Health 1	
PHTH 6410	Principles of Population Health 2	
PHTH 6962	Elective	

Program Credit/GPA Requirements

42 total semester hours required

Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours	Summer Full Semester	Hours
Fall A		Spring A		Elective 1	3	Elective 3	3	PHTH 6910	3
PHTH 6200	3	PHTH 5212	3	Elective 2	3				
PHTH 6208	3	PHTH 5120	3						
Fall B		Spring B							
PHTH 6204	3	PHTH 5214	3						
PHTH 5540	3	Full Spring							
Full Fall		PHTH 5202	3						
PHTH 5210	3	PHTH 6966	3						
	15		**15**		**6**		**3**		**3**

Total Hours: 42

Exercise Science, MS—Online

The Department of Health Sciences offers a Master of Science in Exercise Science with two concentrations: clinical exercise physiology and physical activity and public health.

The curriculum is offered in a low-residency format with fully online courses and a four-day on-campus component for hands-on learning and training to prepare students for experiential education in the field through internship or practicum. An alternative option can be offered to students who are unable to attend the on-campus component in exceptional situations.

The exercise science core curriculum integrates key competencies for a degree in exercise science recommended by the American College of Sports Medicine, including a knowledge of exercise physiology and the assessment and development of physical activity and exercise programs for the general and clinical populations. Physical inactivity is a major public health problem and a significant risk factor for many chronic diseases, including heart disease, stroke, hypertension, metabolic syndrome, obesity, type 2 diabetes, and some types of cancer.

The clinical exercise physiology concentration provides students with the foundation and hands-on skills for patient assessment and exercise testing. It covers the principles for exercise training and patient education for behavior change. Students choosing this concentration will be given the opportunity to evaluate and develop exercise prescription for individuals and groups. The competencies offered through the clinical exercise physiology concentration are covered under the domains of clinical exercise physiologist requirements provided by ACSM.

The physical activity and public health concentration provides students with the foundation to plan, develop, implement, and evaluate primary prevention programs using exercise and physical activity in diverse populations and community settings. It also provides the foundation to understand how these programs are administered and the approaches to translate evidence-based programs in primary prevention to practice and policy.

Graduate students seeking this degree are members of the Bouvé College of Health Sciences—a leading national model for education and research in the health, psychosocial, and biomedical sciences, which supports the university's mission of educating students for a life of fulfillment and accomplishment and creating and translating knowledge to meet global and societal needs through interdisciplinary research, urban engagement, experiential learning, and the integration of classroom learning with real-world experience. Faculty in the department are exploring a range of research topics, including acute/chronic effects of exercise, community-based exercise and nutrition interventions, nutrition epidemiology, health disparities, urban public health, and the application of technology for measuring and motivating behavior change.

Two unique features of the program are:

- The program offers two concentrations of study based on student interest: clinical exercise physiology and physical activity and public health. Students take three courses in their selected concentration to enhance their specific domain knowledge. The concentrations are designed to offer students the skills and knowledge to pursue career opportunities in a variety of settings including federal/private/nonprofit institutions and clinical settings.
- The curriculum provides students the option of pursuing experiential learning opportunities through internship or practicum in the field. Experiential education is a key component of the program because application of classroom knowledge provides valuable preparation for a career in exercise science.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Exercise Science		
EXSC 5200	Cardiopulmonary Physiology	3
EXSC 5210	Physical Activity and Exercise: Prescription, Measurement, and Testing [1]	3
EXSC 5220	Advanced Exercise Physiology	3
EXSC 6202	Electrocardiography, Clinical Assessment, and Prescription	3
Research		
EXSC 6400	Applied Research Methods	3
PHTH 5202	Introduction to Epidemiology	3
PHTH 5210	Biostatistics in Public Health	3
or HLTH 5410	Introduction to Statistics in Health and Behavioral Science	

Concentrations

Choose one concentration and complete all courses and requirements unless otherwise indicated.

- Clinical Exercise Physiology (p. 655)
- Physical Activity and Public Health (p. 655)

Program Credit/GPA Requirement

30 total semester hours required
Minimum 3.000 GPA required

CONCENTRATION IN CLINICAL EXERCISE PHYSIOLOGY

Code	Title	Hours
EXSC 5230	Physical Activity and Exercise: Effects on Musculoskeletal Health and Disease	3
EXSC 5240	Clinical Nutrition Applications in Health and Disease	3-4
EXSC 6300	Internship in Exercise Science [2]	3
or HINF 6240	Improving the Patient Experience through Informatics	

CONCENTRATION IN PHYSICAL ACTIVITY AND PUBLIC HEALTH

Code	Title	Hours
PHTH 5540	Health Education and Program Planning	3
PHTH 6208	Urban Community Health Assessment	3
Complete 3 semester hours from the following:		3
EXSC 6966	Practicum [2]	
PHTH 5000 or higher		

1 Includes a required four-day on-campus experience.
2 with advisor approval an alternate 3 semester hours of graduate coursework may be substituted

Health Informatics, MS

Northeastern University's interdisciplinary Master of Science in Health Informatics was the first MS in the field and is now one of the few that is fully interdisciplinary between health science and computer science.

The program seeks to prepare students to address the combined clinical, technical, and business needs of health-related professionals. Students may opt to select a concentration to deepen their knowledge in a particular area. Successful students graduate with the knowledge of how technology, people, health, and the healthcare system interrelate; the ability to use technology and information management to improve healthcare delivery and outcomes; and the skills to communicate effectively among healthcare practitioners, administrators, information technology professionals, and patients.

Please visit Bouvé College Learning Outcomes (http://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B– or higher is required in each course.

Core Requirements

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5105	The American Healthcare System	3

Program Options

Choose one of the following options:

- Health Informatics (Without Concentration) (p. 314)
- Health Informatics with Health Informatics Analytics Concentration (p. 315)
- Health Informatics with Personal Health Informatics Concentration (p. 316)

Program Credit/GPA Requirements

Minimum 33 total semester hours required
Minimum 3.000 GPA required

HEALTH INFORMATICS (WITHOUT CONCENTRATION)

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	

HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
Complete two of the following:		6
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
HINF 6400	Introduction to Health Data Analytics	
PHTH 5202	Introduction to Epidemiology	
PHTH 5210	Biostatistics in Public Health	
PHTH 6210	Applied Regression Analysis	
PHTH 6400	Principles of Population Health 1	
PHTH 6440	Advanced Methods in Biostatistics	
One course from the following may count toward the technical core requirement:		
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
Capstone		
HINF 7701	Health Informatics Capstone Project	3
Electives		
Complete two of the following:		6
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
HINF 6345	Design for Usability in Healthcare	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	

HEALTH INFORMATICS ANALYTICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Business Management		
Complete two of the following:		6
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management	
HINF 6202	Business of Healthcare Informatics	
HINF 6215	Project Management	
or EMGT 5220	Engineering Project Management	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6240	Improving the Patient Experience through Informatics	
PHTH 5226	Strategic Management and Leadership in Healthcare	
Health Informatics		
Complete two of the following:		6
HINF 5102	Data Management in Healthcare	
HINF 5110	Global Health Information Management	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6350	Public Health Surveillance and Informatics	
HINF 6404	Patient Engagement Informatics and Analytics	
HINF 6405	Quantifying the Value of Informatics	
PHTH 5232	Evaluating Healthcare Quality	
Technical		
IE 6200	Engineering Probability and Statistics	4
OR 6205	Deterministic Operations Research	4

Capstone		
HINF 7701	Health Informatics Capstone Project	3
Elective		
Complete one of the following:		4
IE 5137	Computational Modeling in Industrial Engineering	
IE 5390	Structured Data Analytics for Industrial Engineering	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
IE 6600	Computation and Visualization for Analytics	
IE 6700	Data Management for Analytics	
IE 7275	Data Mining in Engineering	

PERSONAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
Required Coursework in Addition to Core Requirements		
Health Informatics		
HINF 6205	Creation and Application of Medical Knowledge	3
Technical		
CS 5340	Computer/Human Interaction	4
Complete one of the following. Students must petition to take electives outside the approved list.		4
CS 5010	Programming Design Paradigm	
CS 5520	Mobile Application Development	
CS 5610	Web Development	
CS 6200	Information Retrieval	
Complete one of the following:		3
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	
Theory and Evaluation		
PHTH 5210	Biostatistics in Public Health [1]	3
Complete one of the following:		4
CS 6350	Empirical Research Methods (On campus only)	
HINF 5200	Theoretical Foundations in Personal Health Informatics	
Culminating Experience		
Complete one of the two options below.		6
Thesis Option		
Students must enroll in HINF 7990 for two semesters for a total of 6 semester hours with director approval only and under supervision of Personal Health Informatics faculty.		
HINF 7990	Thesis	
Capstone Option		
HINF 7701	Health Informatics Capstone Project	
Complete any course for a minumum of 3 semester from the Health Informatics (without concentration) curriculum, that has not been used in previous requirements.		

[1] Student may petition director to take a more advanced stats course, such as Applied Regression Analysis (PHTH 6210).

Real-World Evidence in Healthcare and Life Sciences, MS

Overview

The Master of Science in Real-World Evidence (RWE) is an interdisciplinary, flexible, and contemporary degree that focuses on best practices for the appropriate acquisition and analysis of observational health data. Housed in the Department of Health Sciences and the Roux Institute, learners explore how observational research produces a comprehensive understanding of disease, including experience with appropriate methods and software to conduct this research.

RWE#is the clinical evidence regarding the usage and potential benefits, or risks, of a medical product derived from analysis of real-world data (RWD). RWE can be generated by different study designs or analyses, including but not limited to randomized trials, pragmatic trials, and observational studies. RWDare the data relating to patient health status and/or the delivery of healthcare routinely collected from a variety of sources, for example, electronic health records, claims, and billing activities.

RWD and RWE are playing an increasing role in healthcare decisions. The FDA uses RWD and RWE to monitor postmarket safety and to make regulatory decisions. The healthcare community uses these data to support coverage decisions and to develop guidelines and decision support tools for clinical practice. Medical product developers use RWD and RWE to support clinical trial designs and observational studies to generate innovative, new treatment approaches.

This program is based on open, reproducible science—including the use of common data models and open-source analytics software to codify these practices into consistent, transparent, reproducible solutions—and applies these tools and practices to answer clinical questions by generating evidence to guide healthcare policy and improve patient outcomes.

The program seeks to educate two key professionals: analysts and researchers.

An analyst is a technician (e.g., solution architect, epidemiologist, data scientist, etc.) who is engaging in RWE studies by utilizing statistical tools and epidemiologic methods to operationalize and analyze RWD. Technicians may be carrying out activities on behalf of an institution or may be working as individuals interested in the technology that RWD offers. They may be involved in any stage of the RWD/RWE continuum (extract-transform-load [ETL]/data quality processes, tool enablement and self-service analytics, visualization, communication) and are often interested in extending these resources to serve additional use cases or new functionality.

A researcher is one who originates from any number of backgrounds (statistics, clinical training, public health, biological sciences, data science, etc.) who engages in the RWD community for the sake of designing and conducting a research study. Researchers want to know how to run their own observational research studies. In their day, researchers were often responsible for translating the science into better decisions and better care.

The intent of this program is to curate interdisciplinary expertise to support the evidence-generation process in the pharmacoepidemiology research community. The curriculum aims to ensure that learners can obtain in-demand skills that are immediately deployable in roles at pharmaceutical companies, regulatory authorities, health systems, technology companies, and consulting groups specializing in life sciences and healthcare.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in each course.

Code	Title	Hours
HSCI 5130	Introduction to Real-World Evidence	2
HSCI 5140	Foundations of Data Models	2
HSCI 5150	Methods for Observational Research 1	3
HSCI 5151	Methods for Observational Research 2	3
HSCI 5160	Standardization of Real-World Data	2
HSCI 5170	Data Model Transformation	2
PHSC 5212	Research Skills and Ethics	2
Capstone Requirement		
HSCI 6980	Real-World Evidence Capstone	3

Selectives

Code	Title	Hours
Complete a minimum of 6 semester hours from the following:		6-12
HSCI 5180	Phenotyping	
HSCI 5190	Cohort Building	

HSCI 6110	Advanced Population Characterization
HSCI 6120	Advanced Population Estimation
HSCI 6130	Advanced Patient Prediction

Electives

Code	Title	Hours
Complete up to 6 semester hours from the following (electives are selected in consultation with the program director):		6
HINF 5300	Personal Health Interface Design and Development	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6220	Database Design, Access, Modeling, and Security	
HINF 6355	Interoperability Key Standards in Health Informatics	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Law, JD / Public Health, MPH

Northeastern University's School of Law and Bouvé College of Health Sciences offer a JD/MPH dual degree. Given the worldwide trend toward urbanization, the Master of Public Health (MPH) recognizes the growing need for professionals trained to respond to unique public health challenges and opportunities facing urban populations. The MPH program brings together interdisciplinary faculty (from the School of Law, D'Amore-McKim School of Business, College of Social Sciences and Humanities, Khoury College of Computer Sciences, and the Bouvé College of Health Sciences) with expertise in collaborating with diverse urban populations to offer students an opportunity to obtain practice-based knowledge, skills, and experience needed to address public health problems.

Up to 9 credit hours of coursework in the JD program may count toward the MPH, while up to 12 credit hours of coursework in the MPH program may count toward the JD. See the JD/MPH program page (https://law.northeastern.edu/academics/programs/jd/dual-degrees/public-health-bouve/) for more information.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Pharmacy, PharmD—Direct Entry / Public Health, MPH

The School of Pharmacy and Pharmaceutical Sciences and the Department of Health Sciences offer a combined Doctor of Pharmacy (PharmD) and Master of Public Health (MPH) program.

The combined PharmD/MPH program recognizes and reinforces the importance of public health in pharmacy practice. Central to addressing public health concerns, and in particular those associated with racial and ethnic health disparities, the program is committed to building a strong, diverse, and activist public health workforce. The goal of the program is to graduate professionals who are well educated in the complex issues associated with disparate health status and healthcare access. The combined PharmD/MPH program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree while also completing their PharmD.

Refer to the School of Pharmacy and Pharmaceutical Sciences PharmD—Direct Entry (p. 720) and Department of Health Sciences Master of Public Health (p. 650) pages of this catalog for program requirements and technical standards. Students must adhere to all PharmD and MPH program standards, policies, and requirements as listed in the catalog, unless otherwise specified.

The Northeastern University Master of Public Health Program is accredited by the Council of Education for Public Health. CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Physician Assistant, MS / Public Health, MPH

The Northeastern University physician assistant program and Department of Health Sciences offer a dual degree program: Master of Science in Physician Assistant/Master of Public Health. The dual MS and MPH degree program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree, while also completing their Master of Science degree in the PA program.

The Northeastern Master of Public Health program is accredited by the Council on Education for Public Health (https://ceph.org/). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health. The MPH program has a strong commitment to providing a flexible course of study for working professionals. This flexibility allows for easy incorporation into a dual degree program.

The dual degree program is designed to help diversify the public health workforce and improve graduates' ability to approach clinical situations with cultural sensitivity and awareness. Graduates of the program benefit from having a greater understanding of public health issues in clinical practice, including the racial and ethnic health disparities prevalent in the U.S. healthcare system, as well as a strong grounding in epidemiology, quantitative and qualitative research methods, and the use of scientific evidence, skills critical to many fields of healthcare practice.

This dual degree takes less than three years to complete (as opposed to four years, if each degree were pursued separately), and a total of 12 semester hours are shared between both degrees.

For more information, including the application and admissions process, please visit the dual degree program website (https://bouve.northeastern.edu/health-sciences/programs/pa-mph/).

Public Health, MPH / Health Informatics, MS

Website (https://bouve.northeastern.edu/health-sciences/programs/ms-hinf-mph/)

The Master of Public Health and Master of Science in Health Informatics dual degree allows qualified and interested students to prepare to lead healthcare at the nexus between public health and health informatics. Graduates of this program will be well-educated in the complex issues associated with improvements in information technology, as well as changes to the public health and healthcare delivery systems. Recognizing the increasing overlap between health informatics and public health, this program incorporates course work from both the MPH and MSHI curricula for both degrees, reducing tuition costs and saving one year of study compared to obtaining both degrees individually.

The Northeastern University Master of Public Health program is accredited by the Council on Education for Public Health (CEPH). CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

Up to 15 credits of coursework in the dual-degree program can be counted toward both the MPH and MS degrees.

Health Informatics Management and Exchange, Graduate Certificate

Overview

The certificate program in health informatics management and exchange offers you the opportunity to obtain the knowledge needed to support the collection, management, retrieval, and exchange of electronic health data. It is designed to prepare you for a position as a specialist in data management, interoperability standards, and health database design.

- Eight-month program
- Five courses, 15 semester hours

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in all course work.

Code	Title	Hours
Required Core		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
Management and Exchange		
HINF 6205	Creation and Application of Medical Knowledge	3
HINF 6220	Database Design, Access, Modeling, and Security	3
HINF 6355	Interoperability Key Standards in Health Informatics	3

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Health Informatics Privacy and Security, Graduate Certificate

Overview

The certificate program in health informatics privacy and security combines knowledge of health informatics with a strong foundation in important information security issues. Northeastern's status as a National Security Agency Center of Excellence for Information Security Education and Research ensures the program is both relevant and of high academic quality.

- Eight-month program
- Five courses, 18 semester hours

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in all course work.

Code	Title	Hours
Required Core		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
Privacy and Security		
CY 5130	Computer System Security	4
CY 5150	Network Security Practices	4
CY 5200	Security Risk Management and Assessment	4

Program Credit/GPA Requirements

18 total semester hours required
Minimum 3.000 GPA required

Health Informatics Software Engineering, Graduate Certificate

Overview

This certificate program offers software engineers the background in health informatics (as well as interchange and interoperability standards) needed to better understand the context in which they work and perform effectively in a health-related organization. Program design is flexible to allow completion on a rapid schedule or a slower pace that is more compatible with full-time workers.

- Eight-month program
- Five courses, 15 semester hours

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B– or higher is required in all course work.

Code	Title	Hours
Required Core		
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
Management and Exchange		
HINF 6205	Creation and Application of Medical Knowledge	3
HINF 6345	Design for Usability in Healthcare	3
HINF 6355	Interoperability Key Standards in Health Informatics	3

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

School of Nursing

Website (https://bouve.northeastern.edu/nursing/)

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This is an exciting time in healthcare, and nursing plays a pivotal role in the transformation of our healthcare system. Northeastern University School of Nursing offers multiple options for graduate study, including master's, Doctor of Nursing Practice, and PhD degree programs, as well as Certificate of Advanced Graduate Study programs, that are designed to prepare outstanding clinicians, leaders, scholars, educators, and policymakers. These programs leverage the school's renowned faculty, as well as exceptional clinical practicum sites. Our reputation is why our graduates are sought by top employers. Practicing advanced practice nurses may easily change their specialty area by enrolling in one of our CAGS programs in adult primary or acute, pediatric primary and acute, or mental health.

The DNP program is a practice-oriented degree designed to prepare advanced nurses at the highest level of scholarly practice. Keeping pace with the demands of today's changing healthcare environment requires clinical experts who have the knowledge and skills to be effective change agents. Graduates of our post-master's DNP program assume clinical and leadership positions as advanced nurses in a variety of roles, including clinical experts, nurse executives, community leaders, and professional organization leaders.

The PhD program in nursing prepares research scientists, educators, and leaders who seek to improve health and healthcare across the life span with an emphasis on urban, vulnerable, and underserved populations. Graduates are expected to lead research initiatives that advance nursing science through knowledge development and interdisciplinary scholarly inquiry.

Further information about the degrees and specializations can be found at each program's page of this catalog.

Programs

Doctor of Philosophy (PhD)

- Nursing (p. 669)

Doctor of Nursing Practice (DNP)

- Nurse Anesthesia (p. 672)
- Nursing—Post-Master's (p. 674)

Certificate of Advanced Graduate Study (CAGS)

- Nursing with Concentration in Adult-Gerontology Nurse Practitioner, Acute Care (p. 675)
- Nursing with Concentration in Adult-Gerontology Nurse Practitioner, Primary Care (p. 676)
- Nursing with Concentration in Neonatal Nurse Practitioner (p. 678)
- Nursing with Concentration in Pediatric Nurse Practitioner, Acute Care (p. 679)
- Nursing with Concentration in Pediatric Nurse Practitioner, Acute and Primary Care (p. 680)
- Nursing with Concentration in Pediatric Nurse Practitioner, Primary Care (p. 681)
- Nursing with Concentration in Psychiatric-Mental Health Nurse Practitioner (p. 677)

Master of Science (MS)

- Nursing (p. 682)
- Nursing—Direct Entry (p. 686)

Graduate Certificate

- Patient Safety (p. 607)
- Pediatric Nurse Practitioner, Acute Care (p. 692)

Nursing, PhD

Overview

Research

The PhD in Nursing program is designed to prepare nurse researchers to advance the science of nursing by developing expertise in both leadership and innovation. Graduates are expected to lead multidisciplinary research initiatives that advance nursing and healthcare through knowledge development and interdisciplinary scholarly inquiry. Students will work with nursing faculty whose research addresses innovative questions that seek to advance knowledge for improvement of care. Students will have opportunities to collaborate with faculty across the broader Northeastern University community, in addition to Boston-area research and healthcare institutions. This collaboration allows students to work across disciplines and to access populations and research sites essential to the success of their original dissertation study.

Advanced entry into the PhD in Nursing program requires a master's degree in nursing.

Visit the Northeastern University Faculty Research site (http://www.northeastern.edu/research/faculty-research/) for more information.

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS *(*https://catalog.northeastern.edu/graduate/health-sciences/nursing/applied-nursing-research-ms/*)Applied Nursing Research degree. Note that no students will be admitted directly into the Applied Nursing Research program to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

A bachelor's degree in nursing is preferred. Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review of progress
Comprehensive examination
Candidacy status
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Required Core		
NRSG 7104	Foundations in Nursing Research	3
NRSG 7700	The Science of Nursing	3
NRSG 7705	Theoretical and Conceptual Foundations in Nursing Science	3
NRSG 7715	Measurement in Clinical Research	3
NRSG 7750	Healthcare of Urban Populations	3
Statistics		
NRSG 5121	Epidemiology and Population Health	3
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3
Research		
NRSG 7709	Qualitative Research Methods	3
NRSG 7712	Quantitative Research Methods	3
NRSG 7755	Intervention Research: Development, Implementation, and Evaluation	3
NRSG 7770	Research Colloquium	1
Complete the following (repeatable) course twice:		6
NRSG 9984	Research	
Cognate Courses		
Complete two cognate courses in consultation with your faculty advisor. Cognates are graduate-level courses that are taken outside of nursing. These courses should provide depth and breadth to the student's dissertation research.		6

Electives

Code	Title	Hours
Complete two elective courses in consultation with your faculty advisor. Electives may be taken in nursing or in an area related to the student's dissertation research, including appropriate methodology and statistics courses.		6

Dissertation

Code	Title	Hours
NRSG 9845	Dissertation Seminar 1	3
NRSG 9846	Dissertation Seminar 2	3
NRSG 9990	Dissertation Term 1	
NRSG 9991	Dissertation Term 2	

Program Credit/GPA Requirements

58 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review of progress
Comprehensive examination
Candidacy status
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Required Core		
NRSG 7700	The Science of Nursing	3
NRSG 7705	Theoretical and Conceptual Foundations in Nursing Science	3
NRSG 7750	Healthcare of Urban Populations	3
Statistics		
PHTH 5210	Biostatistics in Public Health	3
PHTH 6210	Applied Regression Analysis	3
Cognate Courses [1]		
Complete two cognate courses in consultation with your faculty adviser.		6
Research		
NRSG 7709	Qualitative Research Methods	3
NRSG 7712	Quantitative Research Methods	3
NRSG 7715	Measurement in Clinical Research	3
NRSG 7755	Intervention Research: Development, Implementation, and Evaluation	3
NRSG 7770	Research Colloquium	1
Complete the following (repeatable) course twice:		6
NRSG 9984	Research	

Dissertation Courses

Code	Title	Hours
NRSG 9845	Dissertation Seminar 1	3
NRSG 9846	Dissertation Seminar 2	3
NRSG 9990	Dissertation Term 1	
NRSG 9991	Dissertation Term 2	

Program Credit/GPA Requirements

46 total semester hours required

Minimum 3.000 GPA required

[1] Cognates are graduate-level courses that are taken outside of nursing and should provide depth and breadth to the student's area of interest.

Nurse Anesthesia, DNP

The Doctor of Nursing Practice in Nurse Anesthesia is a practice-oriented degree designed to prepare nurse anesthetists at the highest level of clinical scholarly practice. Keeping pace with the demands of today's changing healthcare environment requires clinical experts who have the knowledge and skills to be effective change agents. The program prepares graduates to question practice, search for and critically appraise the best evidence to guide practice, and implement and evaluate the application of best evidence in practice.

A successful graduate from the program will gain the requisite skill set and leadership expertise to be a critical member of the healthcare team and provide anesthetics to patients throughout the life cycle in diverse settings such as small local hospitals, regional centers, and rural or urban settings for all types of surgery or procedures.

Transfer Policy

Northeastern University regulations for transfer credit are published in this catalog (p. 91). The transfer policy specific to this doctoral program is defined as a maximum of 9 semester hours or 12 quarter hours of credit earned at another institution may be accepted toward the degree being pursued at Northeastern, provided the credits:

1. Consist of work taken at the graduate level for graduate credit
2. Carry grades of 3.000 or better
3. Have been earned at an accredited institution
4. Have not been used toward any baccalaureate or advanced degree or certificate at another institution
5. Transfer credits must be approved by the program administrator and course faculty

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

A grade of B or higher is required in all coursework.

Core Requirements

Code	Title	Hours
Required Core		
NRSG 5117	Advanced Pharmacology	2
NRSG 5121	Epidemiology and Population Health	3
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3
NRSG 6300	Healthcare Finance and Marketing	3
NRSG 6302	Health Policy and Law	3
NRSG 6306	Health Informatics	3
NRSG 7100	Leadership in Advanced Practice Nursing	3
Didactic		
NRSG 7500	Role/Practice Issues in Nurse Anesthesia	3
NRSG 7503	Pharmacotherapeutics in Anesthesia and Critical Care Nursing	3
NRSG 7506	Applied Chemistry, Physics, and Cardiopulmonary Physiology of Anesthesia	3
NRSG 7509	Advanced Concepts in Nurse Anesthesia Practice	3
NRSG 7511	Applied Gross Anatomy and Physiology of Anesthesia	3
NRSG 7520	Conceptual Basis of Nurse Anesthesia Practice 1	3
NRSG 7523	Conceptual Basis of Nurse Anesthesia Practice 2	3
NRSG 7526	Conceptual Basis of Nurse Anesthesia Practice 3	3
Practicum		
NRSG 7530	Nurse Anesthesia Practicum 1	3
NRSG 7533	Nurse Anesthesia Practicum 2	3
NRSG 7536	Nurse Anesthesia Practicum 3	4
Research		
NRSG 7105	Translating Research Evidence into Practice	3
NRSG 7920	The Steps to Practice Inquiry: Analyze, Evaluate, Synthesize, and Apply the Evidence	3

Project		
NRSG 7921	DNP Scholarly Project 1: Design and Ethical Consideration of Practice Application	3
NRSG 7922	DNP Scholarly Project 2: Applying Practice Knowledge—Implementation/ Outcomes	3
NRSG 7923	DNP Scholarly Project 3: Dissemination of Practice Inquiry	3
Clinical		
NRSG 7540	Advanced Clinical Experiences in Nurse Anesthesia 1	1
NRSG 7543	Advanced Clinical Experiences in Nurse Anesthesia 2	2
NRSG 7546	Advanced Clinical Experiences in Nurse Anesthesia 3	2

Program Credit/GPA Requirements

77 total semester hours required
Minimum 3.000 GPA required

Nursing, DNP—Post-Master's

The Doctor of Nursing Practice (DNP) is a practice-oriented degree designed to prepare advanced nurses at the highest level of scholarly practice. Keeping pace with the demands of today's changing healthcare environment requires clinical experts who have the knowledge and skills to be effective change agents. Graduates of our post-master's DNP program assume clinical and leadership positions as advanced nurses in a variety of roles including clinical experts, nurse executives, community leaders, and professional organization leaders.

The Northeastern University post-master's DNP program includes advanced course work in leadership, practice inquiry, population health, informatics, and health policy. Our goal is to prepare the next generation of nurse leaders with a greater breadth of expertise so they can collaborate more effectively with interprofessional partners and provide leadership to enhance quality and safety. The DNP program curriculum is delivered online in an executive model hybrid format, with the on-ground meetings at the Boston campus.

If you are a registered nurse with at least two years of active advanced nursing experience, you may enter the DNP program after completing a master's degree in nursing or, in some cases, a related health field. A DNP Scholarly Project and 1,000 scholarly practice hours are required for program completion. A gap analysis upon admission will determine how many, if any, practice hours from a previously completed Master of Science in Nursing practicum qualify toward this practice hour requirement. An ePortfolio is used to document all scholarly practice hours and DNP program achievements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Required Core		
NRSG 6300	Healthcare Finance and Marketing	3
NRSG 6306	Health Informatics	3
NRSG 7100	Leadership in Advanced Practice Nursing	3
NRSG 7924	Applied Epidemiology for Advanced Nursing	3
NRSG 7925	Health Policy and Advocacy	3
Project		
NRSG 7920	The Steps to Practice Inquiry: Analyze, Evaluate, Synthesize, and Apply the Evidence	3
NRSG 7921	DNP Scholarly Project 1: Design and Ethical Consideration of Practice Application	3
NRSG 7922	DNP Scholarly Project 2: Applying Practice Knowledge—Implementation/ Outcomes	3
NRSG 7923	DNP Scholarly Project 3: Dissemination of Practice Inquiry	3

Elective

Code	Title	Hours
Complete 3 semester hours, selected in consultation with faculty program advisor.		3

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS

The adult-gerontology acute-care nurse practitioner program is designed to prepare nurses for advanced-practice roles as clinical experts, managers, educators, and consultants. The program offers advanced study with a major focus on clinical experience. Nurses who possess a Master of Science are eligible for the Certificate of Advanced Graduate Study (CAGS) in this specialization.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Theory		
NRSG 6220	Nursing Management: Acute Episodic Illness	3
NRSG 6221	Nursing Management: Critical and Chronic Illness	3
NRSG 6241	Acute-Care Concepts in Nursing Practice	3
Practicum		
NRSG 6420	Adult-Gerontology Acute-Care Nursing Practicum 1	2
NRSG 6421	Adult-Gerontology Acute-Care Nursing Practicum 2	4
NRSG 6422	Adult-Gerontology Acute-Care Nursing Practicum 3	4

Electives

Code	Title	Hours
Complete 5 semester hours in the following subject area:		5
NRSG		

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in Primary Care Adult-Gerontology Nurse Practitioner offers nurse practitioners (NPs) with certification in a different specialty the opportunity to prepare for practice providing high-quality adult primary care services as an adult-gerontology NP. Adult-gerontology NPs provide services to individuals across most of the life span in clinics, private practices, home care, long-term care, and day programs. Upon completion of the primary care program, graduates are eligible to sit for the adult-gerontology certification exam.

Prerequisite Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of the student's background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Core Requirements

Students should refer to the Program Overview page for required program prerequisites.

A grade of B or higher is required in each course.

Code	Title	Hours
Required Courses		
NRSG 6222	Pharmacology of Adults and Older Adults	2
NRSG 6249	Health Promotion of Adult/Older Adult	3
NRSG 6253	Primary Care of Adult/Older Adult Health Problems	3
NRSG 6254	Primary Care of Adult/Older Adult Complex Patients	3
NRSG 6449	Health Promotion of Adult/Older Adult Practicum	1
NRSG 6450	Adult/Older Adult Practicum 1	5
NRSG 6451	Adult/Older Adult Practicum 2	5
Elective		2

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS

The School of Nursing offers specialized and flexible program options in psychiatric mental health nursing for nurse practitioners (NPs) with certification in another specialty. Classes are offered during the late afternoon and early evening hours to accommodate the multiple responsibilities of adult learners. This is a 24-semester-hour program of study. Upon completion of the psychiatric mental health advanced practice Certificate of Advanced Graduate Study (CAGS) program, graduates are eligible to sit for available national certification exams in their area of practice.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Required Core		
NRSG 6281	Dimensions of Clinical Practice	3
NRSG 6282	Clinical Psychopharmacology	3
NRSG 6283	Psychobiological Bases of Mental Disorders	3
NRSG 6286	Contemporary Psychotherapies—Theory and Practice	3
Practicum		
NRSG 6480	Psychiatric Practicum across the Life Span 1	5
NRSG 6481	Psychiatric Practicum across the Life Span 2	5

Elective

Code	Title	Hours
Complete 2 semester hours in the following subject area:		2
NRSG		

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Neonatal Nurse Practitioner, CAGS

The School of Nursing offers a certificate of advanced study for experienced nurses who have a master's degree in nursing and want to specialize in neonatal critical care. Applicants are required to have at least two years of level-3 or greater of neonatal intensive care unit experience before entering the program; most applicants have greater relevant experience. One year of full-time study offers the student an opportunity to increase skills and experience and enables the student to sit for the neonatal nurse practitioner certification exam offered by the National Certification Corporation for the obstetric, gynecologic, and neonatal nursing specialties.

Prerequisite or Equivalent Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of the student's background, must have completed coursework with content equivalent to the following courses with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	
NRSG 5126	Pathophysiology for Advanced Practice	

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in all coursework.

Code	Title	Hours
Clinical		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6230	Nursing Management: Critically Ill Neonatal 1	3
NRSG 6231	Nursing Management: Critically Ill Neonatal 2	3
NRSG 6232	Neonatal Pharmacology	2
Practicum		
NRSG 6430	Neonatal Clinical Practicum 1	4
NRSG 6431	Neonatal Clinical Practicum 2	4
NRSG 6432	Neonatal Clinical Practicum 3	2

Elective

Code	Title	Hours
Select courses in consultation with faculty advisor.		3
NRSG		

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in Acute Care Pediatric Nurse Practitioner (PNP) is designed for nurses who possess an MS degree in nursing. Such applicants are eligible to apply for admission to this CAGS program for advanced preparation as a PNP.

Prerequisite Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Students should refer to the program overview page for required program prerequisites.

A grade of B or higher is required in all coursework.

Code	Title	Hours
Required Courses		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6262	Pediatric Pharmacology	2
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6267	Care of the Critically Ill Child	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6461	Child/Adolescent Health Problems Practicum	5
NRSG 6463	Care of the Critically Ill Child Practicum	5

Program Credit/GPA Requirements

25 total semester hours required
Minimum 3.000 GPA required

Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in dual Primary/Acute Care Pediatric Nurse Practitioner (PNP) is designed for nurses who possess an MS degree in nursing. Such applicants are eligible to apply for admission to this CAGS program for advanced preparation as a PNP.

Prerequisite Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3
NRSG 6115	Health Assessment	3

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Students should refer to the program overview page for required program prerequisites.

A grade of B or higher is required in each course.

Code	Title	Hours
Required Courses		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6262	Pediatric Pharmacology	2
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6267	Care of the Critically Ill Child	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5
NRSG 6463	Care of the Critically Ill Child Practicum	5

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS

The Certificate of Advanced Graduate Study (CAGS) with a concentration in Primary Care Pediatric Nurse Practitioner (PNP) is designed for nurses who possess an MS degree in nursing. Such applicants are eligible to apply for admission to this CAGS program for advanced preparation as a PNP.

Prerequisite or Equivalent Courses

To ensure that all students have the foundation necessary to be successful in this program, each incoming student, regardless of their background, must have completed coursework in the following areas with a minimum grade of B.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	
NRSG 5126	Pathophysiology for Advanced Practice	
NRSG 6115	Health Assessment	

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Required Courses		
NRSG 6262	Pediatric Pharmacology	2
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5
Elective		
Complete 2 semester hours of graduate NRSG coursework.		2

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.000 GPA required

Nursing, MS

Northeastern University's School of Nursing offers seven nurse practitioner concentrations leading to a Master of Science in Nursing. The program provides a solid foundation in research, epidemiology, health assessment, advanced pharmacology and pathophysiology, and healthcare systems with on-ground or online didactic coursework and on-ground skills and clinical experiences. The program has a strong clinical focus with high-quality clinical rotations as top priority. Students graduate prepared to practice as novice advanced-practice providers and work across a variety of healthcare settings. Graduates become nurse clinicians, educators, scholars, researchers, and lifelong learners. Upon completion of the program, graduates are eligible to sit for all national certification exams in their specialty area.

Adult-Gerontology Acute-Care Nurse Practitioner Concentration

The adult-gerontology acute-care concentration seeks to prepare nurses for advanced-practice roles as clinical experts, educators, and consultants. The concentration provides advanced study with a major focus on clinical experience and prepares graduates to care for patients across the continuum of care, including tertiary care, rehabilitation, and home care.

Adult-Gerontology Primary Care Nurse Practitioner Concentration

With a focus on health equity, the adult-gerontology primary care concentration prepares nurses to provide high-quality, ethical, and inclusive primary care to individuals 13 years and older. Graduates care for patients in a wide variety of settings.

Family Nurse Primary Care Practitioner Concentration

The primary goal of the FNP concentration is to educate FNPs who are capable of providing evidence-based, culturally and linguistically competent, ethical primary healthcare to individuals and families in a variety of healthcare settings. The FNP concentration is offered in a hybrid format with the majority of the classes delivered online, coupled with live presentation sessions. Students are required to be on the Boston campus twice per semester. Upon completion, graduates are eligible to sit for all national certification exams in their area of practice.

Neonatal Nurse Practitioner Concentration

Neonatal critical care is a growing field, and Bouvé is at the forefront of providing experienced nurses with the knowledge, competence, and skill to be in demand across the country. We require applicants to have at least two years of level-3 neonatal intensive care unit experience before entering our program, and most applicants have more years of NICU experience. A registered nurse working in the NICU setting already has a significant base of nursing knowledge. The NNP concentration focuses on advanced nursing knowledge and clinical practice. Our graduates are prepared to make independent decisions in level-2 and level-3 NICUs, drawing on their experience and diagnostic abilities to affect lives every day.

Pediatric Nurse Practitioner Concentrations

These concentrations are designed to prepare nurses with the specialized skills needed to care for at-risk children living in urban settings, across the continuum of care. For nearly two decades, our PNP concentration prepared primary care PNPs to provide community-based, culturally sensitive primary care. More recently, building on the School of Nursing's foundation in evidence-based, interdisciplinary, urban healthcare, the PNP curriculum was expanded to offer a concentration in acute care. Northeastern offers the only graduate nursing program in New England to prepare acute-care PNPs.

The School of Nursing offers two concentrations for the PNP student. The primary care concentration prepares students for the role of PNP focusing on well-child care and prevention and management of common acute and chronic illnesses. The acute- and primary care dual concentration prepares students for the primary care role, as well as the acute-care role. Pediatric acute-care nurse practitioners are prepared to care for patients with acute, complex, critical, and chronic illness in a variety of settings.

Psychiatric-Mental Health Concentration

The curriculum of the psychiatric-mental health concentration has a life span focus, with core course content covering all ages. The concentration emphasizes a biopsychosocial framework to develop the understanding of human development, etiology of psychiatric disorders, and treatment modalities geared toward working with individuals across the life span and their families. The course of study emphasizes diagnostic decision making; psychotherapeutic interventions, including individual, family, and group therapies; and psychopharmacology across the life span.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
Professional		
NRSG 5118	Healthcare System and Professional Role Development	3
NRSG 5121	Epidemiology and Population Health	3
Clinical		
NRSG 5117	Advanced Pharmacology	2
NRSG 5126	Pathophysiology for Advanced Practice	3

NRSG 7105	Translating Research Evidence into Practice	3
NRSG 7110	Evidence-Based Practice Research Application	2

Concentrations and Program Credit Requirements

A concentration is required to complete this program.

- Adult-Gerontology Nurse Practitioner, Acute Care (p. 683)
- Adult-Gerontology Nurse Practitioner, Primary Care (p. 683)
- Family Nurse Practitioner, Primary Care (p. 684)
- Neonatal Nurse Practitioner (p. 684)
- Pediatric Nurse Practitioner, Acute and Primary Care (p. 684)
- Pediatric Nurse Practitioner, Primary Care (p. 685)
- Psychiatric-Mental Health Nurse Practitioner (p. 685)

Program Credit/GPA Requirements

Total program hours vary based on the concentration the student chooses
Minimum 3.000 GPA required

CONCENTRATION IN ADULT-GERONTOLOGY NURSE PRACTITIONER, ACUTE CARE

Code	Title	Hours
Clinical		
NRSG 6115	Health Assessment	3
NRSG 6222	Pharmacology of Adults and Older Adults	2
Theory		
NRSG 6220	Nursing Management: Acute Episodic Illness	3
NRSG 6221	Nursing Management: Critical and Chronic Illness	3
NRSG 6241	Acute-Care Concepts in Nursing Practice	3
Practicum		
NRSG 6420	Adult-Gerontology Acute-Care Nursing Practicum 1	2
NRSG 6421	Adult-Gerontology Acute-Care Nursing Practicum 2	4
NRSG 6422	Adult-Gerontology Acute-Care Nursing Practicum 3	4

ELECTIVE

Code	Title	Hours
Complete 3 semester hours in the following subject area:		3
NRSG		

PROGRAM CREDIT REQUIREMENT

43 total semester hours required, including program core requirements

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CONCENTRATION IN ADULT-GERONTOLOGY NURSE PRACTITIONER, PRIMARY CARE

Code	Title	Hours
Clinical		
NRSG 6115	Health Assessment	3
NRSG 6222	Pharmacology of Adults and Older Adults	2
Required Core		
NRSG 6249	Health Promotion of Adult/Older Adult	3
NRSG 6253	Primary Care of Adult/Older Adult Health Problems	3
NRSG 6254	Primary Care of Adult/Older Adult Complex Patients	3
Practicum		
NRSG 6449	Health Promotion of Adult/Older Adult Practicum	1
NRSG 6450	Adult/Older Adult Practicum 1	5
NRSG 6451	Adult/Older Adult Practicum 2	5

ELECTIVE

Code	Title	Hours
Complete 2 semester hours in the following subject area:		2
NRSG		

PROGRAM CREDIT REQUIREMENT

43 total semester hours required, including program core requirements

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NURSING CONCENTRATION IN FAMILY NURSE PRACTITIONER, PRIMARY CARE

Code	Title	Hours
Professional		
NRSG 6115	Health Assessment	3
Family		
NRSG 6390	Family Care of the Adult/Older Adult Patient	4
NRSG 6392	Family Theory	2
NRSG 6393	Family Care of the Pediatric and Adolescent Patient	4
NRSG 6395	Healthcare of Women in Family Practice	2
Clinical		
NRSG 6222	Pharmacology of Adults and Older Adults	2
NRSG 6262	Pediatric Pharmacology	2
Practicum		
NRSG 6391	Practicum for NRSG 6390	4
NRSG 6394	Practicum for NRSG 6393	4
NRSG 6396	Practicum for NRSG 6395	4

PROGRAM CREDIT REQUIREMENT

47 total semester hours required, including program core requirements

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CONCENTRATION IN NEONATAL NURSE PRACTITIONER

Code	Title	Hours
Clinical		
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6230	Nursing Management: Critically Ill Neonatal 1	3
NRSG 6231	Nursing Management: Critically Ill Neonatal 2	3
NRSG 6232	Neonatal Pharmacology	2
Practicum		
NRSG 6430	Neonatal Clinical Practicum 1	4
NRSG 6431	Neonatal Clinical Practicum 2	4
NRSG 6432	Neonatal Clinical Practicum 3	2

ELECTIVE

Code	Title	Hours
Complete 4 semester hours at the graduate level from the following subject area:		4
NRSG		

PROGRAM CREDIT REQUIREMENT

41 total semester hours required, including program core requirements

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CONCENTRATION IN PEDIATRIC NURSE PRACTITIONER, ACUTE & PRIMARY CARE

Code	Title	Hours
Clinical Core Courses		
NRSG 6115	Health Assessment	3
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6262	Pediatric Pharmacology	2

Clinical Theory Courses (*NRSG 6275 w/clinical component)		
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6267	Care of the Critically Ill Child	3
Clinical Practicum Courses		
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5
NRSG 6463	Care of the Critically Ill Child Practicum	5

PROGRAM CREDIT REQUIREMENT

52 total semester hours required, including program core requirements

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CONCENTRATION IN PEDIATRIC NURSE PRACTITIONER, PRIMARY CARE

Code	Title	Hours
Clinical Core Courses		
NRSG 6115	Health Assessment	3
NRSG 6262	Pediatric Pharmacology	2
Clinical Theory Courses (*NRSG 6275 w/clinical component)		
NRSG 6264	Care of Well Child/Adolescent Health Promotion	3
NRSG 6265	Care of Child/Adolescent Health Problems	3
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	4
Clinical Practicum Courses		
NRSG 6460	Care of Well Child/Adolescent Health Promotion Practicum	5
NRSG 6461	Child/Adolescent Health Problems Practicum	5

PROGRAM CREDIT REQUIREMENT

41 total semester hours required, including program core requirements

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CONCENTRATION IN PSYCHIATRIC-MENTAL HEALTH NURSE PRACTITIONER

Code	Title	Hours
Required Core		
NRSG 6281	Dimensions of Clinical Practice	3
NRSG 6282	Clinical Psychopharmacology	3
NRSG 6283	Psychobiological Bases of Mental Disorders	3
NRSG 6286	Contemporary Psychotherapies—Theory and Practice	3
Clinical		
NRSG 6115	Health Assessment	3
Practicum		
NRSG 6480	Psychiatric Practicum across the Life Span 1	5
NRSG 6481	Psychiatric Practicum across the Life Span 2	5

ELECTIVE

Code	Title	Hours
Complete 2 semester hours in the following subject area:		2
NRSG		

PROGRAM CREDIT REQUIREMENT

43 total semester hours required, including program core requirements

Nursing, MS—Direct Entry

Part I: Prelicensure

The direct-entry nursing student enters the accelerated master's program as a graduate student. The first 16 months (four semesters) of the program consist of intensive, sequential classes and clinical with combined undergraduate- and graduate-level courses. Students are then prepared to take the National Council Licensure Exam (NCLEX-RN) upon completion of 64 program semester hours to earn an RN license. Students earn a Bachelor of Science in Nursing (BSN) after this part of the program. Financial aid will be granted on an undergraduate basis during the prelicensure phase of the program.

Academic Standards for Nursing Majors

ACADEMIC DISMISSAL FROM MAJOR

Students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Students who do not meet the required minimum grade in two professional courses, including labs and clinical, will be dismissed from the program. Only one professional course can be remediated.
- Remediation of a failed professional course is a requirement for progression in the program.
- Students who do not meet the minimum grade requirement within two attempts of the course will be dismissed from the program.

ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Refer to the Bouvé College of Health Sciences Academic Affairs Appeals Process and the Northeastern University Academic Appeals Policies and Procedures.

Program Policies and Standards

Students are expected to adhere to the policies and standards of their program major to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major will present their petitions before the School of Nursing Academic Standing Committee.

Students are required to attend all scheduled nursing classes, clinical experiences, and clinical labs on campus and in clinical agencies. If the student fails to meet attendance requirements, the student will fail the associated class, clinical, and/or lab.

CLINICAL REQUIREMENTS

Clinical settings require a criminal background check.

All students must receive a health clearance from University Health and Counseling Services. Health clearance is based on specific documentation of immunity from infectious disease and a physical examination. (This may be done by the student's own healthcare provider.) In addition, nursing students need a clinical clearance in order to participate in clinical courses. Clinical clearance, managed by the School of Nursing's Clinical Placement Office, includes verification of certification in cardiopulmonary resuscitation; recent negative tuberculosis screening (PPD); positive titers for MMR, varicella, and hepatitis B; vaccines including TDAP and influenza; and additional health screenings as may be required by the program. It is the responsibility of the student to stay current and to provide documentation required for clinical clearance throughout the entire nursing program.

Six weeks prior to the start of a clinical course, students must show the following to be eligible for clinical placement:

- Evidence of immunizations and health clearance by UHCS
- Documentation of CPR certification
- Completion of a Criminal Offender Record Information background check

Students will not be allowed to start the clinical course, and may be dropped from the clinical course, if these processes are not satisfactorily completed.

Students should refer to Requirements for Clinical, Internships, and Practicum Courses (p. 573)in this catalog (applicable to both undergraduate students and graduate students at the college) for additional details.

Clinical Warning

A nursing student may be placed on clinical warning, or fail the clinical course, at any time during the semester for the following reasons:

- Failing to meet the clinical objectives at a satisfactory level.
- Failing to demonstrate safe practice. Students may be removed from the clinical area, before completion of the clinical rotation, if the instructor determines that the student is unsafe. This will result in the student failing the clinical course.
- Failing to meet the attendance requirement.

Conditions

- Students on clinical warning must develop an academic plan with the clinical instructor to address clinical performance.
- Students will be expected to improve clinical performance by adhering to the plan.
- Failure to adhere to the terms of the plan will result in the student failing the course and being placed on academic probation. All conditions of academic probation will then apply.

Notification

- The clinical instructor will issue the student a clinical warning via the Faculty and Advisor Communication Tool identifying the problem.
- The student and the instructor should then develop a plan together to address the deficiency.
- Copies of the warning will be forwarded to the program director and/or the assistant dean for undergraduate programs if needed.
- This is an administrative warning and will not be posted on the transcript.
- Satisfactory completion of the clinical experience component of the course will result in removal of the warning from the student's file.

BLOODBORNE PATHOGEN EXPOSURE AND INJURY

Any student who sustains any kind of injury and/or exposure related to blood-borne, respiratory, or other pathogens or hazardous materials while on a clinical rotation should seek immediate treatment. They must also immediately follow the procedures listed below:

Procedures

- Students must follow the affiliate site's protocol for exposure reporting, testing, counseling, and follow-up.
- Students can present their Clinical Accident Insurance identification card (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/General%20Resources/Forms/AllItems.aspx?id=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance%2FNortheastern%20University%20Insurance%20Card%2Epdf&parent=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance) to arrange billing at the site or a suitable nearby hospital or urgent care clinic. If students do not know a local provider, they can call the resource number on their identification card for aid in finding a local provider. Students should also present their personal health insurance information.
- Within 24 hours of the accident, students must also inform their program's director of clinical education (or unit designee responsible for clinical placements) of the accident and submit, in writing, a description of the incident and injury or exposure using the BCHS Accident Report form, linked here (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Clinical-Accident-Report-Form.aspx). *If a student is incapacitated and unable to file their own report within the 24-hour time frame, a Northeastern faculty or staff person familiar with the incident may file on their behalf. The student should file their own report as soon as possible thereafter.*
- Submission of the Accident Report form linked above will automatically notify:
  - The program's director of clinical education or Clinical Placement Office (or unit designee responsible for clinical placements)
  - The program director (if applicable)
  - Assistant dean of clinical education in the BCHS Dean's Office
  - Risk Services (risk@northeastern.edu) (risk@northeastern.edu)
  - If exposure involved, Office of Environmental Health and Safety—Biosafety
- If for any reason a student is not able to receive immediate medical treatment, there is the resource of postexposure counseling through the university's partner, OEHN (Occupational & Environmental Health Network). They can be reached at 1-866-360-8100. OEHN is open 24 hours a day, 7 days a week, 365 days a year. OEHN will collect appropriate information and engage the doctor on call who can help to direct appropriate care depending on exposure and circumstances.

Technical Standards for Admission, Academic Progression, and Graduation

The primary mission of the School of Nursing is to educate our students to provide evidence-based, culturally and linguistically competent, ethical healthcare that is high quality, safe, and accessible to diverse local, national, and global communities. Our programs are designed to prepare students to become leaders as nurse clinicians, educators, scholars, and researchers. The School of Nursing is also committed to achieving the goals of the university to become an outstanding national research, practice-oriented, student-centered, urban institution.

The goal of the School of Nursing is to prepare students to think critically and to practice nursing competently and compassionately in rapidly changing practice environments. All efforts are designed to build nursing knowledge; enhance nursing practice and patient safety; foster professional integrity; and ultimately improve the health outcomes of patients, families, and communities across the continuum of care.

In addition to classroom learning, students' clinical education experiences occur in settings, like hospitals, in which patient safety is the priority. For this reason, students who, upon enrollment in any of the nursing programs, seek accommodations from the Disability Resource Center at Northeastern must also request an assessment of accommodations that would be needed for clinical education.

Certain functional abilities are essential for the delivery of safe, effective nursing care during clinical education activities. Therefore, the School of Nursing has determined that certain technical standards are requisite for admission, progression, and graduation from the nursing programs. An individual must be able to independently, with or without reasonable accommodation, meet the following technical standards:

1. General abilities (p. 688)
2. Observational ability (p. 688)
3. Communication ability (p. 688)

4. Motor ability (p. 688)
5. Intellectual, conceptual, and quantitative abilities (p. 688)
6. Essential behavioral and social attributes (p. 688)
7. Ability to manage stressful situations (p. 688)

Individuals unable to meet these technical standards, with or without reasonable accommodation, will not be able to complete the program.

GENERAL ABILITIES

The student is expected to possess functional use of the senses of vision, touch, hearing, and smell so that data received by the senses may be integrated, analyzed, and synthesized in a consistent and accurate manner. A student must be able to respond promptly to urgent situations that may occur during clinical training activities and must not hinder the ability of other members of the healthcare team to provide prompt treatment and care to patients.

OBSERVATIONAL ABILITY

The student must have sufficient capacity to make accurate visual observations and interpret them in the context of laboratory studies, medication administration, and patient care activities. In addition, the student must be able to document these observations and maintain accurate records.

COMMUNICATION ABILITY

The student must communicate both verbally and nonverbally in order to elicit information and to convey that information to others. Each student must have the ability to read and write accurately and comprehensively in English. The student must be able to thoroughly comprehend and fluently speak the English language so as to facilitate communication with patients, families, professionals in healthcare settings, instructors, and other students. The student must also be able to present information in a professional, logical manner and to provide counseling and instruction in order to effectively care for patients and their families.

MOTOR ABILITY

The student must be able to perform gross and fine motor movements with sufficient coordination needed to perform complete physical examinations utilizing the techniques of inspection, palpation, percussion, auscultation, and other diagnostic maneuvers. A student must develop the skills needed to perform or assist with procedures, treatments, administration of medication, and the management and operation of diagnostic and therapeutic medical equipment. The student must possess the physical and mental stamina to meet the demands associated with extended periods of sitting, standing, moving, and physical exertion required for satisfactory and safe performance in the clinical and classroom settings.

INTELLECTUAL, CONCEPTUAL, AND QUANTITATIVE ABILITIES

The student must be able to develop and refine critical thinking skills that are essential to nursing practice. Critical thinking involves the abilities to measure, calculate, reason, analyze, and synthesize objective and subjective data and to make decisions, often in a time-urgent environment, that reflect consistent and thoughtful deliberation and sound clinical judgment.

ESSENTIAL BEHAVIORAL AND SOCIAL ATTRIBUTES

Compassion, integrity, motivation, effective interpersonal skills, and concern for others are personal attributes required of those in the nursing programs. The student must be able to work under supervision of a clinical instructor or preceptor; this is essential to ensure patient safety. The student must exercise good judgment and promptly complete all responsibilities in the classroom and clinical settings. The ability to establish culturally competent relationships with individuals, families, and groups and to respond effectively to patients who have different intellectual capacities is critical to nursing practice.

ABILITY TO MANAGE STRESSFUL SITUATIONS

The student must be able to adapt to and function effectively in stressful situations in both the classroom and clinical settings, including emergency situations. These stressors include personal, patient care/family, faculty/peer, and/or program-related issues.

Disability and Special Needs

Students with special needs are encouraged to contact the DRC (https://drc.sites.northeastern.edu/) to register and request services. Students must notify the instructor at the beginning of the semester if they plan to use DRC services throughout the course. The staff in that office is available for assistance.

State Board Nursing Examination

In Massachusetts, and several other states, the registering board requires that graduates taking the National Council Licensing Examination (NCLEX-RN) meet standards of "good moral character." Students may review the GMC requirement specified at Massachusetts General Laws Chapter 112, sections 74, 74A, and 76; Licensure Policy No. 00-01 under "Rules & Regulations" on the Massachusetts BORN website.

RN Work Experience

Once a student graduates with a BSN, they are required to participate in an online professional seminar for two semesters prior to progressing into their master's coursework. In addition, students seek full-time RN experience, which is also required for progression into the master's clinical practicums in their concentration. One to two years of RN work experience is required, depending on the concentration. Students may begin the master's core courses during the required one to two years of RN experience, with approval from the specialty concentration director. Finding RN employment is the responsibility of the student, as it is professional nursing experience. Northeastern will help support the student in preparation for the job search. The student may take no more than 12 months' leave of absence between the prelicensure and MS phases of the Direct Entry program. Please see MS Nursing (p. 682) for more information about the master's phase of the Direct Entry program.

Part II: Return to Master's Specialty Tracks

In the master's program, students are required to take professional, research, and clinical core courses, as well as clinical courses specific to their concentration. Full- or part-time academic study is available to students. Most students return to the master's segment of the program taking coursework as a part-time student while continuing to work and increasing the amount of professional RN experience accrued. Completion of the master's degree can take four to six semesters, depending on the student's program plan and concentration. Upon completion of the requirements for their concentration, the student receives a Master of Science degree and is eligible to take the national certification exam in their area of advanced nursing practice. Financial aid is awarded on a graduate basis during this portion of the program.

Please visit Bouvé College of Health Sciences Program Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or better in the BSN clinical courses is highly recommended for progression into the MSN portion of the program. Progression is at the graduate specialty director's discretion.

Students must successfully complete all courses with a grade of C or better except where otherwise indicated.

Code	Title	Hours
Semester 1		
NRSG 2220 and NRSG 2221	Health Assessment and Fundamental Nursing Skills and Lab for NRSG 2220	4
NRSG 3302 and NRSG 3303	Nursing with Women and Families and Clinical for NRSG 3302	5
A grade of B or higher is required in NRSG 5117.		
NRSG 5117	Advanced Pharmacology	2
A grade of B or higher is required in NRSG 5126.		
NRSG 5126	Pathophysiology for Advanced Practice	3
Semester 2		
NRSG 2210	Influences on Health and Illness: A Nursing Perspective	3
NRSG 3323 and NRSG 3324	Advanced Assessment and Interventions and Lab for NRSG 3323	2
NRSG 3320 and NRSG 3321	Nursing Care of Adults 1 and Clinical for NRSG 3320	6
NRSG 3400 and NRSG 3401	Nursing and the Promotion of Mental Health and Clinical for NRSG 3400	5
Semester 3		
NRSG 3420 and NRSG 3421	Nursing Care of Adults 2 and Clinical for NRSG 3420	6
NRSG 4502 and NRSG 4503	Nursing Care of the Child and Clinical for NRSG 4502	6
NRSG 5220	Introduction to Research Methods and Application for Healthcare	4
Semester 4		
NRSG 2150	Ethical Healthcare: Genetics and Genomics	4
NRSG 4604 and NRSG 4605	Public Health Community Nursing and Clinical for NRSG 4604	5
NRSG 4610	Managing and Leading in Healthcare	4
NRSG 4995 and NRSG 4996	Comprehensive Nursing Practicum and Clinical for NRSG 4995	5

Academic Progression Standards for Nursing Majors

- Students who either fail or withdraw from a professional course will need to successfully remediate that course before continuing in their approved curriculum plan.
- Students who incur an incomplete grade in a prerequisite course must obtain approval from their academic advisor, upon consultation with the department faculty and, when appropriate, the School of Nursing Academic Standing Committee, prior to progression into the subsequent course(s).
- Students may not change their graduation date more than twice.

Program Credit / GPA Requirements

64 total semester hours required
Minimum 3.000 GPA required

Patient Safety, Graduate Certificate

Overview

The Graduate Certificate in Patient Safety informs and empowers the next generations of innovative patient safety experts by providing the knowledge and practical skills to promote a culture of safety and design safer systems of care. Future leaders incorporate clinician wellness strategies in care delivery models that are accountable, honest, and transparent. The purpose of this certificate is to support healthcare clinicians and leaders in advancing patient safety and the safety of healthcare providers by expanding their fundamental skills and knowledge in patient safety science principles, workforce wellness, and quality improvement strategies.

This is a four-course, interdisciplinary graduate certificate, tailored to accommodate a busy healthcare professional's schedule. Courses are delivered in an online format, structured to enhance the curriculum with peer-to-peer discussions and experience developing tools, protocols, and process improvement strategies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

A grade of B or higher is required in each course.

Code	Title	Hours
HLTH 5600	Introduction to Patient Safety	3
HLTH 5610	Patient Safety Science	3
HLTH 5620	Leadership, Patient Safety, and Clinical Wellness	3
HLTH 5630	Quality Improvement in Patient Safety	3

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.00 GPA required

Pediatric Nurse Practitioner, Acute Care, Graduate Certificate

The post-master's acute-care PNP 16-credit graduate certificate for PNPs or FNPs certified in primary care seeking pediatric specialization in acute care is open to PNPs or FNPs certified in primary care with a master's or doctoral degree from an accredited institution. Graduates are eligible to sit for the acute-care PNP certification board exam.

Prerequisite Requirements

To ensure that all students have the foundation necessary to participate in this program, successful completion of the following courses or their equivalent within the past five years is required. Alternatively, active PNP/FNP experience with primary care PNP competencies (one-year minimum full-time pediatric experience) is required.

A grade of B or higher is required in each course.

Code	Title	Hours
NRSG 5117	Advanced Pharmacology	
NRSG 5126	Pathophysiology for Advanced Practice	
NRSG 6115	Health Assessment	
NRSG 6262	Pediatric Pharmacology	
NRSG 6265	Care of Child/Adolescent Health Problems	
NRSG 6275	Health Promotion and Preventative Care in Pediatrics in the Context of Community Health	

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of B or higher is required in each course.

Code	Title	Hours
NRSG 6116	Advanced Health Assessment of the Neonate and Infant	3
NRSG 6267	Care of the Critically Ill Child	3
NRSG 6461	Child/Adolescent Health Problems Practicum [1]	5
NRSG 6463	Care of the Critically Ill Child Practicum [1]	5

[1] Direct clinical hours included

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

School of Pharmacy and Pharmaceutical Sciences

Website (http://www.northeastern.edu/bouve/pharmacy/)

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The School of Pharmacy and Pharmaceutical Sciences provides transformative learning and research experiences in a collaborative and diverse environment to develop leaders who positively impact pharmacy-related education, research, and service, including the health and well-being across the life span of those we serve.

SOPPS will be the model for excellence and innovation in pharmacy and pharmaceutical sciences education that is grounded in experiential learning and enhances the health of communities through research and practice.

Programs

Doctor of Philosophy (PhD)

- Biomedical Science (p. 694)
- Medicinal Chemistry and Drug Discovery (p. 701)
- Pharmaceutics and Drug Delivery (p. 707)
- Pharmacology (p. 713)

Doctor of Pharmacy (PharmD)

- Doctor of Pharmacy (p. 719)
- Doctor of Pharmacy—Direct Entry (p. 720)

Master of Science (MS)

- Biomedical Science (p. 726)
- Medicinal Chemistry and Drug Discovery (p. 729)
- Pharmaceutical Engineering (p. 374)
- Pharmaceutics and Drug Delivery (p. 734)
- Pharmacology (p. 738)

Dual Degree

- Pharmacy, PharmD—Direct Entry / Public Health, MPH (p. 603)

Biomedical Science, PhD

The Department of Pharmaceutical Sciences offers a PhD program in biomedical science that focuses on the cross-disciplinary integration of human (patho)biology with drug action, invention, and clinical utility. The biomedical sciences curriculum involves coursework and original research in areas including drug design and profiling, toxicology, and pharmaceutical biochemistry/cell biology aimed at increasing our understanding of how unsolved medical needs may be addressed by novel therapeutic approaches. The biomedical science program is appropriate for those entering the field as well as persons currently employed as research technicians, clinical laboratory workers, and science teachers/administrators. The flexibility of the biomedical science program and its interdisciplinary nature can enhance job performance in a present position and invite new employment opportunities.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

Colloquium Attendance

All PhD students, regardless of program, are required to attend the weekly Pharmaceutical Science Colloquium series. Announcements of times and locations will be distributed weekly to students by email to their university email addresses. Attendance is recorded by sign-up sheet. One excused absence is permitted per semester. Failure to attend colloquia may result in sanctions such as probation or dismissal from the PhD program.

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2. In order to be eligible for internship, students must take Professional Development for Pharmaceutical Sciences (PHSC 5305) a semester before internship.
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The PhD qualifying examination tests the candidates' knowledge and skills in core courses and program content areas. The overall PhD qualifying examination consists of two written exams and one oral exam. The qualifying examination is taken as a course, Doctoral Training and Research

(PHSC 8940), no later than during the fall semester of the student's second year, after having successfully completed all the core courses of their respective programs.

At least two departmental faculty will contribute questions for the written exams, and no one faculty member will write more than the equivalent of one entire exam. All students qualified to sit for the exams are expected to take them at the times announced.

The format for the written exams may vary (e.g., faculty may ask a series of comprehensive essay questions or provide research publications(s) from the biomedical literature and ask questions based upon the publications' content). The first exam is given in the first week of fall semester, with the written portion of the second exam (i.e., the F31 written document) to be submitted to the student's exam committee by end of October with the oral presentation to be completed by mid-November and graded by the providers of the question(s).

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Doctoral students who have completed satisfactorily and thereby earned the credits for all required core courses (including those for their specialized area) and who have passed the written and oral qualifying examinations shall be admitted to candidacy status for the PhD degree.

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Within a year after successful completion of the PhD qualifying examination, but no later than the beginning of the fall semester of the third year, students must prepare and defend a written proposal detailing their planned dissertation project. Failure to do so will be regarded as a failure to progress in the PhD program and will result in a warning from the director of graduate studies of the Department of Pharmaceutical Sciences.

Students who do not correct this deficiency within one semester will be placed on academic probation. Students on academic probation must complete the dissertation proposal defense and return to nonprobationary status within one semester or be dismissed from the PhD program.

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Advisor consent and completion of all coursework (with the exception of the colloquium course) must be documented before students register for the first dissertation course. Students must register for Dissertation Term 1 (PHSC 9990) and Dissertation Term 2 (PHSC 9991). Students must register for Dissertation Continuation (PHSC 9996) each semester thereafter until the dissertation has been successfully defended. The department strongly encourages PhD students to complete the program within five years after acceptance, i.e., by three years after establishing degree candidacy. According to university policy, no PhD students may remain in the program for more than seven years.

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Prior to completion of PhD training, candidates must present their research either as a poster or podium presentation at a regional or national scientific conference. Also prior to completion, the student must have submitted (preferably, published) at least one manuscript in a peer-reviewed journal that reflects original findings and laboratory work from the candidate's dissertation research.

PhD Dissertation Preparation

Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM

All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE

The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

At least two weeks prior to the defense, students should inform the director of graduate studies in the Department of Pharmaceutical Sciences of the date of defense, so that advance announcement may be distributed. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student in a seminar format, and responses to audience and committee questions, the committee meets first with the student for any follow-up discussion and then in executive session to decide whether the student has defended the dissertation successfully.

The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and corrections, if applicable, and the dissertation is signed and passed on to the department's director of graduate studies. Requests for a second defense are highly irregular but may be permitted in the event that the previous oral defense was judged by the committee to be highly promising but inadequate in one critical aspect.

Deadline

The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT

All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination

Doctoral candidacy status
Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Sciences Colloquium
Oral dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Seminar		
Complete the following repeatable course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
Complete the following:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2

Electives

Code	Title	Hours
Students must complete one course from each of the following specialization areas for a total of three courses:		8-10
Pharmaceutics & Drug Delivery		
Complete one of the following:		
PMST 6250	Advanced Physical Pharmacy	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	
Pharmacology		
Complete one of the following:		
PMCL 6250	Ion Channel Physiology and Pharmacology	
PMCL 6252	Small-Molecule Target and Ligand Pharmacology	
Medicinal Chemistry & Drug Discovery		
Complete one of the following:		
CHEM 5626	Organic Synthesis 1	
CHEM 5628	Principles of Spectroscopy of Organic Compounds	
PHSC 5450	Contemporary Approaches to Drug Design	

Research and Dissertation

Code	Title	Hours
Prequalifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Exam		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

31 - 33 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Sample Plan

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 5212	2	PHSC 7020[1]	2
PHSC 5100	2	PHSC 6214	2		
PHSC 5102	2	PHSC 6300	1		
During the first year of courses, students must complete one course for each specialization:	3-6	During the first year of courses, students must complete one course for each specialization:	2-7		
Available in Fall semester:		Available in Spring semester:			
Pharmaceutics & Drug Delivery:		Pharmaceutics & Drug Delivery:			
PMST 6254		PMST 6250 or 6252			
Pharmacology:		Pharmacology:			
PMCL 6250		PMCL 6252			
Medicinal Chemistry & Drug Discovery:		Medicinal Chemistry & Drug Discovery:			
CHEM 5626 or 5628		PHSC 5450			
	10-11		**8-12**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]	2
PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5305[4]	1	PHSC 6213[4]	2	PHSC 9996	0
PHSC 6810[3]	1	PHSC 9996	0		
	2		**2**		**0**

Total Hours: 31-36

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year, but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 PHSC 5305 & PHSC 6213 is suggested to be taken in the fourth year, but can be taken at any point before graduation.

Sample Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2							
Fall	**Hours**		**Spring**	**Hours**		**Summer Full Semester**	**Hours**
PHSC 6300		1	PHSC 6300		1	PHSC 9996	0
PHSC 9990		0	PHSC 9991		0		
		1			**1**		**0**
Year 3							
Fall	**Hours**		**Spring**	**Hours**			
PHSC 6810[2]		1	PHSC 6213		2		
			PHSC 9996		0		
		1			**2**		

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of the first year but must be taken before fall of the second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before the dissertation defense.

Advanced Entry Program Requirements

Advanced entry into the PhD program in biomedical science requires a master's degree in pharmaceutical sciences or a related area and focuses on various advanced research courses, and successful defense of the dissertation. . An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research and Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Sample Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
		PHSC 9996	0
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Total Hours: 10

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Medicinal Chemistry and Drug Discovery, PhD

The PhD Program in Medicinal Chemistry and Drug Discovery educates and trains students in the design and synthesis of novel, biologically active compounds and in delineating their mechanisms of action using biochemical, biophysical, and pharmacological approaches. Research specializations are available in synthetic, biochemical/pharmacological, and biophysical aspects of medicinal chemistry. Doctoral research in these specializations will relate to faculty areas of research, which currently include substance use disorders and addiction; neuropathic pain; obesity and metabolic disorders; neuropsychiatric disorders (psychoses, ADHD, depression, anxiety, eating disorders); and neurodegenerative diseases.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

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PhD Dissertation Preparation
Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM
All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE
The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

At least two weeks prior to the defense, students should inform the director of graduate studies in the Department of Pharmaceutical Sciences of the date of defense, so that advance announcement may be distributed. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student in a seminar format, and responses to audience and committee questions, the committee meets first with the student for any follow-up discussion and then in executive session to decide whether the student has defended the dissertation successfully.

The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and corrections, if applicable, and the dissertation is signed and passed on to the department's director of graduate studies. Requests for a second defense are highly irregular but may be permitted in the event that the previous oral defense was judged by the committee to be highly promising but inadequate in one critical aspect.

Deadline
The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT
All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Doctoral candidacy status

Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Sciences Colloquium
Oral dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Seminar		
Complete the following repeatable course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2
Medicinal Chemistry and Drug Discovery		
CHEM 5626	Organic Synthesis 1	3
CHEM 5628	Principles of Spectroscopy of Organic Compounds	3
PHSC 5450	Contemporary Approaches to Drug Design	3

Research and Dissertation

Code	Title	Hours
Pre-Qualifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Exam		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Plan of Study

Year 1						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
CHEM 5626	3	PHSC 5212	2	PHSC 7020[1]		2
CHEM 5628	3	PHSC 5450	3			
PHSC 5100	2	PHSC 6214	2			
PHSC 5102	2	PHSC 6300	1			
PHSC 6300	1					
	11		**8**			**2**
Year 2						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]		2

PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5305[4]	1	PHSC 6213[4]	2	PHSC 9996	0
PHSC 6810[3]	1	PHSC 9996	0		
	2		**2**		**0**

Total Hours: 32

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year, but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 PHSC 5305 & PHSC 6213 is suggested to be taken in the fourth year, but can be taken at any point before graduation.

Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
		PHSC 9996	0
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.
2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Advanced Entry Program Requirements

Advanced entry into the Medicinal Chemistry and Drug Discovery PhD program requires a master's degree in pharmaceutical sciences or a related area and focuses on various advanced research courses and successful defense of the dissertation. An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal

Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research and Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Plan of Study - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
		PHSC 9996	0
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Pharmaceutics and Drug Delivery, PhD

Students studying pharmaceutics and drug delivery will be thoroughly exposed to the fundamentals of physical pharmacy and pharmaceutics and trained in several specialized areas including:

- Novel drug delivery systems
- Nanomedical technologies
- Biopharmaceutics and pharmacokinetics

With exposure to these facets of the pharmaceutical sciences, successful graduates are poised to understand and assimilate the field of modern pharmaceutics. A PhD degree in pharmaceutics is a research degree. While coursework plays an important role, students become active participants in the science of pharmaceutics in the laboratory. Faculty research in pharmaceutical sciences covers a broad range of scientific interests, including pharmacokinetic toxicodynamics of anticancer agents; use of novel biomaterials and synthetic polymeric systems in designing small-molecule drug delivery systems for small molecules, proteins, and nucleic acids; passive and active targeting of therapeutic agents for cancer and cardiovascular diseases; novel delivery systems for immunostimulating purposes; and mathematical modeling of endogenous compounds.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

Colloquium Attendance

All PhD students, regardless of program, are required to attend the weekly Pharmaceutical Science Colloquium series. Announcements of times and locations will be distributed weekly to students by email to their university email addresses. Attendance is recorded by sign-up sheet. One excused absence is permitted per semester. Failure to attend colloquia may result in sanctions such as probation or dismissal from the PhD program.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in the pharmaceutical and biotechnology industries.

After PhD candidates have completed their dissertation research and are working on their dissertations, they are able, with the express permission of their PhD advisor, to participate in an internship if they choose. They are never allowed to intern while they are serving as teaching assistants.

1. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Students are responsible for tracking this experience on their resumés as there will be no detailed record on students' transcripts of these opportunities.
2. In order to be eligible for internship, students must take Professional Development for Pharmaceutical Sciences (PHSC 5305) a semester before internship.
3. Students must not accept more than one position. They must honor the first offer accepted. Any student not adhering to this requirement will not be allowed to participate.
4. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services (https://international.northeastern.edu/ogs/) every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
5. In order to receive a grade for the course, students must write at least two learning goals within the first two weeks of the internship and a one- to two-page paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
6. Taking internship must not extend international students' visas.
7. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers. For all other matters, please see the University-wide Academic Policies and Procedures (p. 44) and/or Bouvé College of Health Sciences Academic Policies and Procedures (p. 569).

Milestones

QUALIFYING EXAMINATION

The PhD qualifying examination is required for students in all four programs under the auspices of the Department of Pharmaceutical Sciences: pharmacology, medicinal chemistry and drug discovery, biomedical sciences, and pharmaceutics and drug delivery. Students from each of the four programs will take the exams within the same time frame (below), regardless of specialty-area program focus.

Doctoral students should have selected a dissertation advisor by the end of their first year in the program and are expected to have begun research and demonstrated initial proficiency in the laboratory before taking the PhD qualifying examination.

The PhD qualifying examination tests the candidates' knowledge and skills in core courses and program content areas. The overall PhD qualifying examination consists of two written exams and one oral exam. The qualifying examination is taken as a course, Doctoral Training and Research (PHSC 8940), no later than during the fall semester of the student's second year, after having successfully completed all the core courses of their respective programs.

At least two departmental faculty will contribute questions for the written exams, and no one faculty member will write more than the equivalent of one entire exam. All students qualified to sit for the exams are expected to take them at the times announced.

The format for the written exams may vary (e.g., faculty may ask a series of comprehensive essay questions or provide research publications(s) from the biomedical literature and ask questions based upon the publications' content). The first exam is given in the first week of fall semester, with the written portion of the second exam (i.e., the F31 written document) to be submitted to the student's exam committee by end of October with the oral presentation to be completed by mid-November and graded by the providers of the question(s).

- ***Written exam 1*** reflects students' knowledge of their specialty-area program material and of overall pharmaceutical sciences. This exam is given on the same day in two parts. Part 1 is focused on each student's specialty-area program focus. Part 2 will test students' overall knowledge in another program focus covered by the pharmaceutical sciences curriculum.
    - For example, if the student is in the pharmaceutics and drug delivery PhD program, part 1 will be about pharmaceutics and drug delivery, and part 2 can focus either on pharmacology or medicinal chemistry and drug discovery.
- ***Written exam 2*** requires that students write an NIH F31 grant proposal and have the proposal signed off as passing by their examination committee after an oral defense.

A score of at least 70% is required to pass the first written exam (two parts). Students must pass all written portions of the PhD qualifying examination prior to the oral defense of the F31 proposal. Students who fail one written exam will have one opportunity to retake and pass that examination. A student who fails the first exam twice will be required to withdraw from the PhD program.

During the oral exam, students defend their NIH F31 grant proposal before an examination committee of, minimally, four faculty members: the dissertation advisor, at least two other Department of Pharmaceutical Sciences faculty members, and at least one member from outside the department. This committee is convened only for the oral exam and does not need to be the same committee as the student's dissertation committee.

Members of the oral examination committee are selected by the student, after consultation with the dissertation advisor and/or the director of graduate studies. The oral exam is graded on a pass/fail basis. Students who fail the oral exam on the first attempt may retake the exam within a time period designated by the examination committee not to exceed two months from the first oral exam. Those who fail twice will be dismissed from the program.

DOCTORAL CANDIDACY STATUS

Doctoral students who have completed satisfactorily and thereby earned the credits for all required core courses (including those for their specialized area) and who have passed the written and oral qualifying examinations shall be admitted to candidacy status for the PhD degree.

DOCTORAL DISSERTATION COMMITTEE

Doctoral students must complete a dissertation that embodies the results of extended research and makes an original contribution to their field. This work should give evidence of candidates' abilities to conduct independent investigation and interpret the results of their research in a professional manner. The doctoral dissertation advisor serves as chairperson of the Doctoral Dissertation Committee, which consists of no fewer than five members. Selection of an advisor is by mutual consent of the student and a member of the faculty, with approval by the director of graduate studies in the Department of Pharmaceutical Sciences. At least two members of the Doctoral Dissertation Committee must be faculty members in the Department of Pharmaceutical Sciences. At least one member is to be selected from outside the department. Committee members are chosen for their expertise in students' research areas.

DISSERTATION PROPOSAL DEFENSE

Within a year after successful completion of the PhD qualifying examination, but no later than the beginning of the fall semester of the third year, students must prepare and defend a written proposal detailing their planned dissertation project. Failure to do so will be regarded as a failure to progress in the PhD program and will result in a warning from the director of graduate studies of the Department of Pharmaceutical Sciences.

Students who do not correct this deficiency within one semester will be placed on academic probation. Students on academic probation must complete the dissertation proposal defense and return to nonprobationary status within one semester or be dismissed from the PhD program.

The dissertation proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should otherwise conform to the format and structure of an NIH grant proposal with four main sections: specific aims, background and significance, preliminary studies, and experimental design and methods. The Department of Pharmaceutical Sciences *Dissertation Proposal* document provides detailed instructions on the preparation of a dissertation proposal. Associated required forms may be found on the SOPPS Student Portal Canvas site.

The dissertation proposal must be defended orally before the student's dissertation committee and signed by all dissertation committee members in *approval of the student's planned dissertation research.* Upon dissertation approval, the copies of the signed proposal approval cover sheet (https://

bouve.northeastern.edu/pdf/dissertation-proposal-approval-form.pdf) must be submitted to the department's director of graduate studies and to the Bouvé College of Health Sciences Graduate Office.

BIANNUAL REVIEW

Dissertation committees meet routinely at six-month intervals, but no less than once a year, to evaluate students' research progress and to be presented with written and oral progress reports on the direction and status of the research. Progress reports should be written in a brief format, identical to that described for the formal dissertation (see instructions listed on the SOPPS Student Portal Canvas site). Unsatisfactory productivity provides the basis for a warning by the dissertation committee and/or the Graduate Committee. Two such warnings will result in a student's dismissal from the program.

Registration for Dissertation

Advisor consent and completion of all coursework (with the exception of the colloquium course) must be documented before students register for the first dissertation course. Students must register for Dissertation Term 1 (PHSC 9990) and Dissertation Term 2 (PHSC 9991). Students must register for Dissertation Continuation (PHSC 9996) each semester thereafter until the dissertation has been successfully defended. The department strongly encourages PhD students to complete the program within five years after acceptance, i.e., by three years after establishing degree candidacy. According to university policy, no PhD students may remain in the program for more than seven years.

Publications and Presentations

Prior to completion of PhD training, candidates must present their research either as a poster or podium presentation at a regional or national scientific conference. Also prior to completion, the student must have submitted (preferably, published) at least one manuscript in a peer-reviewed journal that reflects original findings and laboratory work from the candidate's dissertation research.

PhD Dissertation Preparation

Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM

All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE

The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

At least two weeks prior to the defense, students should inform the director of graduate studies in the Department of Pharmaceutical Sciences of the date of defense, so that advance announcement may be distributed. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student in a seminar format, and responses to audience and committee questions, the committee meets first with the student for any follow-up discussion and then in executive session to decide whether the student has defended the dissertation successfully.

The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and corrections, if applicable, and the dissertation is signed and passed on to the department's director of graduate studies. Requests for a second defense are highly irregular but may be permitted in the event that the previous oral defense was judged by the committee to be highly promising but inadequate in one critical aspect.

Deadline

The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT

All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Doctoral candidacy status
Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Science Colloquium
Oral dissertation defense

Core Requirements

Code	Title	Hours
Seminar		
Complete the following (repeatable) course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2
Pharmaceutics		
PMST 6250	Advanced Physical Pharmacy	2
PMST 6252	Pharmacokinetics and Drug Metabolism	3
PMST 6254	Advanced Drug Delivery Systems	3

Research and Dissertation

Code	Title	Hours
Prequalifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

31 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**		
PHSC 6300	1	PHSC 6300	1	PHSC 7020[1]	2		
PHSC 5100	2	PHSC 5212	2				
PHSC 5102	2	PHSC 6214	2				
PMST 6254	3	PMST 6250	2				
		PMST 6252	3				
	8		**10**		**2**		

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]	2
PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6810[3]	1	PHSC 9996	0	PHSC 9996	0
PHSC 5305[4]	1	PHSC 6213[4]	2		
	2		**2**		**0**

Total Hours: 31

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 Professional Development for Pharmaceutical Sciences (PHSC 5305) and Ethical Problems in Health Sciences Research (PHSC 6213) are suggested to be taken in the fourth year but can be taken at any point before graduation.

Advanced Entry Program Requirements

Advanced entry into the Pharmaceutics and Drug Delivery PhD program requires a master's degree in pharmaceutical sciences or related area and focuses on various advanced research courses. An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course for four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research and Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2

Dissertation	
PHSC 9990	Dissertation Term 1
PHSC 9991	Dissertation Term 2

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Year 1						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
PHSC 8940	1	PHSC 8986 or 9681[1]	0	PHSC 9681[1]		2
PHSC 6300	1	PHSC 6300	1			
	2		**1**			**2**
Year 2						
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**	
PHSC 6300	1	PHSC 6300	1	PHSC 9996		0
PHSC 9990		PHSC 9991				
	1		**1**			**0**
Year 3						
Fall	**Hours**	**Spring**	**Hours**			
PHSC 6810[2]	1	PHSC 9996	0			
PHSC 9996	0	PHSC 6213	2			
	1		**2**			

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Pharmacology, PhD

The pharmacology PhD enables students to specialize in the study of the actions of drugs and their effects in living systems. In addition to the opportunity for developing a sound knowledge base through coursework and seminars, the program is designed to strengthen students' ability to understand and evaluate critically current pharmacology literature, informing the students' independent laboratory research that advances our understanding of drugs, their actions, and their pharmacotherapeutic applications. Recent graduates with a pharmacology PhD have found employment in academic and industrial research positions.

Journal Club Participation

The Department of Pharmaceutical Sciences sponsors weekly journal clubs, Pharmaceutical Science Seminar (PHSC 6300), at which students present and evaluate current scientific literature in their fields of study. Students must attend one of these journal clubs (Pharmaceutics & Drug Delivery Journal Club, Pharmacology Journal Club, or Medicinal Chemistry & Drug Discovery Journal Club), chosen in consultation with their advisors.

Attendance at one of these journal clubs is required each and every academic semester, as an integral part of the PhD curriculum, with the exception of the last year (year four) in the program. All PhD students must participate full-time in journal club for course credit, Pharmaceutical Science Seminar (PHSC 6300), for six semesters. Failure to attend journal club regularly may result in sanctions such as probation or dismissal from the PhD program. Any student who does not comply with these (or any other) conditions required in the PhD program faces potential dismissal.

Colloquium Attendance

All PhD students, regardless of program, are required to attend the weekly Pharmaceutical Science Colloquium series. Announcements of times and locations will be distributed weekly to students by email to their university email addresses. Attendance is recorded by sign-up sheet. One excused absence is permitted per semester. Failure to attend colloquia may result in sanctions such as probation or dismissal from the PhD program.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in the pharmaceutical and biotechnology industries.

After PhD candidates have completed their dissertation research and are working on their dissertations, they are able, with the express permission of their PhD advisor, to participate in an internship if they choose. They are never allowed to intern while they are serving as teaching assistants.

1. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Students are responsible for tracking this experience on their resumés as there will be no detailed record on students' transcripts of these opportunities.
2. In order to be eligible for internship, students must take Professional Development for Pharmaceutical Sciences (PHSC 5305) a semester before internship.
3. Students must not accept more than one position. They must honor the first offer accepted. Any student not adhering to this requirement will not be allowed to participate.
4. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services (https://international.northeastern.edu/ogs/) every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
5. In order to receive a grade for the course, students must write at least two learning goals within the first two weeks of the internship and a one- to two-page paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
6. Taking internship must not extend international students' visas.
7. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers. For all other matters, please see the University-wide Academic Policies and Procedures (p. 44) and/or Bouvé College of Health Sciences Academic Policies and Procedures (p. 569).

Milestones

QUALIFYING EXAMINATION

The PhD qualifying examination is required for students in all four programs under the auspices of the Department of Pharmaceutical Sciences: pharmacology, medicinal chemistry and drug discovery, biomedical sciences, and pharmaceutics and drug delivery. Students from each of the four programs will take the exams within the same time frame (below), regardless of specialty-area program focus.

Doctoral students should have selected a dissertation advisor by the end of their first year in the program and are expected to have begun research and demonstrated initial proficiency in the laboratory before taking the PhD qualifying examination.

The PhD qualifying examination tests the candidates' knowledge and skills in core courses and program content areas. The overall PhD qualifying examination consists of two written exams and one oral exam. The qualifying examination is taken as a course, Doctoral Training and Research (PHSC 8940), no later than during the fall semester of the student's second year, after having successfully completed all the core courses of their respective programs.

At least two departmental faculty will contribute questions for the written exams, and no one faculty member will write more than the equivalent of one entire exam. All students qualified to sit for the exams are expected to take them at the times announced.

The format for the written exams may vary (e.g., faculty may ask a series of comprehensive essay questions or provide research publications(s) from the biomedical literature and ask questions based upon the publications' content). The first exam is given in the first week of fall semester, with the written portion of the second exam (i.e., the F31 written document) to be submitted to the student's exam committee by end of October with the oral presentation to be completed by mid-November and graded by the providers of the question(s).

- ***Written exam 1*** reflects students' knowledge of their specialty-area program material and of overall pharmaceutical sciences. This exam is given on the same day in two parts. Part 1 is focused on each student's specialty-area program focus. Part 2 will test students' overall knowledge in another program focus covered by the pharmaceutical sciences curriculum.
    - For example, if the student is in the pharmaceutics and drug delivery PhD program, part 1 will be about pharmaceutics and drug delivery, and part 2 can focus either on pharmacology or medicinal chemistry and drug discovery.
- ***Written exam 2*** requires that students write an NIH F31 grant proposal and have the proposal signed off as passing by their examination committee after an oral defense.

A score of at least 70% is required to pass the first written exam (two parts). Students must pass all written portions of the PhD qualifying examination prior to the oral defense of the F31 proposal. Students who fail one written exam will have one opportunity to retake and pass that examination. A student who fails the first exam twice will be required to withdraw from the PhD program.

During the oral exam, students defend their NIH F31 grant proposal before an examination committee of, minimally, four faculty members: the dissertation advisor, at least two other Department of Pharmaceutical Sciences faculty members, and at least one member from outside the department. This committee is convened only for the oral exam and does not need to be the same committee as the student's dissertation committee.

Members of the oral examination committee are selected by the student, after consultation with the dissertation advisor and/or the director of graduate studies. The oral exam is graded on a pass/fail basis. Students who fail the oral exam on the first attempt may retake the exam within a time period designated by the examination committee not to exceed two months from the first oral exam. Those who fail twice will be dismissed from the program.

DOCTORAL CANDIDACY STATUS

Doctoral students who have completed satisfactorily and thereby earned the credits for all required core courses (including those for their specialized area) and who have passed the written and oral qualifying examinations shall be admitted to candidacy status for the PhD degree.

DOCTORAL DISSERTATION COMMITTEE

Doctoral students must complete a dissertation that embodies the results of extended research and makes an original contribution to their field. This work should give evidence of candidates' abilities to conduct independent investigation and interpret the results of their research in a professional manner. The doctoral dissertation advisor serves as chairperson of the Doctoral Dissertation Committee, which consists of no fewer than five members. Selection of an advisor is by mutual consent of the student and a member of the faculty, with approval by the director of graduate studies in the Department of Pharmaceutical Sciences. At least two members of the Doctoral Dissertation Committee must be faculty members in the Department of Pharmaceutical Sciences. At least one member is to be selected from outside the department. Committee members are chosen for their expertise in students' research areas.

DISSERTATION PROPOSAL DEFENSE

Within a year after successful completion of the PhD qualifying examination, but no later than the beginning of the fall semester of the third year, students must prepare and defend a written proposal detailing their planned dissertation project. Failure to do so will be regarded as a failure to progress in the PhD program and will result in a warning from the director of graduate studies of the Department of Pharmaceutical Sciences.

Students who do not correct this deficiency within one semester will be placed on academic probation. Students on academic probation must complete the dissertation proposal defense and return to nonprobationary status within one semester or be dismissed from the PhD program.

The dissertation proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should otherwise conform to the format and structure of an NIH grant proposal with four main sections: specific aims, background and significance, preliminary studies, and experimental design and methods. The Department of Pharmaceutical Sciences *Dissertation Proposal* document provides detailed instructions on the preparation of a dissertation proposal. Associated required forms may be found on the SOPPS Student Portal Canvas site.

The dissertation proposal must be defended orally before the student's dissertation committee and signed by all dissertation committee members in *approval of the student's planned dissertation research.* Upon dissertation approval, the copies of the signed proposal approval cover sheet (https://bouve.northeastern.edu/pdf/dissertation-proposal-approval-form.pdf) must be submitted to the department's director of graduate studies and to the Bouvé College of Health Sciences Graduate Office.

BIANNUAL REVIEW

Dissertation committees meet routinely at six-month intervals, but no less than once a year, to evaluate students' research progress and to be presented with written and oral progress reports on the direction and status of the research. Progress reports should be written in a brief format, identical to that described for the formal dissertation (see instructions listed on the SOPPS Student Portal Canvas site). Unsatisfactory productivity

provides the basis for a warning by the dissertation committee and/or the Graduate Committee. Two such warnings will result in a student's dismissal from the program.

Registration for Dissertation
Advisor consent and completion of all coursework (with the exception of the colloquium course) must be documented before students register for the first dissertation course. Students must register for Dissertation Term 1 (PHSC 9990) and Dissertation Term 2 (PHSC 9991). Students must register for Dissertation Continuation (PHSC 9996) each semester thereafter until the dissertation has been successfully defended. The department strongly encourages PhD students to complete the program within five years after acceptance, i.e., by three years after establishing degree candidacy. According to university policy, no PhD students may remain in the program for more than seven years.

Publications and Presentations
Prior to completion of PhD training, candidates must present their research either as a poster or podium presentation at a regional or national scientific conference. Also prior to completion, the student must have submitted (preferably, published) at least one manuscript in a peer-reviewed journal that reflects original findings and laboratory work from the candidate's dissertation research.

PhD Dissertation Preparation
Detailed guidelines for the format and content of the written dissertation are given in Instructions for Preparation of the Dissertation found on the SOPPS Student Portal Canvas site. The completed dissertation document should be reviewed first by the dissertation advisor. Feedback from the advisor should be incorporated into the dissertation draft before its distribution to the dissertation committee. The completed dissertation should be delivered to all dissertation committee members no later than two weeks before the scheduled oral defense.

PHARMACEUTICAL SCIENCES COLLOQUIUM
All PhD candidates nearing completion of their research are required to present their dissertation findings at the department's Pharmaceutical Sciences Colloquium. These presentations should be scheduled at least six months before anticipated completion of the dissertation. In turn, the dissertation should be completed no later than one year after the colloquium presentation. Students must register for Pharmaceutical Science Colloquium (PHSC 6810) during the semester that the colloquium presentation is to be given.

ORAL DISSERTATION DEFENSE
The oral dissertation defense takes place after students complete their PhD dissertation research and all other requirements for the PhD degree. The oral defense deals with the subject matter of the dissertation, significant developments in the field, and students' background knowledge in their field of concentration.

The dissertation committee conducts the final defense. The committee may recommend that the student clarify, amplify, or rewrite portions of the dissertation *before the final defense is scheduled.* Once the committee concurs that that written dissertation document is acceptable, a date is chosen for the final oral examination.

At least two weeks prior to the defense, students should inform the director of graduate studies in the Department of Pharmaceutical Sciences of the date of defense, so that advance announcement may be distributed. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student in a seminar format, and responses to audience and committee questions, the committee meets first with the student for any follow-up discussion and then in executive session to decide whether the student has defended the dissertation successfully.

The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and corrections, if applicable, and the dissertation is signed and passed on to the department's director of graduate studies. Requests for a second defense are highly irregular but may be permitted in the event that the previous oral defense was judged by the committee to be highly promising but inadequate in one critical aspect.

Deadline
The final dissertation must be written, defended, and approved at least two weeks before the university commencement deadline. Students must submit signed copies of their dissertations to the website designated by the university and must abide by any embargo sanctioned by the student's principal dissertation advisor and/or dissertation committee. The students should apply for graduation before the final dissertation defense, on the assumption that the dissertation will be approved. If the dissertation committee decides that more time is required to complete the dissertation beyond the commencement date, then the application for graduation can be withdrawn and a new one submitted pending final dissertation approval.

SOPPS PROFESSIONAL CODE OF CONDUCT
All SOPPS students (BSPS, Preprofessional, MS, and PhD) are expected to adhere to the Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf).

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements
Complete all courses and requirements listed below unless otherwise indicated.

Milestones
Qualifying examination
Doctoral candidacy status

Doctoral dissertation committee
Dissertation proposal
Biannual review
Pharmaceutical Sciences Colloquium
Oral dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Seminar		
Complete the following repeatable course for six semesters:		6
PHSC 6300	Pharmaceutical Science Seminar	
Required Core		
Complete the following courses:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
PHSC 5305	Professional Development for Pharmaceutical Sciences	1
PHSC 6213	Ethical Problems in Health Sciences Research	2
PHSC 6214	Experimental Design and Biostatistics	2
Pharmacology		
PMCL 6250	Ion Channel Physiology and Pharmacology	3
PMCL 6252	Small-Molecule Target and Ligand Pharmacology	4

Research & Dissertation

Code	Title	Hours
Pre-Qualifying Exam Course		
PHSC 7020	Scientific Writing: Thesis Proposal	2
Qualifying Exam		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Standard Program)

Sample Plan

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5100	2	PHSC 5212	2	PHSC 7020[1]	2
PHSC 5102	2	PHSC 6214	2		
PMCL 6250	3	PHSC 6300	1		
PHSC 6300	1	PMCL 6252	4		
	8		**9**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[2]	2

PHSC 8940	1	PHSC 8986	0		
	2		**1**		**2**

Year 3

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	0
PHSC 9990	0	PHSC 9991	0		
	1		**1**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 5305[4]	1	PHSC 6213[4]	2	PHSC 9996	0
PHSC 6810[3]	1	PHSC 9996	0		
	2		**2**		**0**

Total Hours: 30

1 Scientific Writing: Thesis Proposal (PHSC 7020) must be taken the summer before the qualifying exams.
2 Doctoral Proposal (PHSC 9681) should be taken in summer of second year, but no later than fall of third year.
3 Pharmaceutical Science Colloquium (PHSC 6810) must be taken six months before dissertation defense.
4 PHSC 5305 & PHSC 6213 are suggested to be taken in the fourth year, but can be taken at any point before graduation.

Sample Plan - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940[1]	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	
PHSC 9990		PHSC 9991			
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
PHSC 9996		PHSC 9996	
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.
2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Advanced Entry Program Requirements

Advanced entry into the PhD in Pharmacology requires a master's degree in pharmaceutical sciences or a related area and focuses on various advanced research courses and successful defense of the dissertation. An applicant's transcripts are required to be reviewed by the admissions committee to ensure they are eligible to be in the advanced entry program.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying examination
Dissertation committee
Dissertation proposal

Dissertation defense

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required		
PHSC 6213	Ethical Problems in Health Sciences Research	2
Seminar		
Complete the following repeatable course four times:		4
PHSC 6300	Pharmaceutical Science Seminar	
Colloquium		
PHSC 6810	Pharmaceutical Science Colloquium	1

Research & Dissertation

Code	Title	Hours
Qualifying Examination		
PHSC 8940	Doctoral Training and Research	1
Proposal Preparation		
PHSC 9681	Doctoral Proposal	2
Dissertation		
PHSC 9990	Dissertation Term 1	
PHSC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Plan of Study (Advanced Entry)

Sample Plan - Advanced Entry

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9681[1]	2
PHSC 8940[1]	1	PHSC 8986 or 9681[1]	0		
	2		**1**		**2**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PHSC 6300	1	PHSC 6300	1	PHSC 9996	
PHSC 9990		PHSC 9991			
	1		**1**		**0**

Year 3

Fall	Hours	Spring	Hours
PHSC 6810[2]	1	PHSC 6213	2
PHSC 9996		PHSC 9996	
	1		**2**

Total Hours: 10

1 Doctoral Proposal (PHSC 9681 (https://catalog.northeastern.edu/search/?P=PHSC%209681)) may be taken in spring of first year but must be taken before fall of second year.

2 Pharmaceutical Science Colloquium (PHSC 6810 (https://catalog.northeastern.edu/search/?P=PHSC%206810)) must be taken six months before dissertation defense.

Pharmacy, PharmD

Program requirements that follow relate to the final year of the six-year Doctor of Pharmacy (PharmD) program only. For information regarding years one through five of this program, please see the *Undergraduate Catalog* Doctor of Pharmacy (Pharmacy, PharmD) webpage.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 36 semester hours in the following range:		36
PHMD 6440 to PHMD 6474		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Pharmacy, PharmD—Direct Entry

The School of Pharmacy and Pharmaceutical Sciences offers the Doctor of Pharmacy degree (PharmD). The direct-entry admission pathway for this program requires that students complete a BS or BA from an accredited institution with a preferred prerequisite grade-point average of 3.000. Only grades of C (2.000) or higher are acceptable to fulfill a prerequisite course. The following prerequisite courses and credits are required:

Requirements	Credits
Chemistry 1 and 2 (1 lab)	7
General biology 1 and 2 (1 lab)	7
Calculus	3
Organic chemistry 1 and 2 (w/labs)	8
Biochemistry	3
Human physiology 1 and 2	8
Physics	3
Arts/humanities/social studies	4

Direct entry into the first professional year of the PharmD program offers students a four-year graduate course of study that fully integrates campus-based learning with experiential learning, including the university's signature cooperative education program, to provide students with the knowledge, skills, and abilities necessary to succeed in the pharmacy profession. Our students promote and ensure the safe and effective use of drugs and provide medication therapy management services. In addition to preparing and dispensing prescribed medications, our students provide information to patients about medications and their uses; advise physicians, other prescribers, and other healthcare practitioners on medication selection, dosages, interactions, and adverse effects; and monitor patient responses to drug therapy.

Our students are well equipped to provide patient care services in a variety of settings. Most of our graduates work in community pharmacies or in healthcare facilities such as hospitals and ambulatory clinics. Additional practice opportunities exist in health maintenance organizations, private practice groups, long-term-care facilities, home healthcare, the Public Health Service, the armed services, and law enforcement and regulatory agencies such as the Federal Drug Administration or Drug Enforcement Administration. Graduates may also find employment in drug development, marketing and research within the pharmaceutical industry, colleges of pharmacy, and professional association management. In addition, many of our graduates go on to pharmacy practice residencies, fellowships, and leading graduate programs.

PharmD students are admitted with the expectation that by working with faculty, staff, and each other, they will develop the knowledge, skills, and attitudes necessary for academic and professional success. Students follow academic progression plans for their respective years of graduation. Any deviation from the prescribed curriculum will require faculty/staff permission and an approved plan of study from the SOPPS Academic Standing Committee.

The curriculum includes both Introductory Pharmacy Practice Experiences (fulfilled with co-op) and Advanced Pharmacy Practice Experiences. These pharmacy practice experiences are provided primarily under the direct supervision of qualified pharmacist preceptors and occasionally with other qualified healthcare professionals. The school is affiliated with many world-class practice sites throughout the United States, providing students with access to experienced clinicians and scholars. Although every effort is made to accommodate individual circumstances and requests, students should be prepared to travel outside the Boston area to complete some of their pharmacy practice experiences. Availability of a car may be required, as some sites are not accessible by public transportation. All expenses associated with pharmacy practice experiences, including travel and housing, are the responsibility of the student.

IPPEs are competitive placements that are based on job availability in a geographic region. The placements are facilitated by SOPPS cooperative education coordinators. Students are required to earn satisfactory (S) grades on one IPPE in a community setting and on one IPPE in an institutional/hospital practice setting.

APPE placements are provided based on site/preceptor availability and the final approval of the SOPPS Office of Experiential and Continuing Profession Education. Students may be able to petition the OECPE for out-of-system APPEs; however, availability for such requests is limited.

To be eligible for a PharmD, a student must successfully complete all courses in the curriculum, including the IPPEs/co-op and APPEs; meet the academic progression standards of the program; meet the technical standards of the program; and satisfy all other requirements as stated. The pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education (https://www.acpe-accredit.org/) and adheres to the standards established by ACPE.

Pharmacy graduates must meet specific requirements to qualify for professional licensure in the state where they plan to practice as a registered pharmacist. These requirements include graduating from an accredited school of pharmacy, passing national and state board examinations, and completing internship hours. The internship is a period of practical experience conducted under the supervision of a registered pharmacist. Massachusetts requires 1,500 internship hours, all of which are satisfied through completion of IPPEs (co-op) and APPEs.

Professional and/or legal exigencies arise from time to time, which may necessitate changes in a pharmacy course, progression, and/or graduation requirements. Students should review their status with academic advisors on a timely basis and refer to current publications for updated information.

Requirements for the PharmD Pharmacy Practice Experiences

Requirements for the successful completion of the PharmD PPEs include:

1. Evidence of health clearance from University Health and Counseling Services before placements at any PPE site.

2. Satisfactory completion of any additional site-specific requirements including, but not limited to, criminal record information (CORI), urine drug screens, and verification of immunization status. All fees associated with these requirements are the responsibility of the student.

Management of Positive Urine Drug Screens

If the student learns the urine drug screen (test #1) is positive, the student will notify the OEE (pharmacyoee@northeastern.edu) and immediately complete a second urine screen (test #2). A professional concern form will be completed based on test #1 results.

If urine screen test #2 is negative (-), the student will be allowed to continue the PPEs. However, the student will be asked to complete a random urine screen (test #3) at a time determined by the OEE. If this urine screen (test #3) is positive (+), the student will be administratively removed from the active PPEs and graduation may be delayed. A second professional concern form will be completed, based on test #3 results. The return to PPEs will occur once a repeat urine test is negative. That repeat negative test will be followed up by a random urine screen at a time determined by the OEE.

If the urine screen (test #2) is positive (+), the student will be administratively removed from the PPEs and graduation may be delayed. The return to PPEs will occur once a repeat urine screen is negative. That negative screen will be followed up by a random urine screen at a time determined by the OEE. A second professional concern form will be completed based on a positive test #3 result.

3. Adherence to the school's code of professional conduct and university's code of conduct policies while off-campus.

4. Maintenance of an active pharmacy intern license in every state where the student completes an experience.

5. Compliance with site-specific requirements (via site descriptions) and completion of site requests within specified deadlines. Students who fail to complete these requirements as directed will likely incur grade penalties and may experience a delay of graduation or dismissal from the pharmacy program.

PROGRAM POLICIES

Students are expected to adhere to the policies and standards of their program major as stated to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major must present a petition before the SOPPS Academic Standing Committee.

Given programmatic requirements, coupled with concerns over the loss of therapeutic knowledge, requests for a General Leave of Absence (https://catalog.northeastern.edu/graduate/academic-policies-procedures/policies/), other than Medical or Emergency Leave of Absence:

- Must comply with all stated Northeastern general policies, regardless of the academic year.
- May be made at any time period during the P1 or P2 years.
- During the P3 academic year, any request for a general leave must be made no later than February 1 of the given academic year. Requests after this date will not be permitted.
- During the P4 academic year, requests for a general leave cannot be made at any time.

SOPPS—Professional Code of Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf)

Preprofessional and professional-year students are expected to adhere to the Code of Professional Conduct. (https://bouve.northeastern.edu/assets/uploads/sites/5/2014/08/sop-code-professional-conduct.pdf)

Students are eligible to begin APPEs following successful completion of all didactic coursework. Completing didactic coursework during P4 year is prohibited.

TECHNICAL STANDARDS FOR THE DOCTOR OF PHARMACY PROGRAM

The PharmD program at Northeastern is a rigorous and challenging academic program that requires students to possess specific characteristics and abilities within the cognitive, affective, and psychomotor domains, referred to here as technical standards. To successfully progress in and ultimately complete the didactic, laboratory, and experiential components of the PharmD program, students must meet the standards described below.

Intellectual Abilities

Students must have well-developed problem-solving and critical-thinking skills. Cognitive function must be appropriate to integrate, evaluate, and apply information gained through measurement, analysis, calculation, and reasoning. Students must have the capacity to learn efficiently in classroom, laboratory, small group and experiential settings, and through independent study. Students are required to demonstrate the ability to integrate course content knowledge with clinical practice applications to optimize medication therapy management.

Communication Skills
Students must be able to communicate effectively with colleagues, professors, patients, families, and healthcare providers. This includes efficiently comprehending, speaking, reading, and writing in English. Students must be able to process and use appropriate nonverbal cues and be proficient in the use of electronic communication media.

Behavioral and Social Attributes
Students must demonstrate professionalism, maturity, integrity, honesty, compassion, and respect when relating to others. Students must have sufficient mental and emotional health to complete work and responsibilities using good judgment. Students must be able to tolerate and adapt to stressful workloads and situations and modify behavior based on constructive criticism. Students must be able to function in accordance with the legal, ethical, and professional standards of practice.

Observation and Motor Skills
Students must have functional use of visual, auditory, and tactile senses. Students must be able to observe and perform experiments, physical assessments, patient interviews, and medication order processing. Students must be able to distinguish physical characteristics of medications by inspection. Students must have coordination of gross and fine muscular movements sufficient to perform pharmacy-related tasks including compounding and dispensing medications, administering medications, and using computers and other technology necessary for learning and professional practice.

ACADEMIC DISMISSAL FROM MAJOR

PharmD students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Failure to earn a grade of C or better in three professional courses, regardless of remediation. Within the PharmD program, each specific professional course (with separate registration number) will be counted as a separate failure even if content is related.
- Failure to earn the minimum required grade in the same course twice.
- Failure to maintain a GPA of 3.000 after one semester of probation.
- The expected graduation date may not change more than twice.

The PharmD program monitors and promotes the development of professional behaviors in its students in order to ensure appropriate professionalism in the classroom, local and global communities, and clinical settings. Breach of adherence to these standards may result in dismissal from the program.

ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Refer to the Bouvé College of Health Sciences Academic Affairs Appeals Process (p. 579) and the Northeastern University Academic Appeals Policies and Procedures (https://catalog.northeastern.edu/undergraduate/academic-policies-procedures/academic-appeals-policies-procedures/).

PROGRAM STUDENT LEARNING OUTCOMES

Please visit Bouvé College Program Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Pharmacy Major (PharmD) Grade and Progression Requirement

To progress into the subsequent semester of professional courses, students must receive a grade of C or better in all PHMD and PHSC courses, as well as in any course completed to fulfill the professional elective requirement.

For pharmacy students, an unsatisfactory grade (U) in a co-op will be counted as a professional course deficiency.

Students who incur an incomplete grade in a prerequisite course may not progress into the subsequent courses(s). Any exceptions will be determined by protocols established by the program, after consultation with the student's academic advisor.

Core Requirements

Code	Title	Hours
YEAR 1		
PHMD 5115	Integrated Science and Therapeutics 2	4
PHMD 5120	Principles of Pharmacy Practice	4
PHMD 5140	Integrated Social and Administrative Sciences 1	4
PHMD 5182	Integrated Learning Lab 2	1
PHMD 5191	Concepts in Practice 1	1
PHMD 5192	Concepts in Practice 2	1
PHMD 6964	Co-op Work Experience (Introductory Pharmacy Practice Experience) [1]	0

PHSC 5110	Integrated Science and Therapeutics 1	4
PHSC 5130	Foundations of Pharmaceutical Sciences 1	4
PHSC 5181	Integrated Learning Lab 1	1
YEAR 2		
PHMD 5210	Integrated Science and Therapeutics 4	4
PHMD 5215	Integrated Science and Therapeutics 5	4
PHMD 5220	Integrated Science and Therapeutics 6	4
PHMD 5240	Integrated Social and Administrative Sciences 2	4
PHMD 5245	Integrated Social and Administrative Sciences 3	4
PHMD 5283	Integrated Learning Lab 3	1
PHMD 5284	Integrated Learning Lab 4	1
PHMD 5285	Integrated Learning Lab 5	1
PHMD 5293	Concepts in Practice 3	1
PHMD 5294	Concepts in Practice 4	1
PHMD 5295	Concepts in Practice 5	1
PHSC 5205	Integrated Science and Therapeutics 3	4
PHSC 5230	Foundations of Pharmaceutical Sciences 2	4
YEAR 3		
PHMD 5320	APPE Readiness	4
PHMD 5335	Integrated Science and Therapeutics 7	4
PHMD 5345	Integrated Social and Administrative Sciences 4	4
PHMD 5386	Integrated Learning Lab 6	1
PHMD 5396	Concepts in Practice 6	1
PHMD 6964	Co-op Work Experience (Introductory Pharmacy Practice Experience) [1]	0
YEARS 3 and 4		
Complete 36 semester hours of Advanced Pharmacy Practice Experience (APPE) from the following:		36
PHMD 6440	Internal Medicine Advanced Pharmacy Practice Experience	
PHMD 6441	Acute Care Advanced Pharmacy Practice Experience	
PHMD 6442	Ambulatory Care Advanced Pharmacy Practice Experience	
PHMD 6443	Community Advanced Pharmacy Practice Experience	
PHMD 6445	Ambulatory Care Elective Advanced Pharmacy Practice Experience	
PHMD 6446	Psychiatry Advanced Pharmacy Practice Experience	
PHMD 6447	Community Elective Advanced Pharmacy Practice Experience	
PHMD 6448	Long Term Care Advanced Pharmacy Practice Experience	
PHMD 6449	Geriatrics Advanced Pharmacy Practice Experience	
PHMD 6450	Pediatrics Advanced Pharmacy Practice Experience	
PHMD 6451	Neonatology Advanced Pharmacy Practice Experience	
PHMD 6452	Critical Care Advanced Pharmacy Practice Experience	
PHMD 6453	Surgery Advanced Pharmacy Practice Experience	
PHMD 6454	Cardiology Advanced Pharmacy Practice Experience	
PHMD 6456	Drug Information Advanced Pharmacy Practice Experience	
PHMD 6457	Oncology Advanced Pharmacy Practice Experience	
PHMD 6461	Infectious Disease Advanced Pharmacy Practice Experience	
PHMD 6462	Pharmacy Industry Advanced Pharmacy Practice Experience	
PHMD 6463	Pharmacy Administration Advanced Pharmacy Practice Experience	
PHMD 6464	Regulatory Advanced Pharmacy Practice Experience	
PHMD 6465	Managed Care Advanced Pharmacy Practice Experience	
PHMD 6466	Transplantation Advanced Pharmacy Practice Experience	
PHMD 6467	Directed Practice Advanced Pharmacy Practice Experience	
PHMD 6468	International Advanced Pharmacy Practice Experience	
PHMD 6469	Management Advanced Pharmacy Practice Experience	
PHMD 6470	Education Advanced Pharmacy Practice Experience	

PHMD 6471	Research 1 Advanced Pharmacy Practice Experience
PHMD 6473	Radiopharmacy Advanced Pharmacy Practice Experience

[1] For pharmacy students, an unsatisfactory grade (U) in a co-op will be counted as a professional course deficiency.

Elective Requirements

Code	Title	Hours
Open Electives		
A minimum of 8 semester hours of open electives is required.		8
Professional Electives		
Complete at least 2 semester hours from the following:		2
CAEP 6203	Understanding Culture and Diversity	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6404	Patient Engagement Informatics and Analytics	
HLTH 5002	Mindfulness: Theory and Practice	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHMD 3600	Leadership and Advocacy in Health Professions	
PHMD 4350	Exploring Academic Careers	
PHMD 4581	Cancer Chemotherapy	
PHMD 4585	Research Methods in Health Systems	
PHMD 4700	Principles in General Medicine	
PHMD 4890	Contemporary Issues in Geriatric Pharmacy	
PHMD 5223	Evidence-Based Medicine	
PHMD 5575	Pharmaceutical Industry	
PHMD 5675	Ambulatory Care Pharmacy Practice in Urban Health	
PHMD 5900	Self-Care and Nonprescription Medications: A Team-Based Approach	
PHSC 4991	Research	
PHSC 5100	Concepts in Pharmaceutical Science	
PHSC 5400	Principles of Drug Design	
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies	
PHSC 5555	Pharmaceutical Toxicology	
PHSC 6222	The Chemistry and Biology of Drugs of Abuse	
PHSC 6224	Behavioral Pharmacology and Drug Discovery	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 6320	Qualitative Methods in Health and Illness	
PMST 6250	Advanced Physical Pharmacy	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	

Progression Requirements

To progress into the subsequent semester of professional courses, students must receive a grade of C or better in all PHMD and PHSC courses, as well as any course completed to fulfill the professional elective requirements.

Program Credit/GPA Requirements

118 total semester hours required

Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional Year 1 (P1)		Professional Year 1 (P1)		Professional Year 1 (P1)		Professional Year 1 (P1)	
PHMD 5120	4	PHMD 6964 (IPPE)	0	PHMD 6964	0	PHMD 5115	4
PHMD 5140	4					PHMD 5182	1
PHMD 5191	1					PHMD 5192	1
PHSC 5110	4					Elective	2-4
PHSC 5130	4						
PHSC 5181	1						
	18		**0**		**0**		**8-10**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional Year 2 (P2)		Professional Year 2 (P2)		Professional Year 2 (P2)		Professional Year 2 (P2)	
PHMD 5240	4	PHMD 5210	4	PHMD 5220	4	PHMD 6964	0
PHMD 5283	1	PHMD 5215	4	PHMD 5285	1		
PHMD 5293	1	PHMD 5245	4	PHMD 5295	1		
PHSC 5205	4	PHMD 5284	1	Elective	2-4		
PHSC 5230	4	PHMD 5294	1				
Elective	2-4	Elective	2-4				
	16-18		**16-18**		**8-10**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional Year 3 (P3)		Professional Year 3 (P3)		Professional Year 4 (P4)		Professional Year 4 (P4)	
PHMD 6964	0	PHMD 5320	4	APPE (choose from PHMD 6440-PHMD 6474)	6	APPE (choose from PHMD 6440 - PHMD 6474)	6
		PHMD 5335	4				
		PHMD 5345	4				
		PHMD 5386	1				
		PHMD 5396	1				
		Elective	2-4				
	0		**16-18**		**6**		**6**

Year 4

Fall	Hours	Spring	Hours
APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
	12		**12**

Total Hours: 118-128

Biomedical Science, MS

The science and research surrounding human health and disease are becoming more interdisciplinary. In response to this trend, the biomedical science MS program allows students to focus on areas across the biomedical sciences to gain training in human (patho)physiology and the application of existing and potential therapeutic approaches to treat disease. The Master of Science in Biomedical Science curriculum is particularly appropriate both for those entering as well as those currently employed in the field, including research technicians, clinical laboratory workers, science teachers, and science administrators. For those currently employed, the program can enhance performance in a present position or open new employment opportunities. Graduates of the program will be well prepared to enter related PhD programs at the university.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in industry and hospitals.

1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
6. Students must not accept more than one position. They must honor the first offer accepted.
7. In order to receive a grade for the course, students must write at least two learning goals and a paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
8. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
9. Students receive 1 academic credit per semester for Pharmaceutical Science Internship (PHSC 6401). If students want to do an internship for a fourth semester they may do so, but students will only receive a maximum of 3 credits for Pharmaceutical Science Internship (PHSC 6401). The 4th credit for Pharmaceutical Science Internship (PHSC 6401) will not be added to the student's degree.
10. Taking internship must not extend international students' visas.

General Policies Common to all MS Programs in the Department of Pharmaceutical Sciences

GRADING POLICY

Students are expected to maintain a GPA of 3.000 (B) or higher in all coursework. Students whose cumulative GPA falls below 3.000 will receive written notification from the Bouvé Office of Graduate Student Services that they have been placed on academic probation. A student must clear the deficiency and return to nonprobationary status within one semester, unless the course that must be retaken is not offered during the probationary semester. In such a case, the course to be retaken must be completed during the next semester that it is offered, and the GPA must be restored to at least 3.000. Failure to remediate the deficiencies and return to nonprobationary status within the established time limit will result in dismissal from the MS program. Refer to the Bouvé College of Health Sciences policy on Academic Dismissal (p. 581) and Academic Probation Policy (p. 582) for full details.

PROGRESSION REQUIREMENT

Bouvé College of Health Sciences policy specifies that students register for coursework or continuation credit each semester of the academic year (fall and spring semesters) after they are matriculated as full- or part-time students. Moreover, international students are required to maintain full-time student status during each academic term; consult the Office of Global Services (https://international.northeastern.edu/ogs/) for specific requirements. Domestic students who are not able to register for courses during a particular semester must petition the director of graduate studies in the department for exemption in writing and state the reasons for the exemption and their plan for resuming their studies. Approval of the petition will preserve student status in the MS program.

All MS students are expected to complete the degree requirements within two years if enrolled on a full-time basis, or within three to five years if enrolled on a part-time basis. If progress toward the degree is slowed or interrupted for personal reasons, the student so affected must petition the School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee for an extension, detailing the anticipated time to completion. If

an extension is approved, the student will be directed to meet with the graduate program director to devise a formal plan to achieve completion of the degree.

Course credits earned in the Bouvé College of Health Sciences Graduate School or accepted for transfer from another institution and not applied to obtain a previous degree are valid for a maximum of seven years. Refer to the Bouvé College of Health Sciences Academic Progression policies and procedures (p. 583) for details.

ACADEMIC HONESTY AND RESEARCH INTEGRITY

The Department of Pharmaceutical Sciences has a zero-tolerance policy regarding academic dishonesty and violations of research integrity. It is each student's responsibility to understand and adhere to the School of Pharmacy and Pharmaceutical Sciences Code of Professional Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf) and to Northeastern University's Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/). Definitions of plagiarism, cheating, fabrication, falsification, unauthorized collaboration, and actions that facilitate academic or research dishonesty can be found on the Office of Student Conduct and Conflict Resolution website (http://www.northeastern.edu/osccr/). The lack of knowledge of these definitions does not excuse the student's responsibility for upholding them. Offenses of academic honesty and research integrity are egregious violations of ethical standards and may result in disciplinary actions, including the student's immediate dismissal from the graduate program.

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES PROFESSIONAL CODE OF CONDUCT

All SOPPS students (BS Pharmaceutical Sciences, Preprofessional, MS, and PhD) are expected to adhere to the SOPPS Code of Professional Conduct.

MASTER OF SCIENCE THESIS OPTION

Students who undertake a thesis are expected to report the results of extended research in a written thesis document and make an original contribution to their field. This work should give evidence of the students' abilities to conduct independent research and interpret their research results in an acceptable manner. Arrangements are made by students interested in the thesis option with individual laboratory directors as to the availability of MS-student research positions and the specific research focus.

Thesis Registration

Students may receive a maximum of 4 semester hours of credit for MS thesis research. Students should register for Thesis (PHSC 6990), twice for 2 SH each during the fall and spring semesters of their second full year of study, or after completing 15 credits of study. If completion of the thesis requires additional time, students should register for Thesis Continuation (PHSC 6996)(0 SH).

Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

The thesis proposal must be defended orally before the thesis committee and signed by all thesis committee members before the student undertakes the planned research. The signed cover page of the proposal should be submitted to the director of graduate studies, pharmaceutical sciences department, and to the Bouvé College of Health Sciences Graduate Office.

Thesis Final Defense

The final defense is taken after the student completes the thesis research and all other requirements for the MS degree. The defense deals with the subject matter of the thesis, significant developments in the field, and student's background knowledge in their field of specialization. The thesis committee conducts the final defense.

At least two weeks prior to the expected date of the oral defense, the written thesis must be circulated to the student's thesis committee. After initial committee evaluation, recommendation may be made that the student clarify or rewrite portions of the thesis before scheduling the final defense. After the thesis committee concurs that the thesis is acceptable, a date is chosen for the final oral examination. At least two weeks prior to the defense, the student should inform the director of graduate studies in the pharmaceutical sciences department so that an announcement can be distributed to faculty and students. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student, and responses to audience and committee questions, the student's committee meets in executive session to decide whether the student has successfully defended the thesis. The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and the thesis is signed off and passed on to the director of graduate studies in the department. Requests for a second defense are unusual but may be permitted if the original oral defense was judged significantly inadequate.

Thesis Deadline
The thesis should be written, defended, and signed at least two weeks before the university commencement deadline. Students must submit signed copies of the thesis to the online site designated by the university.

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
PHSC 5300	Pharmaceutical Biochemistry [1]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 5310	Cellular Physiology	2
PHSC 6214	Experimental Design and Biostatistics	2
PHSC 6216	Human Physiology and Pathophysiology	2

Electives

Code	Title	Hours
Complete 17–19 semester hours in the following subject areas: [1]		17-19
PHSC, PMCL, PMST, BIOL, CHEM, NNMD, BIOT		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Complete the following (repeatable) course twice:		4
PHSC 6990	Thesis	2
The following course may be taken if additional time is needed to complete the thesis:		
PHSC 6996	Thesis Continuation	

[1] Students who opt to complete 4-credit Pharmaceutical Sciences Laboratory (PHSC 7010) in the core requirements may complete the degree with 17 elective credits; all other students must complete 19 elective credits.

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Medicinal Chemistry and Drug Discovery, MS

The Medicinal Chemistry & Drug Discovery MS program integrates aspects of contemporary medicinal chemistry and pharmacology, emphasizing topics most relevant to therapeutics design, discovery, and action. The core curriculum focuses on a combination of synthetic organic chemistry, bioorganic chemistry, analytical chemistry, and pharmacology courses. Specialized, in-depth electives are offered in these areas. The program is designed to develop students' knowledge of medicinal chemistry through design, synthesis, and pharmacological profiling of novel pharmacotherapeutics as applied to helping solve unmet medical needs. For this purpose, many program graduates have established research careers in the pharmaceutical/biotech industry. Undergraduate prerequisites are general chemistry, organic chemistry, and biochemistry or cell/molecular biology.

Curriculum Requirements

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1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
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Core Requirements

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Code	Title	Hours
Required Core		
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PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
Medicinal Chemistry & Drug Discovery		
CHEM 5626	Organic Synthesis 1	3
CHEM 5628	Principles of Spectroscopy of Organic Compounds	3
CHEM 5672	Organic Synthesis 2	3
CHEM 5676	Bioorganic Chemistry	3
PHSC 5400	Principles of Drug Design	3
PHSC 6222	The Chemistry and Biology of Drugs of Abuse	2
PHSC 6224	Behavioral Pharmacology and Drug Discovery	2
PHSC 6290	Biophysical Methods in Drug Discovery	2

Electives

Code	Title	Hours
Complete 6 semester hours in the following subject areas:		6
BIOL, BIOT, CHEM, NNMD, PHSC, PMCL, PMST		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Thesis research should be taken twice.		4
PHSC 6990	Thesis	2
Thesis continuation may be taken if additional time is needed to complete the thesis.		
PHSC 6996	Thesis Continuation	

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Pharmaceutical Engineering, MS

The Master of Science in Pharmaceutical Engineering is offered jointly by Northeastern University's College of Engineering and Bouvé College of Health Sciences. The program prepares students with a fundamental understanding of pharmaceutical sciences and principles of engineering to develop the depth needed for advanced study of pharmaceutical engineering.

This program is generally pursued by students with a Bachelor of Science in Chemical Engineering or closely allied fields in engineering, sciences, or mathematics. The program was designed in collaboration with the Department of Pharmaceutical Sciences to develop the depth needed for advanced study of pharmaceutical engineering. Students wishing to pursue the master's degree with undergraduate educational backgrounds other than engineering are required to demonstrate completion of mathematics coursework through differential equations or the equivalent to be admitted. Students are advised to work closely with their advisors and instructors to determine the electives that would meet their career goals.

Part-Time Students

Part-time students may progress according to their plans and time constraints but within the seven-year time limit.

Master of Science students wishing to change their status from part time to full time must notify the chemical engineering department and make a formal petition to the Graduate School of Engineering. Refer to the regulations of the Graduate School of Engineering for further information on academic administrative policies.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
CHME 7600	Pharmaceutical Engineering I	4
CHME 7601	Pharmaceutical Engineering II	4
CHME 7602	Pharmaceutical Engineering Laboratory	2
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 7010	Pharmaceutical Sciences Laboratory	4

Restricted Elective Courses

Code	Title	Hours
At least 3 semester hours of total elective courses are required from pharmaceutical sciences (PHSC, PMST) and from chemical engineering (CHME). These semester hours could come from any elective group, as appropriate.		
Regulatory		
Complete 3 semester hours from the following:		3
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5500	Concepts in Regulatory Science	
BIOT 6320	Quality Management Systems and Validation	
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6002	Introduction to Regulatory Compliance and Practice	
Quality/Statistics		
Complete 4 semester hours from the following:		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
PHSC 6214	Experimental Design and Biostatistics	
Depth Electives		
Complete 7 semester hours from the following:		7
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6340	Sterile Manufacturing Operations	
BIOT 7250	Advanced Biotechnology Applications Laboratory	
CHME 5101	Fundamentals of Chemical Engineering Analysis	
CHME 5160	Drug Delivery: Engineering Analysis	

CHME 5179	Complex Fluids and Everyday Materials
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials
CHME 5683	Introduction to Polymer Science
CHME 7330	Chemical Engineering Thermodynamics
CHME 7350	Transport Phenomena
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5310	Cellular Physiology
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5555	Pharmaceutical Toxicology
PHSC 5560	Nanotoxicity
PHSC 5619	Mass Spectrometry in Drug Development
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Pharmaceutics and Drug Delivery, MS

Just as cars are useless without roads, drugs are useless without effective delivery systems. This is especially important in contemporary pharmaceutical research, as new chemical entities may be either too hydrophobic (e.g., many anticancer drugs) or hydrophilic and highly labile (e.g., nucleic acids). The Bouvé College of Health Sciences School of Pharmacy Pharmaceutics and Drug Delivery students and faculty are developing the routes for bringing small-molecule drugs and biological therapies directly to target cells responsible for major diseases.

Our comprehensive Pharmaceutics and Drug Delivery MS program includes faculty members in pharmaceutics and drug development specializing in the use and delivery of therapeutics. The program faculty seeks to improve the understanding and description of how chemical and physical properties of drugs and dosage forms affect drug performance in healthy and diseased systems. Graduate students may choose from programs concentrating in:

- Novel drug delivery systems
- Biopharmaceutics and pharmacokinetics
- Physical pharmacy and polymeric dosage form development
- Drug metabolism

With a strong focus on nanotechnology-based advanced delivery systems that address contemporary therapeutic needs, the pharmaceutical sciences program also gives students opportunities to study with some of the world's top pharmaceutics researchers. Students in the Pharmaceutics and Drug Delivery MS program have the option of performing industrial internships (typically during the summer) in some of the most prestigious pharmaceutical and biotechnology companies in the Boston area.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in industry and hospitals.

1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
6. Students must not accept more than one position. They must honor the first offer accepted.
7. In order to receive a grade for the course, students must write at least two learning goals and a paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
8. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
9. Students receive 1 academic credit per semester for Pharmaceutical Science Internship (PHSC 6401). If students want to do an internship for a fourth semester they may do so, but students will only receive a maximum of 3 credits for Pharmaceutical Science Internship (PHSC 6401). The 4th credit for Pharmaceutical Science Internship (PHSC 6401) will not be added to the student's degree.
10. Taking internship must not extend international students' visas.

General Policies Common to all MS Programs in the Department of Pharmaceutical Sciences

GRADING POLICY

Students are expected to maintain a GPA of 3.000 (B) or higher in all coursework. Students whose cumulative GPA falls below 3.000 will receive written notification from the Bouvé Office of Graduate Student Services that they have been placed on academic probation. A student must clear the deficiency and return to nonprobationary status within one semester, unless the course that must be retaken is not offered during the probationary

semester. In such a case, the course to be retaken must be completed during the next semester that it is offered, and the GPA must be restored to at least 3.000. Failure to remediate the deficiencies and return to nonprobationary status within the established time limit will result in dismissal from the MS program. Refer to the Bouvé College of Health Sciences policy on Academic Dismissal (p. 581) and Academic Probation Policy (p. 582) for full details.

PROGRESSION REQUIREMENT

Bouvé College of Health Sciences policy specifies that students register for coursework or continuation credit each semester of the academic year (fall and spring semesters) after they are matriculated as full- or part-time students. Moreover, international students are required to maintain full-time student status during each academic term; consult the Office of Global Services (https://international.northeastern.edu/ogs/) for specific requirements. Domestic students who are not able to register for courses during a particular semester must petition the director of graduate studies in the department for exemption in writing and state the reasons for the exemption and their plan for resuming their studies. Approval of the petition will preserve student status in the MS program.

All MS students are expected to complete the degree requirements within two years if enrolled on a full-time basis, or within three to five years if enrolled on a part-time basis. If progress toward the degree is slowed or interrupted for personal reasons, the student so affected must petition the School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee for an extension, detailing the anticipated time to completion. If an extension is approved, the student will be directed to meet with the graduate program director to devise a formal plan to achieve completion of the degree.

Course credits earned in the Bouvé College of Health Sciences Graduate School or accepted for transfer from another institution and not applied to obtain a previous degree are valid for a maximum of seven years. Refer to the Bouvé College of Health Sciences Academic Progression policies and procedures (p. 583) for details.

ACADEMIC HONESTY AND RESEARCH INTEGRITY

The Department of Pharmaceutical Sciences has a zero-tolerance policy regarding academic dishonesty and violations of research integrity. It is each student's responsibility to understand and adhere to the School of Pharmacy and Pharmaceutical Sciences Code of Professional Conduct (https://bouve.northeastern.edu/assets/uploads/sites/5/2021/10/northeastern-school-of-pharmacy-code-of-professional-conduct-2021.pdf) and to Northeastern University's Academic Integrity Policy (http://www.northeastern.edu/osccr/academic-integrity-policy/). Definitions of plagiarism, cheating, fabrication, falsification, unauthorized collaboration, and actions that facilitate academic or research dishonesty can be found on the Office of Student Conduct and Conflict Resolution website (http://www.northeastern.edu/osccr/). The lack of knowledge of these definitions does not excuse the student's responsibility for upholding them. Offenses of academic honesty and research integrity are egregious violations of ethical standards and may result in disciplinary actions, including the student's immediate dismissal from the graduate program.

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES PROFESSIONAL CODE OF CONDUCT

All SOPPS students (BS Pharmaceutical Sciences, Preprofessional, MS, and PhD) are expected to adhere to the SOPPS Code of Professional Conduct.

MASTER OF SCIENCE THESIS OPTION

Students who undertake a thesis are expected to report the results of extended research in a written thesis document and make an original contribution to their field. This work should give evidence of the students' abilities to conduct independent research and interpret their research results in an acceptable manner. Arrangements are made by students interested in the thesis option with individual laboratory directors as to the availability of MS-student research positions and the specific research focus.

Thesis Registration

Students may receive a maximum of 4 semester hours of credit for MS thesis research. Students should register for Thesis (PHSC 6990), twice for 2 SH each during the fall and spring semesters of their second full year of study, or after completing 15 credits of study. If completion of the thesis requires additional time, students should register for Thesis Continuation (PHSC 6996)(0 SH).

Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

The thesis proposal must be defended orally before the thesis committee and signed by all thesis committee members before the student undertakes the planned research. The signed cover page of the proposal should be submitted to the director of graduate studies, pharmaceutical sciences department, and to the Bouvé College of Health Sciences Graduate Office.

Thesis Final Defense

The final defense is taken after the student completes the thesis research and all other requirements for the MS degree. The defense deals with the subject matter of the thesis, significant developments in the field, and student's background knowledge in their field of specialization. The thesis committee conducts the final defense.

At least two weeks prior to the expected date of the oral defense, the written thesis must be circulated to the student's thesis committee. After initial committee evaluation, recommendation may be made that the student clarify or rewrite portions of the thesis before scheduling the final defense. After the thesis committee concurs that the thesis is acceptable, a date is chosen for the final oral examination. At least two weeks prior to the defense, the student should inform the director of graduate studies in the pharmaceutical sciences department so that an announcement can be distributed to faculty and students. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student, and responses to audience and committee questions, the student's committee meets in executive session to decide whether the student has successfully defended the thesis. The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and the thesis is signed off and passed on to the director of graduate studies in the department. Requests for a second defense are unusual but may be permitted if the original oral defense was judged significantly inadequate.

Thesis Deadline

The thesis should be written, defended, and signed at least two weeks before the university commencement deadline. Students must submit signed copies of the thesis to the online site designated by the university.

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
Complete the following courses:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
PHSC 5300	Pharmaceutical Biochemistry [1]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 5310	Cellular Physiology [1]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 6214	Experimental Design and Biostatistics	2
PHSC 6216	Human Physiology and Pathophysiology	2
Pharmaceutics and Drug Delivery		
PMST 6250	Advanced Physical Pharmacy	2
PMST 6252	Pharmacokinetics and Drug Metabolism	3
PMST 6254	Advanced Drug Delivery Systems	3

Electives

Code	Title	Hours
Complete 9–11 semester hours from the following subject areas: [1]		9-11
BIOL, BIOT, CHEM, NNMD, PHSC, PMCL, PMST		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Thesis research should be taken twice.		4
PHSC 6990	Thesis	2
Thesis continuation may be taken if additional time is needed to complete the thesis.		
PHSC 6996	Thesis Continuation	

[1] Students who opt to complete 4-credit Pharmaceutical Sciences Laboratory (PHSC 7010) in the core requirements may complete the degree with 9 elective credits; all other students must complete 11 elective credits.

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Pharmacology, MS

Graduate education in pharmacology embodies the principles and mechanisms of drug action in biological systems. Through coursework, seminars, and conferences, students in the pharmacology MS program gain exposure to both classical and recent approaches that have led to the development of current theories of drug action and therapeutic application. Pharmacology should not be confused with pharmacy programs or training, which lead to professional licensure as a pharmacist and involve medication management.

Curriculum Requirements

All MS programs in the Department of Pharmaceutical Sciences require a set of core courses taken by every MS student, regardless of program. In addition, students in each program are required to take a defined set of discipline-specific courses and several general electives. The number of specialized and elective courses differs somewhat among programs. The MS degree may be completed on either a full-time or part-time basis and may include an optional research thesis. International students are required to attend the program on a full-time basis.

Internship Requirements and Regulations for Department of Pharmaceutical Sciences

Internships provide an experiential component of the graduate curriculum that fosters professional development through work in industry and hospitals.

1. In order to participate in an internship, students must complete two semesters with a grade-point average of 3.200 or better; be in good academic and professional standing (i.e., have no Professionalism Concern forms (https://bouve.northeastern.edu/assets/uploads/sites/5/2015/03/professionalism-concern-form.pdf) filed); and have no instances of academic dishonesty or blocks on enrollment.
2. In order to be eligible for internship, students must take the Professional Development for Pharmaceutical Sciences (PHSC 5305) course in either the fall or spring semester of their first year.
3. Students are in school full-time in addition to working on their internships.
4. There are no vacations on co-op/internships. Companies' sick time policies may vary. Students should check with their employers.
5. Students are responsible for finding their own internship and must be honest and accurate representing their experiences on their resumés. Prior to looking for an internship, students must have their faculty advisor approve their resumé and ascertain to the best of their ability that the skills and training of students are as presented.
6. Students must not accept more than one position. They must honor the first offer accepted.
7. In order to receive a grade for the course, students must write at least two learning goals and a paper describing what they learned, mid- and end of semester. Supervisors for internships will reply to a questionnaire about students' performance.
8. International students must register for Pharmaceutical Science Internship (PHSC 6401) and follow instructions to receive Curricular Practical Training authorization from the Office of Global Services every semester they work. This applies to part-time jobs and volunteer opportunities. International students cannot engage in full-time CPT authorization totaling more than 52 weeks. Doing so will eliminate the possibility of engaging in the postgraduation benefit of Post-Completion Optional Practical Training.
9. Students receive 1 academic credit per semester for Pharmaceutical Science Internship (PHSC 6401). If students want to do an internship for a fourth semester they may do so, but students will only receive a maximum of 3 credits for Pharmaceutical Science Internship (PHSC 6401). The 4th credit for Pharmaceutical Science Internship (PHSC 6401) will not be added to the student's degree.
10. Taking internship must not extend international students' visas.

General Policies Common to all MS Programs in the Department of Pharmaceutical Sciences

GRADING POLICY

Students are expected to maintain a GPA of 3.000 (B) or higher in all coursework. Students whose cumulative GPA falls below 3.000 will receive written notification from the Bouvé Office of Graduate Student Services that they have been placed on academic probation. A student must clear the deficiency and return to nonprobationary status within one semester, unless the course that must be retaken is not offered during the probationary semester. In such a case, the course to be retaken must be completed during the next semester that it is offered, and the GPA must be restored to at least 3.000. Failure to remediate the deficiencies and return to nonprobationary status within the established time limit will result in dismissal from the MS program. Refer to the Bouvé College of Health Sciences policy on Academic Dismissal (p. 581) and Academic Probation Policy (p. 582) for full details.

PROGRESSION REQUIREMENT

Bouvé College of Health Sciences policy specifies that students register for coursework or continuation credit each semester of the academic year (fall and spring semesters) after they are matriculated as full- or part-time students. Moreover, international students are required to maintain full-time student status during each academic term; consult the Office of Global Services (https://international.northeastern.edu/ogs/) for specific requirements. Domestic students who are not able to register for courses during a particular semester must petition the director of graduate studies in the department for exemption in writing and state the reasons for the exemption and their plan for resuming their studies. Approval of the petition will preserve student status in the MS program.

All MS students are expected to complete the degree requirements within two years if enrolled on a full-time basis, or within three to five years if enrolled on a part-time basis. If progress toward the degree is slowed or interrupted for personal reasons, the student so affected must petition the School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee for an extension, detailing the anticipated time to completion. If

an extension is approved, the student will be directed to meet with the graduate program director to devise a formal plan to achieve completion of the degree.

Course credits earned in the Bouvé College of Health Sciences Graduate School or accepted for transfer from another institution and not applied to obtain a previous degree are valid for a maximum of seven years. Refer to the Bouvé College of Health Sciences Academic Progression policies and procedures (p. 583) for details.

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All SOPPS students (BS Pharmaceutical Sciences, Preprofessional, MS, and PhD) are expected to adhere to the SOPPS Code of Professional Conduct.

MASTER OF SCIENCE THESIS OPTION

Students who undertake a thesis are expected to report the results of extended research in a written thesis document and make an original contribution to their field. This work should give evidence of the students' abilities to conduct independent research and interpret their research results in an acceptable manner. Arrangements are made by students interested in the thesis option with individual laboratory directors as to the availability of MS-student research positions and the specific research focus.

Thesis Registration

Students may receive a maximum of 4 semester hours of credit for MS thesis research. Students should register for Thesis (PHSC 6990), twice for 2 SH each during the fall and spring semesters of their second full year of study, or after completing 15 credits of study. If completion of the thesis requires additional time, students should register for Thesis Continuation (PHSC 6996)(0 SH).

Thesis Committee

Each student's thesis committee should be composed of at least three members: two from the sponsoring program and one from outside the student's program. The outside member may be a Northeastern faculty member. The director of graduate studies for the pharmaceutical sciences department may appoint additional members, as considered necessary for student development. The student's major advisor, in whose laboratory the research is being conducted, will serve as committee chairperson. The student, after consulting with the committee chair, is responsible for calling all thesis committee meetings.

Thesis Proposal

The thesis proposal should be no more than 50 double-spaced pages (12-point font minimum and one-half-inch margins on all sides). This page limit excludes references but includes figures, figure legends, and tables. Aside from these exceptions, the proposal should conform to the format and structure of an NIH grant proposal with four sections: specific aims, background and significance, preliminary studies, and experimental design and methods. See the Department of Pharmaceutical Sciences "Thesis Proposal" document for detailed instructions on the preparation of a thesis proposal and the required forms located in the School of Pharmacy and Pharmaceutical Sciences Student Portal on Canvas in the module section.

The thesis proposal must be defended orally before the thesis committee and signed by all thesis committee members before the student undertakes the planned research. The signed cover page of the proposal should be submitted to the director of graduate studies, pharmaceutical sciences department, and to the Bouvé College of Health Sciences Graduate Office.

Thesis Final Defense

The final defense is taken after the student completes the thesis research and all other requirements for the MS degree. The defense deals with the subject matter of the thesis, significant developments in the field, and student's background knowledge in their field of specialization. The thesis committee conducts the final defense.

At least two weeks prior to the expected date of the oral defense, the written thesis must be circulated to the student's thesis committee. After initial committee evaluation, recommendation may be made that the student clarify or rewrite portions of the thesis before scheduling the final defense. After the thesis committee concurs that the thesis is acceptable, a date is chosen for the final oral examination. At least two weeks prior to the defense, the student should inform the director of graduate studies in the pharmaceutical sciences department so that an announcement can be distributed to faculty and students. The final defense is open to anyone who wishes to attend and typically lasts at least two hours. After presentation of the work by the student, and responses to audience and committee questions, the student's committee meets in executive session to decide whether the student has successfully defended the thesis. The committee's decision is then announced to the student. If the committee's vote is favorable, the student incorporates committee suggestions and the thesis is signed off and passed on to the director of graduate studies in the department. Requests for a second defense are unusual but may be permitted if the original oral defense was judged significantly inadequate.

Thesis Deadline

The thesis should be written, defended, and signed at least two weeks before the university commencement deadline. Students must submit signed copies of the thesis to the online site designated by the university.

Please visit Bouvé College of Health Sciences Program Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A grade of C– or higher is required in each course.

Code	Title	Hours
Required Core		
Complete the following courses:		
PHSC 5100	Concepts in Pharmaceutical Science	2
PHSC 5102	Concepts in Pharmaceutical Science 2	2
PHSC 5212	Research Skills and Ethics	2
or PHSC 6213	Ethical Problems in Health Sciences Research	
PHSC 5300	Pharmaceutical Biochemistry [3]	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 5310	Cellular Physiology	2 or 4
or PHSC 7010	Pharmaceutical Sciences Laboratory	
PHSC 6214	Experimental Design and Biostatistics	2
PHSC 6216	Human Physiology and Pathophysiology	2
Pharmacology		
PMCL 6260	Pharmacology 1 [1]	2
PMCL 6261	Pharmacology 2 [2]	2
PMCL 6262	Receptor Pharmacology [1]	2

Electives

Code	Title	Hours
Complete 11–13 semester hours from the following subject areas: [3]		11-13
BIOL, BIOT, CHEM, NNMD, PHSC, PMCL, PMST		

Thesis Option

Thesis credits may count toward the required elective hours.

Code	Title	Hours
Thesis research should be taken twice.		4
PHSC 6990	Thesis	2
Thesis continuation may be taken if additional time is needed to complete the thesis.		
PHSC 6996	Thesis Continuation	

1. Pharmacology 1 (PMCL 6260) and Receptor Pharmacology (PMCL 6262) are only offered in even-numbered years in the spring semester (example: Spring 2020).
2. Pharmacology 2 (PMCL 6261) is only offered in odd-numbered years in the spring semester (example: Spring 2021). Pharmacology 1 does not have to be taken before Pharmacology 2.
3. Students who opt to complete 4-credit Pharmaceutical Sciences Laboratory (PHSC 7010) in the core requirements may complete the degree with 11 elective credits; all other students must complete 13 elective credits.

Program Credit/GPA Requirements

33 total semester hours required
Minimum 3.000 GPA required

Pharmacy, PharmD—Direct Entry / Public Health, MPH

The School of Pharmacy and Pharmaceutical Sciences and the Department of Health Sciences offer a combined Doctor of Pharmacy (PharmD) and Master of Public Health (MPH) program.

The combined PharmD/MPH program recognizes and reinforces the importance of public health in pharmacy practice. Central to addressing public health concerns, and in particular those associated with racial and ethnic health disparities, the program is committed to building a strong, diverse, and activist public health workforce. The goal of the program is to graduate professionals who are well educated in the complex issues associated with disparate health status and healthcare access. The combined PharmD/MPH program allows qualified and interested students an opportunity to achieve their goal of obtaining a more robust understanding of public health through an MPH degree while also completing their PharmD.

Refer to the School of Pharmacy and Pharmaceutical Sciences PharmD—Direct Entry (p. 720) and Department of Health Sciences Master of Public Health (p. 650) pages of this catalog for program requirements and technical standards. Students must adhere to all PharmD and MPH program standards, policies, and requirements as listed in the catalog, unless otherwise specified.

The Northeastern University Master of Public Health Program is accredited by the Council of Education for Public Health. CEPH is an independent agency recognized by the U.S. Department of Education to accredit schools of public health and public health programs outside of schools of public health.

School of Law

James R. Hackney, JD, Dean

Rashmi Dyal-Chand, JD, Associate Dean for Academic Affairs
Julian M. Fray, JD, LLM, Associate Dean for Digital Strategy
Greg Houghton, Associate Dean for Administration and Finance
Hemanth Gundavaram, JD, Associate Dean for Experiential Education
Sarah Rethage, JD, Associate Dean of Strategic Initiatives and Enrollment
Lua Yuille, JD, Associate Dean for Research and Interdisciplinary Education

Northeastern University School of Law (https://www.northeastern.edu/law/)
416 Huntington Avenue
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617.373.5149

Today's legal environment demands that attorneys be nimble, entrepreneurial, and savvy; in all of these regards, graduates of the Northeastern University School of Law excel. Our curriculum, taught by nationally recognized faculty, provides students with a superior understanding of how the law applies in real settings, a strong ethical framework, and the experience to strategically pursue their professional objectives. Our co-op program sets us apart from all other law schools—our JD students complete many hours of work in law offices, judges' chambers, corporations, nonprofit organizations, and government. As a result of their co-op experiences, Northeastern JD students are not just sitting in classes hearing about the rapid changes in the legal world—they live them.

Our community also provides a refreshing refutation of the law school stereotype as a place of ruthless competition and blind ambition. Instead, we cultivate an atmosphere that is collaborative, collegial, and supportive. Our students' eagerness to work in teams, help one another, and share their experiences reflects that ethos. Our faculty and staff are exceptionally supportive of students—not only because our small community encourages extensive student-faculty interaction but also because they share their students' passion for justice.

In addition to offering both full-time and part-time JD programs, the School of Law offers on-campus and online LLM programs for lawyers, a Master of Legal Studies program for nonlawyers, and a number of other programs. Our suite of LLM opportunities is offered for both those who hold a U.S. law degree and those who hold a first professional law degree from a law school outside of the United States.

Programs

Juris Doctor (JD)

- Law (p. 746)

Master of Laws (LLM)

- Law (p. 749)
- Law (p. 751)—Experiential
- Law—Online

Master of Legal Studies (MLS)

- Legal Studies—Online (p. 755)

Master of Science (MS)

- Media Advocacy (p. 143)

Graduate Certificates

- Business Law (p. 759)
- Healthcare Compliance (p. 760)
- Health Law (p. 761)
- Human Resources Law (p. 764)
- Intellectual Property Law (p. 766)
- United States Law (p. 772)

FOR JD STUDENTS ONLY:

- Health Law and Policy (p. 762)
- Hu (p. 762)man Rights Law (p. 765)
- Legal Design (p. 767)
- Poverty Law and Economic Justice (p. 769)

- Privacy Law (p. 771)
- Women, Gender, Sexuality, and the Law (p. 773)

Dual Degrees

- Law, JD / Accounting and Business Administration, MSAMBA (p. 232)
- Law, JD / Business Administration, MBA—Full-Time (p. 233)
- Law, JD / Criminology and Justice Policy, PhD (p. 778)
- Law, JD / Criminology and Criminal Justice, MS (p. 779)
- Law, JD / Public Health, MPH (p. 602)
- Law, JD / Public Policy, MPP (p. 781)
- Law, LLM / Business Administration, MBA—Full-Time (p. 234)

Academic Policies and Procedures

Below, you will find select policies pertaining to the Juris Doctor program. For a comprehensive document with all policies and procedures, see the JD Student Handbook (https://www.northeastern.edu/lawstudentaffairs/student-handbooks/).

- Grades (p. 745)

Grades

Grades

Students will receive credit for courses in which they receive a grade of “High Honors,” “Honors,” “Pass,” or “Marginal Pass,” but not for courses in which they receive a grade of “Fail.” If any class is designated as offered on a pass/fail basis, students will receive credit for a passing grade but not for a grade of “Fail.”

Incomplete Grades

The School of Law follows university policy on incomplete grades (p. 61).

Law, JD

Overview

Students at Northeastern University School of Law gain unparalleled networking opportunities from the moment they walk in the door. While many law schools talk about offering work experience, Northeastern Law has been the nation's leader in experiential legal education for five decades. Northeastern launched its Cooperative Legal Education Program in 1968 and today offers the largest and most extensive hands-on professional program in the country. Students devote several of their upper-level terms to working full-time as legal professionals. Through the co-op program, students have the opportunity to experience various fields of law in multiple practice settings.

Northeastern Law students gain real work experience and networking opportunities that far exceed the offerings of other law schools. With more than 1,500 employers in more than 40 states and a number of countries around the world, Northeastern students create professional networks in legal offices ranging from large firms in Boston to government agencies in Washington, D.C., to human rights organizations in Geneva. Through these connections and with access to the more than 8,000 alumni, Northeastern Law students graduate with not only a resumé packed full of experience but also a network that is unrivaled.

The School of Law offers a curriculum that provides students the tools they will need to pursue a successful legal career. In their first year, JD students complete required coursework. In their second and third years, they explore areas of interest by completing multiple full-time co-ops and taking courses that provide insight into many areas of the law.

Interdisciplinary Graduate Certificates

The School of Law offers JD students the option to pursue one of the following interdisciplinary graduate certificates:

- Health Law and Policy (p. 762)
- Human Rights Law (p. 765)
- Legal Design (p. 767)
- Poverty Law and Economic Justice (p. 769)
- Privacy Law (p. 771)
- Women, Gender, Sexuality, and the Law (p. 773)

Dual Degrees

The School of Law offers multiple dual degrees (p. 775).

For a more comprehensive description of policies, procedures, and requirements pertaining to the JD program, please refer to the School of Law's website *(*https://www.northeastern.edu/lawstudentaffairs/*).*

Full-Time Option

Complete all courses and requirements described below.

Milestones

Code	Title	Hours
Public Interest Requirement [1]		
Upper-Level Rigorous Writing Requirement [2]		
Experiential Education Requirement [2]		
Co-op Requirement: Co-ops corresponding to three terms [3]		

Note: All courses used to satisfy JD requirements must be completed with a passing grade. Students must satisfactorily complete all JD requirements, including the public interest requirement, the upper-level rigorous writing requirement, the experiential education requirement, and the co-op requirement.

First-Year Course Requirements

Code	Title	Hours
Fall Term		
LAW 6100	Civil Procedure	5
LAW 6105	Property	4
LAW 6106	Torts	4
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2
Spring Term		
LAW 6101	Constitutional Law	4
LAW 6102	Contracts	5

LAW 6103	Criminal Justice	4
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2

Upper-Level Course Requirements

Code	Title	Hours
Professional Responsibility		
LAW 7443	Professional Responsibility	3
Electives		
Complete 46 credits of elective coursework.		46

Rules and policies applicable to elective coursework are described in the School of Law Student Information Handbook.

Program Credit Requirement

83 total credits required.

1 Information about the public interest requirement is provided in the Student Information Handbook.
2 The same course cannot be used to satisfy both the rigorous writing and experiential education requirements.
3 Transfer students should consult the Student Information Handbook for applicable requirements. All students with questions about satisfying co-op requirements should consult the Center for Co-op and Career Development.

Part-Time Option

Complete all courses and requirements described below.

Milestones

Code	Title	Hours
Public Interest Requirement [1]		
Upper-Level Rigorous Writing Requirement [2]		
Experiential Education Requirement [2]		
Two practical experiences during separate terms when the student is not registered for coursework other than the practical experience(s), including at least one co-op in the form of a field placement with a related seminar; and 1,000 hours of relevant work experience. [3]		

Note: All courses used to satisfy JD requirements must be completed with a passing grade. Students must satisfactorily complete all JD requirements, including the public interest requirement, the upper-level rigorous writing requirement, the experiential education requirement, and the co-op, field placement, practical experience, and relevant work experience requirement.

First-Year Course Requirements

Code	Title	Hours
Students will take the following courses during their first four semesters:		
LAW 6100	Civil Procedure	5
LAW 6101	Constitutional Law	4
LAW 6102	Contracts	5
LAW 6103	Criminal Justice	4
LAW 6105	Property	4
LAW 6106	Torts	4
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2
LAW 6160	Legal Skills in Social Context	2
LAW 6165	LSSC: Legal Research and Writing Component	2

Upper-Level Course Requirements

Code	Title	Hours
Field Placement		
LAW 7945	Field Placement Seminar	1
or LAW 7947	Public Interest Field Placement Seminar	
LAW 7946	Field Placement	7

or LAW 7948	Public Interest Field Placement	
Professional Responsibility		
LAW 7443	Professional Responsibility	3
Electives		
Complete 38 credits of LAW courses not already taken to fulfill another requirement.		38

Rules and policies applicable to upper-level courses are described in the School of Law Student Information Handbook.

Program Credit Requirement

83 total credit hours required.

1 Information about the public interest requirement is provided in the Student Information Handbook.
2 The same course cannot be used to satisfy both the rigorous writing and experiential education requirements.
3 Transfer students should consult the Student Information Handbook for applicable requirements. All students with questions about the nature of these requirements should consult the Student Information Handbook and the Center for Co-op and Career Development.

Law, LLM

LLM Program Requirements

The LLM program offers a rigorous curriculum that will provide you with a comprehensive foundation in legal theory and practice as well as the freedom to explore and refine your career interests. LLM students may choose the general program, which offers maximum flexibility to let you take the courses you want and need — to qualify for a US bar exam or to do whatever you choose as a lawyer who wants to make a difference — or one of our concentrations, which provide a competitive advantage in specific fields of interest.

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Courses

These foundational courses are required for any student who obtained their first law degree outside the United States:

Code	Title	Hours
LAW 6301	Introduction to American Law and Legal Institutions	2
LAW 6302	Introduction to Legal Research and Writing for LLM Students	2

Electives

Code	Title	Hours
Students must take at least 20 credits of LAW electives if they took the foundational courses; they must take at least 24 credits of LAW electives if not required to take foundational courses. Courses taken to fulfill concentration requirements count toward the elective requirement.		20 or 24

Concentration Options

Students may choose to pursue a concentration by completing the listed requirements. Courses taken to fulfill concentration requirements count toward the elective requirement for the LLM degree.

- Health Policy and Law (p. 749)
- Human Rights and Economic Development (p. 749)
- Intellectual Property and Innovation (p. 750)
- International Business Law (p. 750)

Health Policy and Law

Code	Title	Hours
Core Course		
Complete the following course:		
LAW 7335	Health Law	3
Relevant Elective Courses		
Complete at least two of the following:		6-7
LAW 7494	Bioethics and the Law	
LAW 7512	Problems in Public Health Law	
LAW 7527	Public Health Legal Clinic	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7606	Drug Law and Policy	
LAW 7619	Healthcare Fraud and Abuse Law	
LAW 7681	Law and Biotechnology	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a paper related to health law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Human Rights and Economic Development

Code	Title	Hours
Core Courses		
Complete one of the following courses:		3
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7525	Law and Economic Development	

LAW 7651	Human Rights in the United States
LAW 7666	Human Rights, the Environment, Development and Community Resilience
LAW 7685	Human Rights, IP, and Access to Medicines
Relevant Elective Courses	
Complete at least two additional courses from the core course list or the following list:	5-16
LAW 7336	Immigration Law
LAW 7358	Social Welfare Law
LAW 7550	Refugee and Asylum Law
LAW 7559	International Trade
LAW 7569	International and Foreign Legal Research
LAW 7588	Reproductive and Sexual Rights and Health
LAW 7597	Civil Rights and Restorative Justice Clinic
LAW 7610	Community Business Law Clinic
LAW 7657	Immigrant Justice Clinic

Students must also complete a paper related to human rights and/or economic development. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Intellectual Property and Innovation

Code	Title	Hours
Core Courses		
Choose 2 courses from the following list:		6-7
LAW 7369	Intellectual Property	
LAW 7501	Patent Law	
LAW 7590	Copyright Law	
LAW 7638	Trademark Law	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or the following list:		6-11
LAW 7303	Antitrust	
LAW 7417	Entertainment Law	
LAW 7633	Intellectual Property Law Clinic	
LAW 7640	Information Security Law	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a clinic or paper related to Intellectual Property and Innovation. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement. A clinic that counts toward the four-course requirement may not be used to also satisfy this requirement.

International Business Law

Code	Title	Hours
Core Courses		
Complete one course from the following list:		3
LAW 7525	Law and Economic Development	
LAW 7559	International Trade	
LAW 7603	International Business Transactions	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or the following list:		4-7
LAW 7323	Corporations	
LAW 7336	Immigration Law	
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7554	International Investment Arbitration and Litigation Practice	
LAW 7569	International and Foreign Legal Research	

Students must also complete a paper related to international business law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Program Credit Requirement

24 total hours required.

For additional information regarding the LLM program and its requirements, please see the LLM Student Information Handbook.

LLM Experiential Program Requirements

The Experiential LLM program offers a rigorous curriculum that is designed to provide you with a comprehensive foundation in legal theory and practice as well as the freedom to explore and refine your career interests. Experiential LLM students may choose the general program, which offers maximum flexibility to let you take the courses you want and need—to qualify for a U.S. bar exam or to do whatever you choose as a lawyer who wants to make a difference—or one of our concentrations, which provide a competitive advantage in specific fields of interest. Students in the full-time Experiential LLM program deepen their knowledge and expand their expertise by taking a full-time co-op or equivalent experiential alternative during one quarter.

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Courses

These foundational courses are required for any student who obtained their first law degree outside the United States:

Code	Title	Hours
LAW 6301	Introduction to American Law and Legal Institutions	2
LAW 6302	Introduction to Legal Research and Writing for LLM Students	2
LAW 6315	Legal Research and Writing for LLM Students: Preparing for Co-op	2

Electives

Code	Title	Hours
Students must take at least 18 credits of LAW electives if they took the foundational courses; they must take at least 24 credits of LAW electives if not required to take foundational courses. Courses taken to fulfill concentration requirements count toward the elective requirement.		18-24

Concentration Options

Students may choose to pursue a concentration by completing the listed requirements. Courses taken to fulfill concentration requirements count toward the elective requirement for the LLM degree.

- Health Policy and Law (p. 751)
- Human Rights and Economic Development (p. 751)
- Intellectual Property and Innovation (p. 752)
- International Business Law (p. 752)

Health Policy and Law

Code	Title	Hours
Core Course		
LAW 7335	Health Law	3
Relevant Elective Courses		
Complete at least two of the following:		6-7
LAW 7494	Bioethics and the Law	
LAW 7512	Problems in Public Health Law	
LAW 7527	Public Health Legal Clinic	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7606	Drug Law and Policy	
LAW 7619	Healthcare Fraud and Abuse Law	
LAW 7681	Law and Biotechnology	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a paper related to health law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Human Rights and Economic Development

Code	Title	Hours
Core Courses		
Complete one of the following:		3

LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7525	Law and Economic Development	
LAW 7651	Human Rights in the United States	
LAW 7666	Human Rights, the Environment, Development and Community Resilience	
LAW 7685	Human Rights, IP, and Access to Medicines	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or from the following:		5-16
LAW 7336	Immigration Law	
LAW 7358	Social Welfare Law	
LAW 7550	Refugee and Asylum Law	
LAW 7559	International Trade	
LAW 7569	International and Foreign Legal Research	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7597	Civil Rights and Restorative Justice Clinic	
LAW 7610	Community Business Law Clinic	
LAW 7657	Immigrant Justice Clinic	

Students must also complete a co-op or paper related to human rights and/or economic development. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Intellectual Property and Innovation

Code	Title	Hours
Core Courses		
Complete two of the following:		6-7
LAW 7369	Intellectual Property	
LAW 7501	Patent Law	
LAW 7590	Copyright Law	
LAW 7638	Trademark Law	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or from the following:		6-11
LAW 7303	Antitrust	
LAW 7417	Entertainment Law	
LAW 7633	Intellectual Property Law Clinic	
LAW 7640	Information Security Law	
LAW 7685	Human Rights, IP, and Access to Medicines	

Students must also complete a co-op, clinic, or paper related to intellectual property and innovation. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement. A clinic that counts toward the four-course requirement may not be used to also satisfy this requirement.

International Business Law

Code	Title	Hours
Core Courses		
Complete one of the following:		3
LAW 7525	Law and Economic Development	
LAW 7559	International Trade	
LAW 7603	International Business Transactions	
Relevant Elective Courses		
Complete at least two additional courses from the core course list or from the following:		4-7
LAW 7323	Corporations	
LAW 7336	Immigration Law	
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	

LAW 7554	International Investment Arbitration and Litigation Practice
LAW 7569	International and Foreign Legal Research

Students must also complete a co-op or paper related to international business law. To fulfill this requirement, a paper must satisfy the criteria of the JD rigorous writing requirement.

Experiential Requirement

Students must take one full-time co-op or equivalent experiential alternative of at least 12 weeks (or an equivalent period over multiple terms, for part-time students).

Program Credit Requirement

24 total hours required.

For additional information regarding the Experiential LLM program and its requirements, please see the LLM Student Information Handbook.

Law, LLM—Online

The online LLM program offers students an opportunity to receive specialized legal training beyond the training they have already received in a JD program or an equivalent law degree program outside the United States. The elective courses in the program will provide insight into legal issues in areas such as intellectual property, privacy, and business. Students interested in taking a bar exam will be able to strengthen their foundational knowledge of U.S. law by taking courses with content tested on bar examinations. The asynchronous online format affords flexibility with respect to the times and location at which students complete their work.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Course

This foundational course is required for any student who obtained their first law degree outside the United States.

Code	Title	Hours
LAW 6400	Introduction to U.S. Law and Legal System	3

Electives

Code	Title	Hours
Students must take at least 21 credits of LAW electives if they took the foundational course; they must take at least 24 credits of LAW electives if not required to take the foundational course.		21-24

Program Credit

24 total hours required.

Legal Studies, MLS—Online

The Master of Legal Studies program is designed for professionals who want a deeper understanding of law and legal concepts. Such professionals may be found in nonprofit organizations, foundations, financial services firms, pharmaceutical companies, insurance firms, compliance departments, or a host of other commercial and noncommercial settings. Examples of the professionals who would be interested in this degree are human resource professionals, claims representatives for insurance companies, professionals in healthcare organizations, bank loan officers, real estate brokers, risk managers, government affairs officers, management consultants advising organizations, development officers working on planned giving, and software entrepreneurs. They desire to know more about the law and to be able to deal more effectively with the lawyers with whom they interact during their professional lives. The degree includes concentrations in human resources law, business law, intellectual property law, health law, and public law and policy.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundation Courses

Code	Title	Hours
LS 6101	Introduction to Legal Studies 1: Law and Legal Reasoning	3
LS 6102	Introduction to Legal Studies 2	3

Core Courses

Code	Title	Hours
Complete at least four of the following:		12-18
LS 6110	Law of Information and Records	
LS 6120	Law and Strategy	
LS 6130	Negotiation and Advocacy	
LS 6140	Data Regulation and Compliance	
LS 6150	Law and Organizational Management	
LS 6155	Legal Foundations of Public Policy	

Electives

Code	Title	Hours
Students who do not take a concentration must take 6–12 semester hours from this list to complete the degree:		6-12
LS 6160	Regulation and Global Business Strategies	
LS 6170	Financial Transactions	
LS 6180	Health Law Survey	
LS 6181	Healthcare Regulation and Compliance	
LS 6182	Patient Records, Privacy, and Security	
LS 6210	Special Topics in Employee Rights and Employer Obligations	
LS 6211	Antidiscrimination Law	
LS 6212	Wages and Benefits	
LS 6230	Intellectual Property Survey	
LS 6231	Identifying and Securing Intellectual Property Rights	
LS 6232	Intellectual Property and Media	
LS 6235	Current Issues in Law and Public Policy	

Concentration Options

Students may choose to complete one of the concentrations described below. Students who pursue a concentration must take the two required foundation courses, at least four core courses, the courses listed in the concentration, and at least one additional course from the list of electives.

CONCENTRATION IN BUSINESS LAW

Code	Title	Hours
LS 6160	Regulation and Global Business Strategies	3
LS 6170	Financial Transactions	3
LS 6230	Intellectual Property Survey	3
or LS 6210	Special Topics in Employee Rights and Employer Obligations	

CONCENTRATION IN HEALTH LAW

Code	Title	Hours
LS 6180	Health Law Survey	3
LS 6181	Healthcare Regulation and Compliance	3
LS 6182	Patient Records, Privacy, and Security	3

CONCENTRATION IN HUMAN RESOURCES LAW

Code	Title	Hours
LS 6210	Special Topics in Employee Rights and Employer Obligations	3
LS 6211	Antidiscrimination Law	3
LS 6212	Wages and Benefits	3

CONCENTRATION IN INTELLECTUAL PROPERTY LAW

Code	Title	Hours
LS 6230	Intellectual Property Survey	3
LS 6231	Identifying and Securing Intellectual Property Rights	3
LS 6232	Intellectual Property and Media	3

CONCENTRATION IN PUBLIC LAW AND POLICY

Code	Title	Hours
LS 6155	Legal Foundations of Public Policy	3
LS 6235	Current Issues in Law and Public Policy	3
Complete one of the following:		4
LPSC 7311	Strategizing Public Policy	
PPUA 6500	Principles of Public Administration	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6507	Institutional Leadership and the Public Manager	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Media Advocacy, MS

The Master of Science in Media Advocacy places particular focus on developing direct and indirect advocacy skills: that is, to influence government decision makers directly and to change minds indirectly through shifting public opinion. The program uniquely combines grounding in governmental structures and the legal system with sophisticated training in the latest communication techniques including social media, web communications, and videography, as well as data analytics and data-driven storytelling. Successful graduates will be empowered to promote the public agenda of employers ranging from mission-driven organizations, such as the ACLU or the Sierra Club, to industry leaders, such as hospitals and technology companies, to lobbying and strategic communications groups and political consulting firms.

Program Requirements

Core Requirements

Code	Title	Hours
JRNL 5400	Media and Advocacy in Theory and Practice	4
JRNL 5480	Research for Media Strategy	4
LW 6400	Law, Policy and Legal Argument	4
LW 7667	Law and Ethics of Advocacy	3

Electives

Code	Title	Hours
A minimum of 17 credits of electives is required. No more than 8 semester hours can be taken outside of the College of Arts, Media, and Design or the School of Law.		17
	Complete a minimum of 4 semester hours of coursework from the College of Arts, Media, and Design. Choose from recommended focus areas of JRNL, ARTD, ARTG, COMM, and INAM (additional areas may be chosen in consultation with your adviser).	
	Complete a minimum of 5 semester hours of coursework from the School of Law.	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample One-and-a-Half Years with No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 5400	4	JRNL 5480	4	Vacation	0	Vacation	0
LW 6400	4	Elective 2	3-4				
Elective 1	3-4	Elective 3	3-4				
	11-12		**10-12**		**0**		**0**

Year 2

Fall	Hours
LW 7667	3
Elective 4	3-4
Elective 5	3-4
Elective 6	3-4
	12-15

Total Hours: 33-39

Graduate Certificates

- Business Law (p. 759)
- Healthcare Compliance (p. 760)
- Health Law (p. 761)
- Human Resources Law (p. 764)
- Intellectual Property Law (p. 766)
- United States Law (p. 772)

The School of Law also offers the following interdisciplinary certificates (https://law.northeastern.edu/academics/programs/jd/jdx-certificates/) to students enrolled in its JD program:

- Health Law and Policy (p. 762)
- Human Rights Law (p. 765)
- Legal Design (p. 767)
- Poverty Law and Economic Justice (p. 769)
- Privacy Law (p. 771)
- Women, Gender, Sexuality, and the Law (p. 773)

Business Law, Graduate Certificate

The Graduate Certificate in Business Law is designed to provide professionals in large and small enterprises with an ability to recognize, navigate, and leverage the laws that regulate business organizations and transactions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6160	Regulation and Global Business Strategies	3
or LW 6160	Regulation and Global Business Strategies	
LS 6170	Financial Transactions	3
or LW 6170	Financial Transactions	
Complete one of the following:		3
LS 6210	Special Topics in Employee Rights and Employer Obligations	
or LW 6210	Special Topics in Employee Rights and Employer Obligations	
LS 6230	Intellectual Property Survey	
or LW 6230	Intellectual Property Survey	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Healthcare Compliance, Graduate Certificate

The Graduate Certificate in Healthcare Compliance is designed to give law students, MBA students, and working professionals tools they need to successfully navigate the world of healthcare compliance. This 15-credit, one-year program jointly offered by the School of Law and the D'Amore-McKim School of Business gives students the opportunity to learn about the laws that govern the healthcare system while developing the business knowledge and skills critical to healthcare compliance.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Required Courses		
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6182	Patient Records, Privacy, and Security	3
or LW 6182	Patient Records, Privacy, and Security	
Complete one of the following:		3
HINF 5105	The American Healthcare System (MBA students should take this course)	
LAW 7335	Health Law (Law students should take this course)	
or LW 7335	Health Law	
LS 6180	Health Law Survey	
or LW 6180	Health Law Survey	
Elective		
Complete three of the following:		9
FINA 6200	Value Creation through Financial Decision Making	
HRMG 6220	Health Organization Management	
LAW 7344	Accounting/Finance for Lawyers	
LAW 7494	Bioethics and the Law	
or LW 7494	Bioethics and the Law	
LAW 7619	Healthcare Fraud and Abuse Law	
LS 6110	Law of Information and Records	
or LW 6110	Law of Information and Records	
LS 6120	Law and Strategy	
or LW 6120	Law and Strategy	
LS 6140	Data Regulation and Compliance	
or LW 6140	Data Regulation and Compliance	
PHTH 5232	Evaluating Healthcare Quality	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Health Law, Graduate Certificate

Healthcare is a complex legal arena, as it encompasses several key stakeholders, from providers to patients to insurers. The Graduate Certificate in Health Law can help individuals recognize and navigate the varying legal needs in this space; an introductory course is paired with three courses tailored to the health industry.

The program helps to prepare graduates with the knowledge and skills to:

- Summarize and apply the appropriate statutes and regulations to concrete situations
- Examine legal regulations governing the provision and financing of healthcare services
- Gain an in-depth overview of health and compliance programs and the code of conduct for particular fields

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6180	Health Law Survey	3
or LW 6180	Health Law Survey	
LS 6181	Healthcare Regulation and Compliance	3
or LW 6181	Healthcare Regulation and Compliance	
LS 6182	Patient Records, Privacy, and Security	3
or LW 6182	Patient Records, Privacy, and Security	

Program Credit/GPA Requirements

12 total credits required
Minimum 3.000 GPA required

Health Law and Policy, Graduate Certificate

The Graduate Certificate in Health Law and Policy, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of health law and policy.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Law Courses

Code	Title	Hours
LAW 7335	Health Law	3

Code	Title	Hours
In addition, complete one of the following:		3-8
LAW 7410	Domestic Violence Clinic	
LAW 7469	Disability Law	
LAW 7494	Bioethics and the Law	
LAW 7512	Problems in Public Health Law	
LAW 7527	Public Health Legal Clinic	
LAW 7536	Employment Law - Safety and Health	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7606	Drug Law and Policy	
LAW 7619	Healthcare Fraud and Abuse Law	
LAW 7681	Law and Biotechnology	
LAW 7685	Human Rights, IP, and Access to Medicines	

Required Non-Law Courses

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following:		6-8
HINF 5200	Theoretical Foundations in Personal Health Informatics	
HINF 6335	Management Issues in Healthcare Information Technology	
HINF 6350	Public Health Surveillance and Informatics	
HRMG 6220	Health Organization Management	
PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5300	Project Management in Public Health	
PHTH 5310	Budget Principles in Public Health	
PHTH 5320	Grant Writing in Public Health	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
PHTH 6208	Urban Community Health Assessment	
PHTH 6224	Social Epidemiology	
PPUA 5240	Health Policy and Politics	
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	
STRT 6220	Strategic Management for Healthcare Organizations	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's Student Information Handbook.

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 semester hours of LAW courses and at least 6 semester hours of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Human Resources Law, Graduate Certificate

The workplace has drastically changed in the past decade and keeps on evolving. This leads to many new human resources legal and regulation challenges. The Graduate Certificate in Human Resources Law is designed to provide professionals who work in human resources with the skills needed to recognize and navigate the many legal issues that arise within this heavily regulated field.

The program helps to prepare graduates with the knowledge and skills to:

- Summarize and apply the appropriate statutes and regulations to concrete situations
- Examine laws and regulations governing the management of people resources
- Gain an in-depth overview of human resources compliance programs and policies
- Leverage specialized knowledge in human resources law and regulations to achieve personal and institutional goals

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6210	Special Topics in Employee Rights and Employer Obligations	3
or LW 6210	Special Topics in Employee Rights and Employer Obligations	
LS 6211	Antidiscrimination Law	3
or LW 6211	Antidiscrimination Law	
LS 6212	Wages and Benefits	3
or LW 6212	Wages and Benefits	

Program Credit/GPA Requirements

12 total credits required
Minimum 3.000 GPA required

Human Rights Law, Graduate Certificate

The Graduate Certificate in Human Rights Law, open to JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of human rights law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required LAW Courses

Code	Title	Hours
Complete one of the following:		3
LAW 7491	International Human Rights and the Global Economy	
LAW 7651	Human Rights in the United States	

Code	Title	Hours
In addition, complete one of the following:		3
LAW 7338	International Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7525	Law and Economic Development	
LAW 7651	Human Rights in the United States	
LAW 7685	Human Rights, IP, and Access to Medicines	

Required Non–LAW Courses

Code	Title	Hours
Complete two of the following:		6-8
PHIL 5001	Global Justice	
PHTH 5230	Global Health	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7387	Global Governance	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7287	Social Movements in Health	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic. Consult an advisor about the applicability of the JD co-op.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's *Student Information Handbook.*

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 credits of LAW courses and at least 6 credits of non–LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Intellectual Property Law, Graduate Certificate

The Graduate Certificate in Intellectual Property Law is designed to provide professionals who work in intellectual property, technology transfer, licensing, or related areas, as well as inventors and entrepreneurs, with the skills they need to recognize and protect intellectual property rights.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Requirements

Code	Title	Hours
Students enrolled in Northeastern University colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.		
LS 6102	Introduction to Legal Studies 2	3
or LW 6102	Introduction to Legal Studies 2	
LS 6230	Intellectual Property Survey	3
or LW 6230	Intellectual Property Survey	
LS 6231	Identifying and Securing Intellectual Property Rights	3
or LW 6231	Identifying and Securing Intellectual Property Rights	
LS 6232	Intellectual Property and Media	3
or LW 6232	Intellectual Property and Media	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Legal Design, Graduate Certificate

The Graduate Certificate in Legal Design, open to JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of legal design.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required LAW Courses

Requires 6 semester hours of LAW courses.

Code	Title	Hours
Complete one of the following:		3-4
LAW 7635	Laboratory Seminar in Applied and Critical Legal Design	
LAW 7662	Master Class in Legal Design	

Code	Title	Hours
Complete one of the following:		2-4
LAW 7369	Intellectual Property	
LAW 7501	Patent Law	
LAW 7614	Law Practice Management: Access to Justice	
LAW 7620	Human Behavior, Legal Doctrine, and Policy Design	
LAW 7624	Advanced Legal and Interdisciplinary Research	
LAW 7669	Law and Technology	

Required Non–LAW Courses

Requires 6 semester hours of non–LAW courses.

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following:		6-8
ARTG 5110	Information Design History	
ARTG 5150	Information Visualization Principles and Practices	
ARTG 5310	Visual Cognition	
ARTG 5600	Experience Design Studio 1: Principles	
ARTG 5610	Design Systems	
ARTG 5640	Prototyping for Experience Design	
ARTG 6310	Design for Behavior and Experience	
ARTG 6600	Experience Design Studio 2: Group and Interpersonal	
COMM 6304	Communication and Inclusion	
GSND 5110	Game Design and Analysis	
GSND 6320	Psychology of Play	
GSND 6340	Biometrics for Design	
INAM 6100	Critical Foundations of Creative Practice	
JRNL 5500	Coding for Digital Storytelling	
JRNL 6341	Telling Your Story with Data	
THTR 6100	Advanced Creative Storytelling for Social Engagement	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and has a clear connection to the certificate topic or significantly advances a legal innovation project using legal design methods.

For additional information on requirements associated with this certificate, please consult the JD program's *Student Information Handbook*.

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 semester hours of LAW courses and at least 6 semester hours of non–LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Poverty Law and Economic Justice, Graduate Certificate

The Graduate Certificate in Poverty Law and Economic Justice, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of poverty law and economic justice.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Law Courses

Code	Title	Hours
Complete one of the following:		3-8
LAW 7358	Social Welfare Law	
LAW 7362	Poverty Law and Practice Clinic	
LAW 7525	Law and Economic Development	
LAW 7561	Private Litigation in the Public Interest	
LAW 7664	Law and Inequality	
LAW 7665	Housing Law	
LAW 7684	Anatomy of Autonomy	

Code	Title	Hours
In addition, complete one of the following:		3-8
LAW 7333	Family Law	
LAW 7335	Health Law	
LAW 7336	Immigration Law	
LAW 7350	Negotiation	
LAW 7358	Social Welfare Law	
LAW 7362	Poverty Law and Practice Clinic	
LAW 7410	Domestic Violence Clinic	
LAW 7428	State Local Government	
LAW 7448	Employment Discrimination	
LAW 7463	Nonprofit Organizations	
LAW 7469	Disability Law	
LAW 7488	Sexuality, Gender, and the Law	
LAW 7491	International Human Rights and the Global Economy	
LAW 7512	Problems in Public Health Law	
LAW 7525	Law and Economic Development	
LAW 7527	Public Health Legal Clinic	
LAW 7530	Education Law	
LAW 7535	Legal Interviewing and Counseling	
LAW 7540	Employment Law—Compensation, Benefits, and Retirement	
LAW 7550	Refugee and Asylum Law	
LAW 7561	Private Litigation in the Public Interest	
LAW 7582	Elder Law	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7597	Civil Rights and Restorative Justice Clinic	
LAW 7606	Drug Law and Policy	
LAW 7607	Consumer Law	
LAW 7608	American Legal Thought: Traditional and Critical	
LAW 7610	Community Business Law Clinic	
LAW 7657	Immigrant Justice Clinic	
LAW 7664	Law and Inequality	
LAW 7665	Housing Law	
LAW 7679	Race and the Law	

LAW 7684	Anatomy of Autonomy
LAW 7685	Human Rights, IP, and Access to Medicines

Required Non-Law Courses

Code	Title	Hours
Complete one of the following:		4
PPUA 5245	Education Policy in the United States	
PPUA 5270	Food Systems and Public Policy	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	
SOCL 7263	Social Psychology of Stratification	
SOCL 7287	Social Movements in Health	

Code	Title	Hours
In addition, complete one of the following:		4
LPSC 5201	Law and the City	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5245	Education Policy in the United States	
PPUA 5270	Food Systems and Public Policy	
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	
SOCL 7263	Social Psychology of Stratification	
SOCL 7287	Social Movements in Health	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's *Student Information Handbook*.

Program Credit/GPA Requirements

12 total credits required, including at least 6 credits of LAW courses and at least 6 credits of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Privacy Law, Graduate Certificate

The Graduate Certificate in Privacy Law, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the field of privacy law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required LAW Courses

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following:		6
LAW 7640	Information Security Law	
LAW 7672	Data Privacy Compliance in the 21st Century	
LAW 7675	Information Privacy Law	

Required Non-LAW Courses

Code	Title	Hours
Complete at least two courses totaling at least 6 semester hours from the following list:		6
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 6240	Special Topics in Privacy Law	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5102	Data Management in Healthcare	
HINF 5300	Personal Health Interface Design and Development	
JRNL 6202	Perspective on Journalism Ethics	
MKTG 6210	Marketing Research	
MKTG 6222	Digital Marketing	
MKTG 6226	Consumer Behavior	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
POLS 7334	Social Networks	
POLS 7341	Security and Resilience Policy	
POLS 7441	Cyberconflict	
PPUA 5262	Big Data for Cities	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's Student Information Handbook.

Program Credit/GPA Requirements

12 total semester hours required, including at least 6 semester hours of LAW courses and at least 6 semester hours of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

United States Law, Graduate Certificate

The Graduate Certificate in United States Law offers an introduction to U.S. law for students who have completed their law degree in countries other than the United States. The asynchronous, online format provides flexibility for students seeking to expand their knowledge of law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Course

Code	Title	Hours
LAW 6400	Introduction to U.S. Law and Legal System	3

Electives

Code	Title	Hours
Complete at least 10 credits of electives from the following:		10
LAW 6401	Contracts	
LAW 6402	Torts	
LAW 6403	Constitutional Law	
LAW 6404	Civil Procedure	
LAW 6405	California Professional Responsibility	
LAW 7000	Copyright	
LAW 7001	Corporate Finance	
LAW 7002	Intellectual Property	
LAW 7004	Trademark	
LAW 7005	Mergers and Acquisitions	
LAW 7006	Secured Transactions	
LAW 7007	Securities Regulation	
LAW 7009	Intellectual Property and Technology Law	
LAW 7010	Insurance Law	
LAW 7011	Personal Income Tax	
LAW 7012	Introduction to Business Organizations	
LAW 7672	Data Privacy Compliance in the 21st Century	

Program Credit

13 total hours required

Women, Gender, Sexuality, and the Law, Graduate Certificate

The Graduate Certificate in Women, Gender, Sexuality, and the Law, open to all JD students, gives students the opportunity to deepen their knowledge and develop their expertise in the area of women, gender, sexuality, and the law.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Law Courses

Code	Title	Hours
Take at least two courses totaling at least 6 semester hours from the following list:		6
LAW 7410	Domestic Violence Clinic	
LAW 7488	Sexuality, Gender, and the Law	
LAW 7588	Reproductive and Sexual Rights and Health	
LAW 7651	Human Rights in the United States	
LAW 7679	Race and the Law	

Required Non-Law Courses

Code	Title	Hours
Take at least two courses totaling at least 6 semester hours from the following list:		6
ECON 5292	Gender and Development Economics	
SOCL 7273	Gender and Social Policy	
SOCL 7287	Social Movements in Health	
WMNS 5240	Feminist Resistance	
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7100	Queer Theory: Sexualities, Genders, Politics	
WMNS 7615	Feminist Inquiry	

Additional Requirements

Co-op Requirement: Students must complete at least one co-op related to the certificate topic.

Writing Requirement: Students must complete a piece of substantial writing that meets the requirements of the JD upper-level rigorous writing requirement and that has a clear connection to the certificate topic.

For additional information on requirements associated with this certificate, please consult the JD program's Student Information Handbook.

Program Credit/GPA Requirements

12 total credit hours required, including at least 6 credit hours of LAW courses and at least 6 credit hours of non-LAW courses.

Students must receive a passing grade in all courses and satisfactorily complete all other requirements.

Accelerated Degrees

The School of Law offers a PlusJD pathway that allows students to accelerate the attainment of the JD degree by applying School of Law coursework completed as an undergraduate toward both the undergraduate and JD degrees. In most circumstances, all undergraduate degree requirements must be completed before the student begins their first-year JD coursework. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the JD. Interested students should consult their advisor during their freshman or sophomore years. See the PlusJD program (https://law.northeastern.edu/admissions/jd/application-process/plusjd/) for additional information.

Dual Degrees

- Law, JD / Accounting and Business Administration, MSAMBA (p. 232)
- Law, JD / Business Administration, MBA—Full-Time (p. 233)
- Law, JD / Criminology and Justice Policy, PhD (p. 778)
- Law, JD / Criminology and Criminal Justice, MS (p. 779)
- Law, JD / Public Health, MPH (p. 602)
- Law, JD / Public Policy, MPP (p. 781)
- Law, LLM / Business Administration, MBA—Full-Time (p. 234)

Law, JD / Accounting and Business Administration, MSAMBA

The Northeastern University School of Law and the D'Amore-McKim School of Business offer a combined degree that results in a Juris Doctor and Master of Science in Accounting and Business Administration. Students without a previous accounting background study how to operate effectively in specialized fields such as taxation law, corporate finance, or mergers and acquisitions. Students have an opportunity to gain advanced legal expertise alongside future-forward accounting and business knowledge.

Our combined degree program is a full-time, four-year course of study. Students usually complete two years of the law curriculum, followed by 15 months of the combined accounting and business administration curriculum, before returning to finish their studies at the School of Law.

Students gain valuable work experience in law and public accounting before they graduate. They can make a real impact during two co-ops in legal departments, law firms, government agencies, judges' chambers, or other legal settings. Students also experience working as an accounting associate during the busy tax season through a corporate residency at Big 4 or other globally known accounting firms.

Students concurrently pursue the two degrees and may count 12 semester hours of nonlaw coursework from the accounting and business administration curriculum toward the law curriculum. The corporate residency at an accounting firm may fulfill the requirement for the third co-op required for the law curriculum. Students are encouraged to consult their law advisor to select accounting and business classes that satisfy JD requirements.

Law, JD / Business Administration, MBA—Full-Time

The JD/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to operate in increasingly interdependent legal and business spheres. As new technology disrupts industries and data availability and sophisticated use shifts the business landscape, our JD/MBA (https://damore-mckim.northeastern.edu/programs/jd-mba/) students prepare to guide corporate-level strategy and become the leaders businesses need.

Our JD/MBA program is a full-time, four-year course of study that includes three semester-long co-op work experiences arranged through Northeastern Law. Students complete three years of law school, taking a break after either year one or two to complete a year of business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they may add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may count 9 semester hours of nonlaw coursework from the JD curriculum toward the interdisciplinary and elective requirements of the MBA degree and up to 12 semester hours from the MBA curriculum toward the JD degree. Students should work with their MBA advisor to select JD courses that will fulfill MBA requirements and with their law advisor to choose MBA courses that will satisfy JD requirements.

Law, JD / Criminology and Justice Policy, PhD

The JD/PhD program will expand the knowledge base and career options of students. The disciplines of criminology and justice policy and law share common interests in identifying opportunities to create conditions for justice, equality, and societal well-being. The dual degree will provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the sociopolitical, legal, and economic context in which they are found. Solving problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the PhD degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the law school. Students will take criminology courses during semesters spent in SCCJ. Please consult the School of Law (https://www.northeastern.edu/law/) for more information about JD requirements. Additionally, please consult SCCJ (https://cssh.northeastern.edu/sccj/) for more information about PhD requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Criminology and Criminal Justice, MS

The JD/MS program will expand the knowledge base and career options of students. The disciplines of criminal justice and law share common interests in identifying opportunities to create the conditions for justice, social equality, and societal well-being. The dual degree is designed to provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the social, political, legal, economic context in which they are found. Solving these problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the MS degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the School of Law. Students will take criminology courses during semesters spent in in the School of Criminology and Criminal Justice. Please consult the School of Law for more information about JD requirements. Additionally, please consult SCCJ for more information about MS requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Public Health, MPH

Northeastern University's School of Law and Bouvé College of Health Sciences offer a JD/MPH dual degree. Given the worldwide trend toward urbanization, the Master of Public Health (MPH) recognizes the growing need for professionals trained to respond to unique public health challenges and opportunities facing urban populations. The MPH program brings together interdisciplinary faculty (from the School of Law, D'Amore-McKim School of Business, College of Social Sciences and Humanities, Khoury College of Computer Sciences, and the Bouvé College of Health Sciences) with expertise in collaborating with diverse urban populations to offer students an opportunity to obtain practice-based knowledge, skills, and experience needed to address public health problems.

Up to 9 credit hours of coursework in the JD program may count toward the MPH, while up to 12 credit hours of coursework in the MPH program may count toward the JD. See the JD/MPH program page (https://law.northeastern.edu/academics/programs/jd/dual-degrees/public-health-bouve/) for more information.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Public Policy, MPP

The JD/Master of Public Policy (MPP) is designed to equip graduates with a unique blend of skills for navigating a complex and rapidly changing policy landscape. The program builds on students' legal training with a compelling blend of skills in applied public policy analysis, policy design, and strategic policy formation. Students also gain career-relevant experience through internships, small group capstone projects, and other interactions with professionals in the field. All are part of a learning process designed to enable the Northeastern law and public policy graduates to navigate, and to redefine, diverse policy areas.

Ideally, students would apply to Northeastern's JD and MPP programs simultaneously. Those who apply and are admitted to both programs take MPP classes after completing their first year in the School of Law. Applicants may also be considered after they have enrolled in the JD program; interested JD students should consult the School of Law's Office of Academic and Student Affairs and the School of Public Policy and Urban Affairs graduate program director for more information.

Students enrolled in this dual-degree program will be able to count 8 JD credit hours toward their MPP degree and 12 MPP credit hours toward their JD degree. Students should consult advisors in each program if they have questions about which courses may be shared between degrees.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, LLM / Business Administration, MBA—Full-Time

Law, LLM / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern University School of Law and the D'Amore-McKim School of Business to position students to harness legal and business skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, 20-month course of study. Students start taking classes in business school, take law courses next, and finish with business courses.

Students specialize their program by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by choosing an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

Law, LLM—Experiential / MBA

The LLM/MBA dual degree is offered through a partnership between Northeastern Law and the D'Amore-McKim School of Business to position students to harness business and legal skills to serve their clients' needs. In the LLM/MBA (https://damore-mckim.northeastern.edu/programs/llm-mba/) program, students prepare to assume leadership positions where they'll navigate complex legal issues, answer their clients' calls for legal expertise, and engage as partners to develop new models for businesses, nonprofit organizations, and governments worldwide.

The LLM/MBA program is a full-time, two-year course of study that includes a semester-long co-op work experience arranged through Northeastern Law. During the course of their studies, students take classes in business school and the School of Law and complete a law co-op.

Students specialize their degree by selecting two in-demand business concentrations from the D'Amore-McKim School of Business. Or, they could add expertise in another professional area by selecting an interdisciplinary MBA x concentration in a highly relevant field offered through partnerships with other Northeastern colleges.

Students will concurrently pursue the two degrees and may be able to count up to 12 semester hours of coursework toward both degrees. Students should consult their MBA and LLM program advisors for more information.

College of Professional Studies

Website (https://cps.northeastern.edu)

Jared Auclair, PhD, Interim Dean of the College of Professional Studies

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Academic Policies and Procedures

- Academic Progression Standards (p. 785)
- Academic Resources (p. 786)
- Active-Duty Military Personnel (p. 787)
- Attendance Verification (p. 788)
- Completing Degree Requirements (p. 789)
- Degrees, Majors, and Concentrations (p. 790)
- Full-Time Status (p. 791)
- Global Partnership Programs (p. 793)
- Graduate Campus (p. 794)
- Graduation Requirements (p. 795)
- Master's Degree Admission Requirements (p. 796)
- New Student Orientation (On-Ground and Online) (p. 797)
- Personal Professional Enrichment (PPE) (p. 798)
- Readmission to Program (p. 799)
- Reentry to Program (p. 800)
- Registration and Taking Courses (p. 801)
- Reinstatement after Academic Dismissal (p. 803)
- Seeking More than One Certificate or Degree (p. 804)
- Special Student Status (p. 805)
- Student Evaluation of Courses (p. 806)
- Transfer Credit Policies (p. 807)

Academic Progression Standards

Academic Progress/Standing

To be in good standing, a graduate student must continuously maintain a minimum cumulative grade-point average of 3.000 on a 4.000 scale and must also make continuous satisfactory academic progress. To make SAP, a student must earn at least 66% of their cumulative attempted credits. Nonmatriculated students are required to be in good academic standing to be allowed to register for any subsequent classes.

Students are responsible for reviewing their grades and academic standing at the end of each term through the Student Hub. If there are any discrepancies, students should immediately contact the instructor(s) directly. Students who want to appeal a grade have 30 calendar days from the date the grade is posted to do so.

Academic Probation and Dismissal

Notation of academic probation appears on a student's internal record but not on their permanent transcript.

With exception as specified by the program, a graduate (nondoctoral) student is placed on academic probation if their cumulative GPA is below 3.000 and/or if they do not earn at least 66% of their cumulative attempted credits. The student is strongly encouraged to consult with their academic and career advisor to develop an individualized success plan to improve their academic standing. Otherwise, a registration hold may be placed on the student's account.

A student whose cumulative GPA remains below 3.000, and/or does not earn at least 66% of their cumulative attempted credits in the term of enrollment subsequent to the one after they were placed on academic probation, will be academically dismissed. A student who has been academically dismissed from the college is automatically dismissed from their program of study.

Dismissal Notification

A student will be notified about their dismissal within one week following the end of the term and has the right to appeal the dismissal decision to the college's Academic Standing Committee if they can provide documented evidence supporting an appeal. The notification of dismissal will include the appeal deadline.

Students appealing a dismissal decision may not be eligible to enroll in classes the term following their dismissal to allow time for the appeal process.

Students are responsible for reviewing their grades and academic standing at the end of each term through the Student Hub.

Academic Resources

Interactive Academic Integrity Checklist

The Citation and Academic Integrity Checklist (https://www.northeastern.edu/oepd/demo/CPS_AIRS/Citation%20and%20Academic%20Integrity%20Checklist/story_html5.html) is a tool students can use before they turn in every assignment to ensure that they have not accidentally committed any of the most common violations of the Academic Integrity Policy. Additionally, the IAIC contains links to examples of APA- and MLA-style formatting.

Global Student Success

10 Belvedere
617.373.2455
gss@northeastern.edu

Website (https://international.northeastern.edu/gss/)

Global Student Success is committed to supporting the success of international students at Northeastern University through cross-cultural, linguistic, and academic support services. We also partner with faculty, staff, and administrators to integrate global dimensions and cross-cultural understanding into the Northeastern experience.

International Tutoring Center

Basement of Snell Library
617.373.2455
gss@northeastern.edu (gss@northeastern.edu)

Website (https://international.northeastern.edu/gss/)

Tutors provide high-quality ESL writing instruction and tutoring for international students who need assistance with papers, assignments, TOEFL writing, and research projects. Students can meet one-on-one with an ESL tutor for 50-minute appointments. This is a free service for Northeastern University international students.

Online Writing Lab

Website (https://cps.northeastern.edu/academics/online-writing-center/)

To provide students with guided writing support, the College of Professional Studies created the Online Writing Lab (https://cps.northeastern.edu/academics/online-writing-center/) as laboratory courses and attached them to six undergraduate courses and one graduate course. Students submit all of their essays to their writing specialists in the labs and then receive sophisticated revision and editing strategies to help them improve their essays before submission for a final grade. Students obtain strategies to help them focus, develop, edit, and refine their writing.

Tutoring Services

Website (https://cps.northeastern.edu/academic-resources/tutoring-services/)

Tutoring can benefit skilled professionals and beginning students alike. Whether you're struggling with organic chemistry, working on a long paper, or putting the finishing touches on a presentation, Northeastern University offers many opportunities for you to enhance your academic work and professional skills through free one-on-one academic support on and off campus.

Active-Duty Military Personnel

As a member of the Service Member Opportunity Colleges, the College of Professional Studies' academic residency requirement is different for active-duty service members. Active-duty service members are required to complete 30% of the graduate certificate/degree program at the College of Professional Studies.

Attendance Verification

"I Am Here" Process

After course registration, students are required to verify their intent to enroll in College of Professional Studies class(es) through the Student Hub (https://me.northeastern.edu) during the first week of each class start. This verification process is called "I Am Here." Students who fail to complete this process on time will be dropped from the class(es), which may impact their financial aid or international student visa eligibility.

Students are responsible for ensuring completion of the IAH process, which requires that they do not log out of the system early. Students who do not receive a “Successful Completion” message have not reached the end of the procedure and must start again. Sometimes it may take 24 hours before students can restart the procedure.

A student who registers for a course and completes the IAH process but does not officially drop the course by the deadline, regardless of their level of participation or attendance/nonattendance, is responsible for paying 100% of the tuition charges and applicable fees and the final earned grade. A student in this situation may earn an F grade that will be part of their permanent academic record.

Students registering for the first time after the start of classes will have access to complete IAH the following day.

Students who experience difficulty with the process or have questions should email the Office of the University Registrar at registrar@northeastern.edu.

Completing Degree Requirements

Graduate and Doctoral Degree Programs

To earn a graduate or doctoral degree, students must complete all courses as prescribed in the curriculum; the required number of credits as per the curriculum; applicable thesis or dissertation; the residency requirement; and maintain a minimum cumulative grade-point average of 3.000 or as outlined by the specific program.

Graduate Certificate Programs

To earn a graduate certificate, students must complete all courses as prescribed in the curriculum; the required number of credits as per the curriculum; the residency requirement; and maintain a minimum cumulative GPA of 3.000 or as outlined by the specific program.

Time Limit on Courses

Graduate course credits earned in the academic program or accepted by transfer are valid for a maximum of seven years.

Time Limit on Program Completion

- Graduate certificate students have up to three full years from the time of the first term of enrollment to complete the program.
- Master's degree students have up to seven full years from the time of the first term of enrollment to complete the program.
- Doctoral degree students, with the exception of the Transitional Doctor of Physical Therapy, have up to seven full years from the time of the first term of enrollment to complete the program.
- Transitional Doctor of Physical Therapy students have up to four full years from the time of the first term of enrollment to complete the program.

Note: The College of Professional Studies makes adjustments to its academic program offerings and curricula to stay current and to be able to offer students the most relevant courses and knowledge in the field. Examples of such changes include adding new programs, adding/adjusting course requirements, adding/adjusting courses, and adding/adjusting curriculum requirements.

When there is a change to a curriculum or program requirement, students already matriculated and actively enrolled in the program may continue to follow the program requirements at the time of matriculation or to follow the new curriculum/program requirements, unless it is otherwise specified by the academic program at the time of the announcement of said changes.

Degrees, Majors, and Concentrations

Change of Major/Program of Study

A graduate (nondoctoral) student matriculated in a certificate/degree program who would like to enroll in a different graduate program, after consulting with their academic advisor, must apply to the intended program by submitting the Change of Major form.

Previously awarded transfer credit awards are subject to change as a result of a program change. Students on financial aid or an international student visa are responsible for understanding the impact that results from a program change.

Doctoral students must consult with their program director or designee.

Concentrations

Only university-approved concentrations are noted on a student's official academic record. If a student pursues a customized specialization, no concentration will be noted on their official academic transcript. Students who wish to pursue a customized specialization must consult with their academic advisor and seek approval from the academic program.

Full-Time Status

A graduate (nondoctoral) student is considered a full-time student if they are enrolled in 9 quarter hours of graduate credit for the quarter. An exception is made for students matriculated in master's degree programs that only require 4 credit courses, in which case full-time student status is attained with enrollment in 8 quarter hours of graduate credit for the quarter.

A doctoral student's full-time status is determined by the structure of the program.

Note that full-time status may be defined differently for federal loan purposes. International students have other considerations/requirements to maintain their visa eligibility.

Course Load

Federal financial aid recipients must be enrolled in and successfully complete a minimum number of credits each term to maintain eligibility. For more information, contact your financial aid counselor.

Course Overload

A maximum course load (different from full-time status) for a graduate (nondoctoral) student is 16 credits taken across a 12-week term, with no more than 8 credits per 6-week session.

To be eligible for a course overload (greater than 16 credits per 12-week term or greater than 8 credits per 6-week session), a graduate (nondoctoral) student must:

- Have a record of successful study with 12 or more credits a term at Northeastern University
- Have a minimum cumulative grade-point average of 3.500
- Provide a rationale to support the request

Students need to complete the appropriate form and return it to their career and academic advisor. Course overload is approved per term.

Each doctoral program has its own enrollment and course load requirements. Doctoral students who wish to seek a course overload must consult with the program director or designee.

International Student Enrollment Requirements

IMPORTANCE OF MAINTAINING F-1 STATUS

International students studying at Northeastern are responsible for maintaining compliance with U.S. federal regulations. Failure to maintain full-time enrollment, in accordance with these regulations, can result in consequences. Regular consultation with college academic advisors, as well as Office of Global Services international student advisors, is required before taking any action that may impact immigration status and educational endeavors in the United States.

ACHIEVING FULL-TIME ENROLLMENT STATUS

Full-time enrollment status must be maintained by F-1 students throughout the academic year. To achieve full-time status, graduate students must be enrolled in 8–9 credits throughout each academic term. Students can consult with their college academic advisor prior to each term to develop a course schedule to maintain full-time status. F-1 students are expected to study on-ground and cannot enroll in an online course without first speaking to a college academic advisor to confirm eligibility. If approved, F-1 students who need to withdraw/drop from a course must withdraw/drop from the additional online course first and not from any of the on-ground core courses in order to maintain full-time status.

COLLEGE OF PROFESSIONAL STUDIES ACADEMIC TERM

In CPS, each academic term in fall, winter, and spring is defined as a quarter term consisting of 12 weeks. Some courses are scheduled for the entire 12 weeks, while others are scheduled for either the first 6 weeks or the last 6 weeks (parts of a term). A full summer term consists of 8 weeks. Some courses are scheduled for the entire 8 weeks of a term, while others are scheduled for parts of a term.

FINAL TERM

F-1 students are required to maintain full-time enrollment status, except in the final academic term of degree completion. If the course requirements for degree completion are less than 8–9 credits, they must be completed on-ground throughout the entire final term.

ELIGIBILITY FOR SUMMER TERM OFF

All students, regardless of the term in which they begin studies, (e.g., CPS winter or spring quarter terms) are eligible to take the summer term off as their standard vacation term, as long as they confirm enrollment in the following fall term and they are not starting or ending their program of study in that same summer term.

Directed Study

Directed studies are offered when a course is required for a student's program of study but said course is not available in a given academic term and there is immediacy for a student to complete said course. Academic deans/directors will make the decision if there is a compelling need to run a course as a directed study.

Independent Study

Independent study is an opportunity for a degree student to work independently under the supervision of an instructor to undertake special research, literature review, or experimental study projects in areas related to their program of study that they cannot accomplish as part of a standard course in the curriculum. A degree student may take up to two independent studies. The work to be done for an independent study is usually crafted by the student, with faculty input. Independent studies are entirely optional and not needed to graduate. A completed Request for Independent Study form, signed by both the student and the faculty member, must be submitted to the academic program for review and approval.

Global Partnership Programs

Students enrolled in a College of Professional Studies' global partnership or a combined major program are required to abide by the policies and procedures of both institutions or as specified in their program.

Combined major candidates must apply to graduate at each institution by following each institution's policies and procedures.

Graduate Campus

Students enrolled in a Northeastern University graduate (regional) campus are also required to abide by the policies and procedures specific to that campus.

Graduation Requirements

Graduation Procedures

Only students who complete the graduation application process by specified deadlines will be considered for graduation and included in the graduation ceremony program. All qualified students must submit a graduation application in order to receive their diploma, regardless of whether they plan to attend the graduation ceremony.

Note important definitions: “Degree conferral date” and “graduation ceremony date” do not mean the same thing. Degree conferral date refers to the date of the university’s official recognition of degree completion. For the purposes of the graduation application, that is accessed via the Student Hub. The “expected graduation date” (EGD) is the same as the degree conferral date. Northeastern University confers degrees four times each academic year: winter, spring, summer, and fall. The graduation ceremony date is the date that the college hosts the annual graduation ceremony.

Doctoral candidates must be mindful of additional deadlines to complete their dissertation/thesis in time to be eligible for degree conferral and participation in a doctoral hooding and a graduation ceremony.

Each fall, the Office of the University Registrar sends an email notification to students who may be eligible to graduate that academic year about applying to graduate. This email notification informs and instructs students to complete the “Apply to Graduate” process, accessed via the Student Hub. Students are prompted to verify and provide critical information, e.g., spelling of the student’s name on the diploma, intent to participate in the graduation ceremony, and mailing address.

An accurate EGD is required to gain access to the graduation application. The EGD is also used by clearinghouses to determine loan deferment schedules. If your EGD is not correct, contact your designated learner services specialist.

Diploma

The following rules apply to the diploma.

- Information that will be printed on diplomas:
  - The major will be printed on diplomas for nonspecified degrees only (Master of Science, Master of Arts, Master of Professional Studies, Certificate of Advanced Graduate Study, Doctor of Philosophy).
- Changes made to a student’s name after the diploma has been printed may be subject to a $50 fee and take more than one month to reprint.
- Changes made to a student’s degree information and name submitted after the program deadline will not be noted in the graduation ceremony program. If a diploma was previously printed, it will need to be reprinted and can take more than one month.

Master's Degree Admission Requirements

Note that all master's degrees offered through the College of Professional Studies have the following admission requirements:

- Online application
- Statement of purpose (500–1,000 words)
- Professional resumé
- Official undergraduate transcript(s) noting conferral of a bachelor's degree
- Two letters of recommendation
- English-language proficiency proof (for non-native English-language speakers)
- TOEFL, IELTS, or TOEIC scores

Some programs have additional requirements.

The college reserves the right to rescind an offer of acceptance if the student is no longer considered in good academic or disciplinary standing between the time of acceptance and matriculation.

New Student Orientation (On-Ground and Online)

New students taking courses on-ground receive an invitation to the on-ground orientation. The purpose of New Student Orientation is to provide information and tools for each student's success from the point of program entry to degree completion. All new students are expected to attend the on-ground orientation. If students cannot attend the on-ground orientation, they should thoroughly review the New Admitted Students (http://www.orientation.cps.northeastern.edu) site.

Personal Professional Enrichment (PPE)

Students interested in taking graduate-level (nondoctoral) courses for personal or professional enrichment need to complete an online application (http://www.cps.neu.edu/admissions/graduate/) as PPE students. Once approved, students will be able to register through the Student Hub (https://me.northeastern.edu).

- Students on PPE status are expected to satisfy applicable course prerequisites before enrolling in a course.
- Students taking courses while on PPE status may elect to apply to a graduate certificate or degree program by completing the formal application process (http://www.cps.neu.edu/admissions/graduate/). Up to two qualifying courses (or 8 credits) completed while on PPE status may be applied to the intended program of study. To be eligible, the minimum earned grade for the course(s) must be B.
- Students taking courses under PPE status are not eligible for financial aid.

PPE status is not an option for students seeking an F-1 visa.

Readmission to Program

A new admission application is required of students whose studies are interrupted voluntarily for more than three years.

Students are expected to meet the requirements of the program curriculum current at the time of the approved readmission. If the program into which the student is seeking readmission is no longer offered, the student may apply to another program and must meet the admissions requirements for that program. Contact the Office of Admissions (http://www.cps.neu.edu/admissions/) for assistance and to complete the admission application.

If readmitted, transfer credits that a student was previously awarded will be reevaluated following the transfer credit award rules current at the time of readmission. It is at the discretion of the academic program to determine applicability of courses previously completed.

Reentry to Program

Application for reentry into any academic program is required of students whose studies are interrupted voluntarily for a period of one to three years. Students who are dismissed academically must wait at least one academic term before applying for reinstatement.

Students are expected to meet the requirements of the program curriculum current at the time of the approved reentry. If a student does not enroll in the term in which they were approved for reentry, they must follow the curriculum requirements for the term in which they resume coursework with approval. If a student waits for more than one year to resume their studies after being approved for reentry, they will have to apply for reentry again.

If the program into which the student is seeking reentry is no longer offered, the student may choose to enroll in another program if they meet the admissions requirements for that program. Contact the Office of Academic Advising (https://cps.northeastern.edu/academic-resources/advising/) for assistance and to complete the appropriate form.

Registration and Taking Courses

Course Registration

For course registration information, visit the College of Professional Studies webpage (http://www.cps.neu.edu/class-registration/).

Course registration procedures are as follows:

- Newly accepted and returning students add or drop courses through the Student Hub any time during the registration period.
- Certificate- and degree-seeking students whose studies have been interrupted voluntarily for one to three years or more need to first apply for reentry through the Office of Academic Advising before registering for course(s).
- Global program students should consult with their program to determine if they need to register on their own or if the program will register them.

All students need to be mindful of the college's course add/drop policies and deadlines to register as early as possible with the intent to secure a spot in the preferred course and to avoid being charged in full for missing the course drop/withdrawal deadline.

Auditing a Course

Graduate (nondoctoral) students are permitted to audit graduate (nondoctoral) courses, but they must complete the usual registration process and pay regular tuition fees. There is no reduction in fees for auditing.

An auditor may participate in class discussions, complete papers and projects, and take tests and examinations for informal evaluation. Regardless of the amount or quality of work completed, however, no academic credit will be granted at any time for audited courses. In addition, audited courses may not be used in the determination of enrollment status for financial aid purposes and do not count toward program completion.

The student's decision to audit a course must be communicated in writing to the Office of the University Registrar before the fourth class meeting for 12-week courses. For 4-, 6-, and 8-week courses, requests must be received by the second class meeting. No exception to this procedure may be approved without the authorization of the college's academic standing committee.

If approved, the student should inform the instructor of their status as auditor of the course.

Course Selection and Planning

Students should refer to their degree audits for program curriculum information, to select courses, and to monitor their progress toward degree completion. Students should access their degree audits through the Student Hub or request an audit from their academic advisor. Degree audits are unofficial records of academic progress. Students are encouraged to consult with their academic advisor about their academic planning.

Course Prerequisites

Course prerequisites are courses that are required to have been completed prior to enrolling in another course. Before registering for a course through the Student Hub, students, regardless of matriculation status, should consult the academic catalog to determine whether they have satisfied the course prerequisites.

Course Corequisites

Course corequisites are courses that are required to be taken concurrently. Before registering for a course through the Student Hub, students, regardless of matriculation status, should read the course description to determine if there is a corequisite requirement and register for both courses.

Retaking a Course

If a student wishes to improve their cumulative grade-point average by retaking a course, they may do so. Only the grade earned in the last attempt is used to compute the GPA while all grades remain part of the student's permanent academic record. A student is required to pay the normal tuition charges for all retaken courses. A student may not retake more than two nonrepeatable courses or 8 quarter hours of credit, whichever is greater, to satisfy the requirements of the degree.

Financial aid recipients must be mindful that retaking a course could impact their aid eligibility. Students with questions about this possible impact should contact their financial aid counselor.

Course Waiver

A course waiver may be awarded to a student who has completed the equivalent course at an accredited institution other than the College of Professional Studies in the past five years. The waiver will exempt the student from completing the required course. The student will complete another course, as approved by the program, to satisfy the number of credits required for the program.

Doctoral students must consult with their academic program to determine if course waivers are permitted.

Duration of Courses

Each full fall, winter, and spring term runs for 12 weeks. Each full summer term runs for 8 weeks.

Course durations are as follows:

- During the fall, winter, and spring terms, courses are scheduled for either 6 or 12 weeks.
- During the summer term, courses are scheduled for 4, 6, or 8 weeks.

Course Add/Drop Policy

Refer to the academic calendar (http://www.northeastern.edu/registrar/calendars.html) for specific dates. Students should consult with their academic advisor before adding or dropping classes.

Students may add a 4-week or 6-week course within the first week of the course. For 8- and 12-week courses, students may add a course within the first 2 weeks of the course. Students who add a class during the add/drop period are responsible for all assignments missed prior to enrolling. Enrolled students are responsible to attend classes during the add/drop period, and absences will be held accountable to the instructor's attendance policy.

Students who drop a course before the add/drop deadline will not be charged for the course and will not have a W (withdrawal) on their transcript. Thereafter, students are responsible for 100% of the tuition charges and applicable fees and the earned grade will be on the students' permanent academic record. All such dates are specified in the academic calendar.

Students must add/drop courses using the Student Hub.

A reduction in a student's course load could affect a student's international student visa status or financial aid eligibility.

Students who experience difficulty adding or dropping a course should promptly email (registrar@northeastern.edu) the Office of the University Registrar. If it is determined that there is an issue with the student's Student Hub account or access, they need to contact the Service Desk at 617.373.4357 (HELP); help@northeastern.edu.

Students with holds (e.g., financial, judicial) may have restricted access to add, drop, or withdraw from a course. In such instances, students are responsible for resolving the hold immediately and to meet the established course registration deadlines.

Course Withdrawal Policy

Refer to the academic calendar (http://www.northeastern.edu/registrar/calendars.html) for specific dates. All students are encouraged to consult with their academic advisor prior to withdrawing from a course.

Students who withdraw from a course after the add/drop deadline and before the last day to withdraw will receive a W grade and will be responsible for 100% of the tuition charges and applicable fees. The W grade does not affect the calculation of the GPA but it does impact a student's academic progression, which may result in the student being placed on academic probation or dismissal.

Students must withdraw from courses using the Student Hub.

A reduction in a student's course load could affect a student's international student visa status or financial aid eligibility.

Students who experience difficulty withdrawing from a course should promptly contact the Service Desk at 617.373.4357 (HELP); help@northeastern.edu.

Students who fail to withdraw from a course by the deadline, regardless of their level of class participation or attendance, are financially and academically responsible. A student's lack of participation/attendance will likely result in a final grade of F.

Withdrawals may impact a student's time to degree completion.

Reinstatement after Academic Dismissal

A student who is academically dismissed from the College of Professional Studies is not eligible to register again for courses at CPS until they are approved for reinstatement. A student may apply for reinstatement after a minimum of one academic term if they can provide documented evidence supporting the application (e.g., completed two graduate courses with a grade of B or higher at another accredited college or relevant professional development opportunities during the one-term absence). The application must be made in writing by submitting the appropriate form and providing supporting documentation to the Office of Academic Advising (https://cps.northeastern.edu/academic-resources/advising/).

If reinstatement to the college is approved, a student is expected to meet the most current program admissions and curriculum requirements.

A student approved for reinstatement but who does not meet the admissions requirements for the intended program of study, or if the intended program of study is no longer available, may apply to another program.

Students reinstated must achieve good academic standing in the first term of reinstatement.

Seeking More than One Certificate or Degree

A graduate (nondoctoral) student can be enrolled in only one graduate program at a time.

Graduate (nondoctoral) students seeking more than one certificate or degree after having completed a program should note that graduate credits earned toward:

1. A degree at any institution may not be used to satisfy the requirements of another graduate program.
2. A degree earned at the College of Professional Studies may be used to satisfy the requirements of a graduate certificate with a cap of 50% of the required credits of a graduate certificate, if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the certificate.
   a. If the same course is required in the degree and certificate programs and the student has exceeded the maximum number of credits that can be applied in the certificate program, they may request a course substitution to be permitted to take another course instead of repeating the course.
3. With specified exception, a certificate earned at the College of Professional Studies may be used to satisfy the requirements of a graduate degree, if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the degree.
4. A certificate earned at the College of Professional Studies may be used to satisfy the requirements of a second certificate with a cap of one course of no more than 4 credits, if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the certificate.
   a. If the same course is required in both certificate programs and the student has exceeded the maximum number of credits that can be applied in the second certificate program, the student will request a course waiver to be permitted to take another course instead of repeating the course. See Course Waiver (p. 801) section.
5. A certificate earned at another accredited institution may be accepted as transfer credits to satisfy the requirements of a graduate degree with a cap of four 3-credit courses or three 4-credit courses (no more than 12 credits), if the contents are determined to be applicable per the program director and if the credits were earned within seven years of pursuit of the degree.

A graduate (nondoctoral) degree student who wishes to pursue a graduate certificate concurrently may seek admission in the certificate program by the end of their first term of matriculation in the degree program. Courses that satisfy requirements for both the degree and certificate will count for each.

- When the certificate is identical to a concentration in a degree program, only the certificate credential will be earned. The student's transcript will not indicate completion of a concentration.

Special Student Status

Graduate applicants to the College of Professional Studies may be eligible to take up to 16 graduate (nondoctoral) quarter hours toward their program while completing the formal application process by seeking special student status (http://www.cps.neu.edu/admissions/graduate/special-students.php).

- Students taking courses under special student status are expected to satisfy applicable course prerequisites before enrolling in a course.
- Students taking courses under special student status are not eligible for financial aid.
- Special student status does not guarantee acceptance.
- The maximum number of courses students may take under special student status is two. After completing two courses, students will be blocked from further course registration until they have been officially accepted into a program.

The following programs are not available for special student status: Master of Arts in Teaching (MAT); Master of Education, Special Education Concentration; Master of Science in Applied Nutrition; Doctor of Education; Doctor of Law and Policy.

Special student status is not an option for students seeking an F-1 visa.

Student Evaluation of Courses

Students play a critical role in the university's commitment to quality teaching and academic excellence when they participate in the evaluation of courses, an online survey students complete anonymously. Students are expected to participate in the course evaluation process with constructive feedback that is relevant to teaching and course content.

Students may access the course evaluation summary results from previous terms via the Student Hub (https://me.northeastern.edu/). Courses with three or fewer students enrolled are not surveyed.

Transfer Credit Policies

All graduate transfer credit awards are made on a case-by-case basis. Transfer credit awards are made for eligible courses successfully completed at regionally and programmatically accredited institutions. The Council for Higher Education Accreditation provides information about the organizations responsible for these two forms of accreditation. Official transcripts from all institutions should be sent directly to the College of Professional Studies Office of Admissions at the time of application.

Students seeking transfer credits earned at institutions outside the United States should submit an official English evaluation completed by an approved credential evaluator. Course descriptions and/or syllabi also should be translated into English and submitted to the College of Professional Studies Office of Admissions.

A maximum of 12 quarter hours or four 3-credit courses or three 4-credit courses obtained at another institution may be accepted as transfer toward the degree, provided the credits consist of work taken at the graduate level for graduate credit, carry minimum grades of B (or 3.000 on a 4.000 scale), have been earned at an accredited institution or equivalent, and have not been used toward any baccalaureate or advanced degree or certificate of advanced graduate study at another institution.

Transfer credits must be no more than five academic years old at the time the student is admitted to graduate study. Courses older than five years will be accepted only in rare circumstances.

Prior Learning Assessment

Students may be eligible for PLA credit if they have accrued a foundation of knowledge and skills equivalent to the content of courses offered by the College of Professional Studies.

Awarded credits are incorporated into a student's degree plan as transfer credits and are subject to the university's residency requirement. PLA credit is limited to a maximum of 12 quarter hours for graduate students. Acceptable credits for PLA review are credits from certificates, training, and a portfolio review of prior work experience. As part of consideration for PLA credits, faculty will evaluate and map learning outcomes and achievement in alignment with NECHE accreditation requirements.

Potential PLA credits should be considered and discussed as part of a student's transfer credits at the time of enrollment. Interested students should contact their academic advisor for more information.

Graduate Certificate Transfer Credit Policies

- A maximum of 4 quarter hours of transfer credit

Master's Degree Transfer Credit Policies

- A maximum of 12 quarter hours of transfer credit

Doctoral Degree Transfer Credit Policies

- A maximum of 9 quarter hours of transfer credit for Doctor of Education students
- A maximum of 8 quarter hours of transfer credit for Transitional Doctor of Physical Therapy students
- No transfer credit is awarded for students in the Doctor of Law and Policy program

Doctoral Degree Programs

Designed to provide you with the skills and knowledge needed to succeed, Northeastern University's College of Professional Studies doctoral programs are guided by industry-leading faculty and built on a foundation of experience in policy, research, and administration. Reach the top of your field with coursework and research projects that are relevant to today's professional on a schedule that fits your lifestyle.

Programs

Doctor of Education (EdD)

- Education (p. 809)

Doctor of Law and Policy (DLP)

- Law and Policy (p. 813)

Transitional Doctor of Physical Therapy (DPT)

- Transitional Doctor of Physical Therapy (p. 814)

Education, EdD

The Doctor of Education (EdD) empowers students to bring about solutions to complex problems of practice in their local context, while leveraging a global network to magnify students' boundless experiential learning to build a more socially just world. The Dissertation in Practice, the culminating component of the degree, is designed to prepare leaders who can construct and apply knowledge to transform their organizations and communities through laboratories of practice where students implement change and then measure and analyze the impact to improve their professional practice. This knowledge is the start of students' potential for meaningful change work. Students magnify their ability to generate socially just change by leveraging Northeastern University's global network of students, alumni, employers, and entrepreneurs.

Admission Requirements

Note that all Doctor of Education degrees offered through the College of Professional Studies have the following admission requirements:

- Online application
- Academic transcripts (undergraduate **and** graduate)
- Admissions statement (1,000–1,200 words)
- Minimum of three years of professional work experience in a related field
- Professional resumé
- Faculty recommendation
- Two professional recommendations
- English-language proficiency proof (for non-native English-language speakers)

HIGHER EDUCATION ADMINISTRATION CONCENTRATION

The Higher Education Administration concentration provides an opportunity for experienced higher education professionals to examine new and deepen previous understanding of practices within all sectors of postsecondary education. Sectors examined include community colleges, four-year colleges, for-profit institutions, and research universities. The increased globalization of higher education is addressed throughout the program. The concentration courses allow experienced higher education professionals to advance their professional practice by developing and deepening their understanding of the roles of colleges and universities in our society. Specifically, this concentration provides the opportunity to:

1. Be well-grounded in areas essential to understanding and articulating the educational roles of colleges and universities that include:
   - Cultural, ethical, and societal issues that affect higher education
   - History of higher education worldwide
   - Organization, governance, leadership, and administrative theories and practices
   - Higher education finance, law, and planning
2. Develop skills and knowledge for establishing and sustaining initiatives in higher education.
3. Address the challenge of ensuring educational equity through an evaluation of the roles, functions, and interrelationships among a college's or university's major constituents, including students, faculty, staff, and alumni.
4. Conduct research at the worksite that contributes to the resolution of an urgent and complex problem of practice.

INNOVATIVE TEACHING AND LEARNING

The Innovative Teaching and Learning concentration focuses on transforming education through innovation, justice, and policy by providing engaging opportunities for current and aspiring teaching and learning specialists working in a variety of educational spaces. In a global, ever-changing educational environment, cultivating strong teaching and learning specialists is critical to building strong, safe, and equitable learning spaces. The concentration focuses on teaching and learning both inside and outside the bounds of P–20 schools. Through a focus on developing and leading innovative curriculum and professional development, the coursework and programmatic experiences are experiential—offers opportunity for learning and growth in connection with partners in the field; modular—develops specialized professional knowledges; and justice-oriented—enables an understanding of change processes that deconstruct systemic injustice at all educational levels. Specifically, the Innovative Teaching and Learning concentration provides the opportunity to:

- Develop the ability to improve teaching and learning through innovation
- Design classroom, curriculum, and professional development that lead to greater achievement and equity
- Design systems to address race, class, and gender inequities in education
- Leverage partnerships with business and community to expand networks and experiences

INTEGRATIVE STUDIES CONCENTRATION

The Integrative Studies Concentration provides an opportunity for students to design a program of study that includes the program-required foundation and research courses, concentration courses from any EdD concentration, and electives from the Doctor of Education or Doctor of Law and Policy programs.

TRANSFORMATIVE SCHOOL LEADERSHIP

The Transformative School Leadership concentration provides innovative opportunities for experienced education professionals who are current and aspiring leaders of early childhood centers, public or private schools, or school districts. In a global, ever-changing educational environment, cultivating strong educational leaders is critical to building strong, safe, and equitable learning spaces. In preparing to meet complex and nuanced

educational challenges, school leaders need to be knowledgeable and innovative, capable of facilitating the generation and advancement of new ideas and strategic initiatives, and equipped to shape the needs of education in K–12, higher education, organizational contexts, and beyond. Through deeper engagement with these components, the Transformative School Leadership concentration prepares students to lead and transform educational spaces P–12. The coursework and programmatic experiences are experiential—offers opportunity for learning and growth in connection with partners in the field; modular—develops specialized professional knowledges; and justice-oriented—enables an understanding of change processes that deconstruct systemic injustice at all educational levels. Specifically, this concentration provides the opportunity to:

- Develop the ability to shape a vision of academic success for all students
- Develop leadership capacity in others
- Manage people, data, and processes to develop innovative skills and knowledge
- Design systems to address race, class, and gender inequities in education
- Leverage partnerships with business and community to expand networks and experiences

WORKPLACE LEARNING

The Workplace Learning concentration embraces the value of equity through instruction grounded in the concept of enabling people of all backgrounds, networking across the globe, to achieve their potential and the belief that social issues matter in workplace learning and development. This doctoral concentration in Workplace Learning helps learning professionals gain a deeper understanding of, recognize, and influence real-life social inequalities marginalized populations face in the workplace. The concentration courses allow experienced learning professionals to advance their professional practice by developing and deepening their understanding of workplace learning, organizational dynamics, learning strategy, and ethics. Specifically, this concentration provides the opportunity to:

- Articulate the issues facing workplace learning
- Develop skills and knowledge for establishing and sustaining initiatives and partnerships in workplace learning
- Conduct research in the workplace that contributes to the resolution of an urgent and complex problem of practice

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Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal CAGS Education Leadership Management *(*https://catalog.northeastern.edu/graduate/professional-studies/doctoral-degree-programs/education-leadership-management-cags/#text*). Note that no students will be admitted directly into the* CAGS Education Leadership Management *(*https://catalog.northeastern.edu/graduate/professional-studies/doctoral-degree-programs/education-leadership-management-cags/#text*) program.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Note: A minimum of 51 quarter hours must be taken at the College of Professional Studies.

Required Foundation Courses

Code	Title	Hours
EDU 7207	Foundations of Doctoral Studies	3
EDU 7218	Leadership for Social Justice	3
EDU 7219	Foundations of Collaboration, Leadership, and Change	3

Required Research Courses

Code	Title	Hours
EDU 7225	Fundamentals of Research	3
EDU 7226	Research Design	3
EDU 7294	Advanced Research Design 1	3
EDU 7295	Dissertation in Practice Seminar	3
EDU 7310	Advanced Research Design 2	3

Concentrations

Complete one of the following concentrations:

- Higher Education Administration
- Innovative Teaching and Learning
- Integrative Studies
- Transformative School Leadership (p. 812)
- Workplace Learning (p. 812)

Dissertation in Practice

Code	Title	Hours
EDU 8750	Proposal, Action Step, and Evaluation	6
EDU 8760	Action Research Results and Dissemination	6

Residency Requirement: Each student is required to attend two residency events. Dates and other event information are released annually. Seattle and Charlotte students will satisfy residency requirements through regional campus hybrid coursework.

Elective List

Complete four courses from the EDU 7000 level. Below is a list of courses regularly offered as electives within the Doctor of Education program.

Code	Title	Hours
EDU 7227	The Power of Experiential Learning	
EDU 7228	Bringing Experiential Learning, Assessment, and Reflection to Life	
EDU 7229	The Experiential Learning Leader	
EDU 7230	Current and Emerging Practice in STEM Education	
EDU 7245	Urban Education	
EDU 7251	Student Engagement in Higher Education	
EDU 7256	Financial Decision Making in Higher Education	
EDU 7260	Comparative International/Global Higher Education	
EDU 7261	International Student Markets	
EDU 7266	Contemporary Issues in Community Colleges	
EDU 7274	Doctoral Seminar in Organizational Leadership and Communication	
EDU 7314	Collaboration and Networks in Educational Leadership	
EDU 7317	Collaboration and Networks in Teaching and Learning	
EDU 7510	Data-Driven Decision Making	
EDU 7511	Digital Workplace Learning	

Doctor of Education Advanced Graduate Credit (https://cps.northeastern.edu/admissions-aid/graduate-admissions/graduate-transfer-credit/doctor-of-education-advanced-graduate-credit/)

Program Credit/GPA Requirements

60 total quarter hours required
Minimum 3.000 GPA required

HIGHER EDUCATION ADMINISTRATION

Code	Title	Hours
EDU 7204	Global and Historical Perspectives on Higher Education	3
EDU 7250	Organizational Systems and Institutional Governance	3
EDU 7253	The Legal Environment of Higher Education	3
EDU 7258	Strategic Management in Higher Education	3

INNOVATIVE TEACHING AND LEARNING

Code	Title	Hours
EDU 7217	Educational Systems: The Dynamics of Policy, Power, and Practice	3
EDU 7311	Designing Educational Systems for Justice and Equity	3
EDU 7315	Landscape of Teaching and Learning	3
EDU 7316	Designing Transformative Curriculum and Professional Development	3

INTEGRATIVE STUDIES

Code	Title	Hours
Required Courses		
Complete EDU courses from any other program concentration.		12
Elective Courses		
Complete EDU 7000 courses from the program elective list and any LWP 7000-level course.		12

TRANSFORMATIVE SCHOOL LEADERSHIP

Code	Title	Hours
EDU 7217	Educational Systems: The Dynamics of Policy, Power, and Practice	3
EDU 7311	Designing Educational Systems for Justice and Equity	3
EDU 7312	Landscape of Educational Leadership	3
EDU 7313	Leading and Managing Change	3

WORKPLACE LEARNING

Code	Title	Hours
EDU 7501	Designing Workplace Learning	3
EDU 7502	The Dynamics of Workplace Learning	3
EDU 7503	Leading the Learning Strategy	3
EDU 7504	Diversity, Equity, and Inclusion in Workplace Learning	3

Law and Policy, DLP

Public servants, executives, and managers operate in an increasingly complex global environment. A doctoral education seeks to provide the policy, analytic, and research skills necessary to advance one's career.

Developed jointly by the College of Professional Studies and Northeastern's Public Policy program, the Doctor of Law and Policy program (DLP) is designed for experienced professionals who are interested in the origins, development, implementation, and analysis of legal and public policy decisions in government and related institutions. The program prepares students to advance their careers within a variety of fields while focusing their thesis research on a precise law and policy topic.

Students undertake the DLP in order to understand the ways in which public and related institutions formulate and execute policy. Students have the opportunity to develop the ability to interpret and assess the research of others, to acquire skills as researchers, and to communicate their knowledge to a wide range of audiences. Those who successfully complete the degree are equipped to bring their skills and knowledge to senior policy and management positions in government, nonprofit agencies, research organizations, consulting firms, and corporations.

The DLP program is structured so course work and the doctoral thesis can be completed in two years. Classes meet one weekend per month in Boston, and the learning continues online throughout the rest of the month.

Northeastern University also offers a traditional PhD in Public Policy. To learn more, visit the Public Policy program website (https://cssh.northeastern.edu/policyschool/program/phd-in-public-policy/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LWP 6118	Historical Foundations of American Law	3
LWP 6119	Current Law and Policy Debates: Our Nation's Capital and Beyond	3
LWP 6120	Law and Legal Reasoning 1	3
LWP 6401	Law and Policy Concepts 1: The Policymaking Process	3
LWP 6424	Research Methods	3
LWP 6121	Law and Legal Reasoning 2	3
LWP 6402	Law and Policy Concepts 2: Strategizing for Public Policy	3
LWP 6423	Qualitative Methods	3
LWP 6122	Law and Legal Reasoning 3	3
LWP 6403	Law and Policy Concepts 3: Policy Case Studies	3
LWP 6420	Quantitative Methods	3
LWP 6123	Law and Legal Reasoning 4	3
LWP 6410	Economics for Policy Analysis	3
LWP 6404	Evaluation Research	3
LWP 6431	Political and Moral Ethics and Dilemmas	3
LWP 6500	Doctoral Research Design 1	3
LWP 6450	Public Policy Theory and Practice 1	3
LWP 6501	Doctoral Research Design 2	3
LWP 6451	Public Policy Theory and Practice 2	3
LWP 6502	Doctoral Research Design 3	3
LWP 6452	Public Policy Theory and Practice 3	3
LWP 6503	Doctoral Research Design 4	6

Program Credit/GPA Requirements

69 total quarter hours required
Minimum 3.000 GPA required

Transitional Doctor of Physical Therapy, DPT

Designed for practicing physical therapists, the Transitional Doctor of Physical Therapy (tDPT) is an innovative, 100 percent online program. Integrating art and science, as well as professional and experiential learning, this curriculum provides the necessary coursework to earn a terminal doctoral degree in physical therapy. Students who have earned a bachelor's degree in physical therapy will enter the program as Direct Entry students and will be required to take a core of six courses plus two electives (33 quarter hours). Students who have previously earned a master's degree in physical therapy will be required to take five core courses and one elective (24 quarter hours). All students will culminate their tDPT curriculum with the capstone course, Comprehensive Case Analysis (PTH 6900). Students have an opportunity to prepare a comprehensive and publishable case report or other scholarly work in partial fulfillment of the requirement for a tDPT degree.

Upon entrance to the Transitional Doctor of Physical Therapy program, students will select either the educational or clinical track to follow. Selecting the educational track will enable the student to focus their coursework within the educational realm. Selecting the clinical track will allow the student to focus on current clinical practice in their elective(s) as well as completing a capstone project within their clinical domain.

One of the two elective requirements may be waived in certain circumstances, i.e., if the physical therapist holds an ABPTS or similar certifications. In certain circumstances, other elective options may be considered with program director approval. Students work with their advisor and the program director for their individual course plan of study.

Direct Entry Program Requirements (BS)

Note: 33 quarter hours are required for students entering with a Bachelor of Science in Physical Therapy.

Required Courses

Code	Title	Hours
PTH 6110	Diagnostic Imaging	4
PTH 6101	Medical Screening and Nutrition for Physical Therapists	5
PTH 6130	Pharmacology	3
PTH 6140	Motor Control	4
PTH 6200	Research Methods and Statistical Analysis	5
PTH 6900	Comprehensive Case Analysis	4

Upon entrance to the Transitional Doctor of Physical Therapy program, students will select either the educational or clinical track.

Educational Track

Code	Title	Hours
PTH 6430	Educational Strategies for Effective Healthcare Delivery	4
PTH 6235	Administrative and Management Keys for Contemporary Physical Therapist Practice	4

Clinical Track

Code	Title	Hours
Complete two of the following:		8
PTH 6480	Evidence-Based Exercise for the Older Adult	
PTH 6490	Pediatric Physical Therapy: Emerging Topics and Evidence-Based Practice	
PTH 6563	Evidence-Based Examination and Outcomes for Lumbar Spine and Sacroiliac Joint	
PTH 6564	Evidence-Based Examination and Outcomes for Lower Extremity: Hip, Knee, Foot, and Ankle	

Program Credit/GPA Requirements

33 total quarter hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements (MS)

Note: 24 quarter hours are required for students entering with a Master of Science in Physical Therapy.

Required Courses

Code	Title	Hours
Required Core		
PTH 6101	Medical Screening and Nutrition for Physical Therapists	5
PTH 6110	Diagnostic Imaging	4

PTH 6130	Pharmacology	3
PTH 6140	Motor Control	4
PTH 6900	Comprehensive Case Analysis	4

Upon entrance to the Transitional Doctor of Physical Therapy program, students will select either the educational track or clinical track.

Educational Track

Code	Title	Hours
PTH 6430	Educational Strategies for Effective Healthcare Delivery	4

Clinical Track

Code	Title	Hours
Complete one of the following:		4
PTH 6480	Evidence-Based Exercise for the Older Adult	
PTH 6490	Pediatric Physical Therapy: Emerging Topics and Evidence-Based Practice	
PTH 6563	Evidence-Based Examination and Outcomes for Lumbar Spine and Sacroiliac Joint	
PTH 6564	Evidence-Based Examination and Outcomes for Lower Extremity: Hip, Knee, Foot, and Ankle	

Program Credit/GPA Requirements

24 total quarter hours required
Minimum 3.000 GPA required

Master's Degree Programs

Our master's degree programs are grounded in theory and applied in practice, representing today's in-demand fields like education, technology, project management, and regulatory affairs. Gain the knowledge and credentials that employers seek with courses designed to accommodate your life. Programs are led by industry professionals and are offered both full- or part-time online, on campus, or in a hybrid format.

Programs

Master of Arts (MA)

- Security and Intelligence Studies (p. 817)

Master of Arts in Teaching (MAT)

- Teaching, Elementary Licensure (p. 819)
- Teaching, Secondary Licensure (p. 821)

Master of Education (MEd)

- Education (p. 824)
- Higher Education Administration (p. 826)

Master of Professional Studies (MPS)

- Analytics (p. 827)
- Applied Logistics (p. 829)
- Applied Machine Intelligence (p. 831)
- Digital Media (p. 833)
- Digital Media—Connect (p. 836)
- Geospatial Services (p. 839)
- Informatics (p. 841)
- Insurance Analytics and Management (p. 844)
- Learning Experience Design and Technology (p. 846)

Master of Science (MS)

- Applied Nutrition (p. 848)
- Commerce and Economic Development (p. 851)
- Corporate and Organizational Communication (p. 853)
- Global Studies and International Relations (p. 861)
- Human Resources Management (p. 857)
- Nonprofit Management (p. 864)
- Organizational Leadership (p. 868)
- Project Management (p. 871)
- Regulatory Affairs (p. 874)

Master of Sports Leadership (MSLD)

- Sports Leadership (p. 877)

Security and Intelligence Studies, MA

The Master of Arts in Security and Intelligence Studies aims to prepare professionals working in the security industry, and other related industries, for success as leaders in the field of security in an ever-changing, challenging global environment. This program will serve the mounting need for talent in the security field in both the government and private sectors.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CJS 6125	National Security—Law and Policy	3
HLS 6000	Introduction to Homeland Security	3
HLS 6010	Contemporary Threats to Homeland Security	3
SIA 6040	The Intelligence Community and Interagency Collaboration	3
SIA 6140	Civil Liberties and Security	3
SIA 6980	Capstone	3

Concentrations

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list.

- Corporate Security Management (p. 817)
- Homeland Security and Emergency Management (p. 817)
- Strategic Intelligence and Analysis (p. 817)

Electives

Code	Title	Hours
Complete courses in the following subjects areas at the 5000 level or above to reach 45 quarter hours: CJS, GST, HLS, LDR, PJM, SIS.		

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

CORPORATE SECURITY MANAGEMENT

Code	Title	Hours
CJS 6430	Risk Management	3
HLS 6080	Continuity of Operations and Planning	3
HLS 6150	Essentials of Emergency Management	3
SIA 6150	Corporate Security and Investigations	3
SIA 6160	Information Systems Policy	3

HOMELAND SECURITY AND EMERGENCY MANAGEMENT

Code	Title	Hours
HLS 6040	Critical Infrastructure and Protection	3
HLS 6060	Strategic Planning and Budgeting	3
HLS 6080	Continuity of Operations and Planning	3
HLS 6150	Essentials of Emergency Management	3
HLS 6160	Advanced Emergency Management	3

STRATEGIC INTELLIGENCE AND ANALYSIS

Code	Title	Hours
SIA 6010	Intelligence Operations Management	3
SIA 6020	Globalization and Intelligence Issues	3
SIA 6030	Intelligence Analysis and Policy Relationship	3

SIA 6050	All-Source Intelligence	4
SIA 6170	Counterintelligence	3

Elementary Education, MAT

Designed for Massachusetts-based aspiring teachers and career changers, the Master of Arts in Teaching in Elementary Education (MAT)[1] offers an appreciation for and an understanding of the diverse educational needs, social concerns, and cultural values of today's elementary and secondary schools. This graduate degree in teaching seeks to enhance your foundational skills, broaden your perspectives, and strengthen your ability to inspire and educate. The master's degree, which includes a full term of student teaching and prepracticum experiential fieldwork, seeks to produce graduates well positioned to make a meaningful impact in their school, in their community, and in the lives of their students.

The Elementary MAT+ provides qualifying students with the opportunity to complete a Master of Arts in Teaching (MAT) with further study in a selected area of expertise. Currently, students can take additional coursework to earn either endorsement for an additional license in special education (Teacher of Students of Moderate Disabilities, PreK–8) or endorsement for an additional license in ESL (Teacher of English as a Second Language, Pre-K–6) to the Massachusetts Department of Elementary and Secondary Education. Teacher candidates may also plan a program of study that allows for triple licensure in consultation with the program director.

A formal application for approval or placement of field-based experiences for prepracticum and practicum requirements must be filed with the Office of Licensure and Field Experience before a student may enroll in a course requiring fieldwork. Deadline for fall placements and approvals must be completed by April 1st (of the previous spring quarter), October 1st for winter placements and approvals, and February 1st for spring placements and approvals.

1 The MAT Elementary (grades 1–6) has been approved at the initial licensure level by the Massachusetts Department of Elementary and Secondary Education.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6086	Foundations of Literacy Development and Instruction	4
EDU 6101	Critical Issues in Education: Past and Present	2
EDU 6102	Reflection, Community Engagement, and Agency in Education	2
EDU 6104	Child and Adolescent Development, Learning, and Teaching	4
EDU 6107	Inclusion, Equity, and Diversity [1]	4
EDU 6154	Inquiry in the Sciences and Humanities	4
EDU 6155	Inquiry in Mathematics [2]	4
EDU 6183	Collaborative Strategies for Effective Classroom Management	3
Complete one of the following:		
For students pursuing emergency elementary teaching licenses or ESL+ licensure in Massachusetts		
EDU 6513	Sheltered English Immersion in the General Classroom	4
For students not pursuing emergency elementary licenses and ESL+ licensure in Massachusetts		
EDU 6185	English-Language Learners in the General Education Classroom	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6866	Teaching Practicum and Seminar	6

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Program Credit/GPA Requirements

45 total quarter hours required (additional hours may be required for endorsement for Massachusetts licensure)
Minimum 3.000 GPA required

ELEMENTARY MAT+ SPECIAL EDUCATION

The special education course requirements are:

Code	Title	Hours
EDU 6425	Special Education: Role of Special Educators in an Inclusive School [1]	4
EDU 6429	Variations in Child and Adolescent Development	4

EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	4
EDU 6569	Differentiated Instruction and Assessment in Mathematics	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

[1] For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

MAT+ IN ENGLISH AS A SECOND LANGUAGE (ESL)

This Commonwealth of Massachusetts-approved MAT+ program consists of five courses, some of which may be taken as electives in the MAT program.

The English as a Second Language course requirements are:

Code	Title	Hours
EDU 6300	Introduction to Language and Linguistics	4
EDU 6310	Literacy Development and the Academic Domains [1]	4
EDU 6429	Variations in Child and Adolescent Development	4
EDU 6517	Foundations of Teaching English as a Second Language: Research and Practice [2]	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

[1] For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

[2] For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Secondary Education, MAT

Designed for Massachusetts-based aspiring teachers and career changers, the Master of Arts in Secondary Education (MAT)[1] offers an appreciation for and an understanding of the diverse educational needs, social concerns, and cultural values of today's secondary schools.

This MAT in Secondary Education seeks to enhance your foundational skills, broaden your perspectives, and strengthen your ability to inspire and educate. This master's degree, which includes a full term of student teaching, seeks to produce graduates well positioned to make a meaningful impact in their school, in their community, and in the lives of their students.

- Gain political, social, and historical perspectives on education
- Explore the richly complex environments of schools and communities
- Develop a working understanding of teaching and learning in diverse settings
- Investigate how humans learn, acquire knowledge, and make sense of their experiences
- Examine theories of teaching and explore how best to teach for understanding and learning achievement
- Research methods and materials, pedagogies, and assessment strategies that foster integrated learning

Options for endorsement to licensure include history, 5–12; biology, 8–12; social science, 5–12; English, 5–12; mathematics, 8–12; chemistry, 8–12; earth and space science, 8–12; political science/political philosophy, 8–12; or physics, 8–12. Determination of program of study to be made by faculty review at time of admission.

The MAT+ offers qualifying students the opportunity to complete a MAT with further study in a selected area of expertise. Currently, students can take additional coursework to earn either endorsement for an additional license in special education (Teacher of Students of Moderate Disabilities, 5–12) or an endorsement for an additional license in ESL (Teacher of English as a Second Language, 5–12) to the Massachusetts Department of Elementary and Secondary Education.

A formal application for approval or placement of field-based experiences for prepracticum and practicum requirements must be filed with the Office of Licensure and Field Placement before a student may enroll in a course requiring fieldwork. Deadline for fall placements and approvals must be completed by April 1 (of the previous spring quarter), October 1 for winter placements and approvals, and February 1 for spring placements and approvals.

1 The Master of Arts in Teaching Secondary Education (grades 5–12 or 8–12 dependent on content area) has been approved at the initial licensure level by the Massachusetts Department of Elementary and Secondary Education.

2 For students who do not pass or complete their Gateway Performance Task I in this course, complete Project (EDU 6995) to meet programmatic and endorsement requirements.

3 For students who do not pass or complete their Gateway Performance Task II in this course, complete Project (EDU 6995) to meet programmatic and endorsement requirements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6064	Curriculum and Assessment	4
EDU 6101	Critical Issues in Education: Past and Present	2
EDU 6102	Reflection, Community Engagement, and Agency in Education	2
EDU 6104	Child and Adolescent Development, Learning, and Teaching	4
EDU 6107	Inclusion, Equity, and Diversity [1]	4
EDU 6162	Language, Culture, and Literacy in Middle and High Schools	4
Complete one of the following:		
For students pursuing emergency secondary teaching licenses or ESL+ licensure in Massachusetts		
EDU 6513	Sheltered English Immersion in the General Classroom	
For students not pursuing emergency secondary licenses and ESL+ licensure in Massachusetts		
EDU 6185	English-Language Learners in the General Education Classroom	
Complete the following:		
EDU 6183	Collaborative Strategies for Effective Classroom Management	3
EDU 6866	Teaching Practicum and Seminar	6
Complete one of the following:		4
EDU 6122	Teaching the Language Arts [2]	

EDU 6124	Teaching History and the Social Sciences [2]
EDU 6127	Teaching Science [2]
EDU 6129	Teaching Mathematics [2]

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Elective Courses

Code	Title	Hours
Complete 4 quarter hours from the following:		4
EDU 6184	Interdisciplinary Foundations	
EDU 6300	Introduction to Language and Linguistics	
EDU 6425	Special Education: Role of Special Educators in an Inclusive School	
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	
EDU 6429	Variations in Child and Adolescent Development	
EDU 6438	Teachers as Curriculum Leaders	
EDU 6465	Critical and Creative Thinking	
EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	
EDU 6569	Differentiated Instruction and Assessment in Mathematics	

Program Credit/GPA Requirements

45 total quarter hours required (additional hours may be required for endorsement for Massachusetts licensure)
Minimum 3.000 GPA required

LOOKING TO DEEPEN YOUR KNOWLEDGE AND EXPERTISE?

The MAT+ offers qualifying students the opportunity to complete a MAT with further study in a selected area of expertise. Currently, students can take additional coursework to earn either an additional license in special education (Teacher of Students of Moderate Disabilities, pre-K–8 or 5–12) or an additional license in ESL (Teacher of English as a Second Language, pre-K–6 or 5–12).

MAT+ IN SPECIAL EDUCATION

The MAT+ provides qualifying students with the opportunity to complete a Master of Arts in Teaching (MAT) with further study in a selected area of expertise. Currently, students can take additional coursework to earn either an additional license in special education (Teacher of Students of Moderate Disabilities, pre-K–8 or 5–12) or an additional license in ESL (Teacher of English as a Second Language, pre-K–6 or 5–12). Teacher candidates may also plan a program of study that allows for triple licensure in consultation with the program director.

The special education course requirements are:

Code	Title	Hours
EDU 6425	Special Education: Role of Special Educators in an Inclusive School [1]	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	4
EDU 6569	Differentiated Instruction and Assessment in Mathematics	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

MAT+ IN ENGLISH AS A SECOND LANGUAGE (ESL)

This Commonwealth of Massachusetts-approved MAT+ program consists of five courses, some of which may be taken as electives in the MAT program.

The English as a Second Language course requirements are:

Code	Title	Hours
EDU 6300	Introduction to Language and Linguistics	4
EDU 6310	Literacy Development and the Academic Domains [1]	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6517	Foundations of Teaching English as a Second Language: Research and Practice [2]	4
EDU 6874	Practicum, Portfolio, and Panel Review	4

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Education, MEd

Learning and Instruction Concentration

The learning and instruction concentration in the MEd program is designed for teachers and leaders in K–12-focused schools and community organizations that want to lead change and expand equity in their classrooms, schools, or educational communities. Graduate students examine the impact of local, national, and global changes on educational policy and practice. They deepen their ability to effectively engage diverse students in meaningful learning through coursework focused on curriculum and assessment, teaching and learning, and experiential education.

Students pursuing Massachusetts ESL, pre-K–12, initial licensure: This program meets Massachusetts Department of Elementary and Secondary Education standards and competencies for licensure as an English as a Second Language Teacher, pre-K–6 and 5–12.

Special Education Concentration

Demand for graduate-level-prepared special education practitioners is on the rise, driven by heightened degree requirements and a shortage of licensed, qualified teachers. In response, the College of Professional Studies is pleased to offer the Master of Education with Concentration in Special Education. Designed for educators who are licensed in Massachusetts at the initial or professional level in another discipline, this innovative master's degree program seeks to prepare you to meet the special needs of students across a variety of school environments.

This program meets Massachusetts Department of Elementary and Secondary Education standards and competencies for licensure as a Teacher of Students with Moderate Disabilities, pre-K–8 and 5–12.

In this advanced program, you have an opportunity to explore specific topics on modifying curriculum, designing curriculum-based assessments, managing severe behaviors, developing individualized education programs, leveraging community resources, and improving literacy. As a result, you have an opportunity to enhance your ability to meet the needs of a diverse student population and to achieve the competencies required for this specialized license.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6050	Education as an Advanced Field of Study	5
EDU 6051	Introduction to Social Justice in Educational Settings	4

Concentration

Complete one of the following concentrations. Students must successfully complete all licensure courses with a grade of B or better in order to progress into their next licensure course.

- Learning and Instruction
- Special Education

Program Credit/GPA Requirements

45 total quarter hours required (additional hours may be required for endorsement for Massachusetts licensure)
Minimum 3.000 GPA required

CONCENTRATION IN LEARNING AND INSTRUCTION

Code	Title	Hours
Required Courses		
EDU 6319	How People Learn	4
EDU 6336	Data Literacy for Data-Driven Decision Making	4
EDU 6410	Instructional Leadership [5]	4
EDU 6415	Law, Policy, and the Ecosystem of Education	4
Capstone		
EDU 6225	Capstone (to be taken last) [1]	4
or EDU 6874	Practicum, Portfolio, and Panel Review	
Electives		
Complete 16 quarter hours at the EDU 6000 level. Below is a list of elective options.		16
Experiential Teaching and Learning Electives		
EDU 6001	Experiential Learning Theory and Practice	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	

EDU 6003	Applied Research in Experiential Teaching and Learning
EDU 6004	Leading Experiential Teaching and Learning
Learning Experience Design Technology Electives	
EDU 6331	E-Learning Design as a Collaborative Profession
EDU 6332	Open Learning
EDU 6333	Social Media and Beyond
Generalist Electives	
EDU 6182	Educational Statistics
EDU 6227	The New Supervisor
EDU 6228	Supervising Through Change
EDU 6229	Challenges in Supervision
EDU 6231	Crisis Management
EDU 6329	Connecting Theory and Practice
EDU 6340	Learning Analytics Concepts and Theories
EDU 6558	Issues in Education
ESL Massachusetts Licensure Pathway	
EDU 6300	Introduction to Language and Linguistics
EDU 6310	Literacy Development and the Academic Domains [2]
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction
EDU 6513	Sheltered English Immersion in the General Classroom [4]
or EDU 6185	English-Language Learners in the General Education Classroom
EDU 6517	Foundations of Teaching English as a Second Language: Research and Practice [3]

1 Complete EDU 6874 Practicum, Portfolio, and Panel Review instead of EDU 6225 Capstone, if pursuing Massachusetts ESL Licensure Pathway courses.

2 For students who do not pass or complete their Gateway Performance Task I in EDU 6310 Literacy Development and the Academic Domains, complete EDU 6995 Project to meet programmatic and licensure requirements.

3 For students who do not pass or complete their Gateway II assessment in EDU 6517 Foundations of Teaching English as a Second Language: Research and Practice, or early fieldwork, complete EDU 6995 Project to meet programmatic and licensure requirements.

4 EDU 6513: For students pursuing emergency secondary teaching licenses or ESL+ licensure in Massachusetts.

5 Required for nonlicensure and licensure programs of study except ESL Massachusetts Licensure Pathway. ESL Massachusetts Licensure Pathway students may substitute EDU 6410 Instructional Leadership with the completion of all ESL Massachusetts Licensure Pathway courses .

CONCENTRATION IN SPECIAL EDUCATION

Code	Title	Hours
Required Courses		
EDU 6425	Special Education: Role of Special Educators in an Inclusive School [1]	4
EDU 6426	Developmental Language, Literacy, and Writing: Assessment and Instruction	4
EDU 6438	Teachers as Curriculum Leaders	4
EDU 6528	Adaptive Learning/Behavior Management Strategies: Consultation and Collaboration	4
EDU 6569	Differentiated Instruction and Assessment in Mathematics [2]	4
EDU 6874	Practicum, Portfolio, and Panel Review	4
Electives		
Complete 12 quarter hours at the EDU 6000 level.		12

1 For students who do not pass their Gateway Performance Task I in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

2 For students who do not pass their Gateway Performance Task II in this course, complete EDU 6995 to meet programmatic and endorsement requirements.

Higher Education Administration, MEd

Institutions of higher education around the world are facing considerable pressures that range from changing demographics to financial strain amid disruptions unimaginable 20 years ago. Administrators must develop foundational skills to create conditions that allow their students and institutions to thrive in a constantly changing world. The Master of Education in Higher Education Administration prepares practitioners for the unique and difficult challenges facing the next generation of higher education professionals. This program allows students the flexibility to build upon their skills in a customized manner with a focus on practical skills and course designs firmly grounded in experiential learning.

The Master of Education in Higher Education Administration degree program seeks to prepare student with the knowledge to understand the structure, governance, and operation of various higher education organizations. Within the context of classes, students have an opportunity to develop solutions to real world problems. This innovative master's degree program explores complex industry issues such as student demographics, financial concerns, legal and policy requirements, technology, and competitive forces.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

General Requirements

Code	Title	Hours
EDU 6051	Introduction to Social Justice in Educational Settings	4
EDU 6204	The Foundations of Higher Education	5

Required Courses

Code	Title	Hours
EDU 6205	The Demographics of the New College Student	4
EDU 6217	The History of Colleges and Universities	4
EDU 6218	Money Matters: Financial Management in Higher Education	4
EDU 6219	Higher Education Law and Policy	4
EDU 6234	Program Evaluation, Assessment, and Accreditation in Higher Education	4

Capstone

Code	Title	Hours
EDU 6222	Contemporary Issues Capstone	4

Electives

Code	Title	Hours
Complete 12 quarter hours at the EDU 6000 level or choose from the following courses:		12
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	
EDU 6202	Faculty, Curriculum, and Academic Community	
EDU 6216	The College Student Experience	
EDU 6224	Strategic Leadership in Enrollment Management	
EDU 6227	The New Supervisor	
EDU 6228	Supervising Through Change	
EDU 6229	Challenges in Supervision	
EDU 6231	Crisis Management	
EDU 6319	How People Learn	
EDU 6329	Connecting Theory and Practice	
LDR 6100	Developing Your Leadership Capability	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Analytics, MPS

With the proliferation of data across all sectors of the global economy, there is an immediate need for individuals to be knowledgeable in how to harness this data for continuous analysis and study. This spectrum spans from commercial to nonprofit, from higher education to government, and is constantly expanding with new sectors as data mining becomes the standard for knowledge gathering in the digital age.

The Master of Professional Studies in Analytics helps to meet the demand from employers with a graduate program that provides students with an end-to-end analytics education through a core curriculum with integrated experiential learning opportunities. The program is designed to prepare students with a deep understanding of the mechanics of working with data (i.e., its collection, modeling, and structuring), along with the capacity to identify and communicate data-driven insights that ultimately influence decisions.

Not only will students graduate with a portfolio of work samples that demonstrate their range and depth of skill, they will be part of a larger network of analytics professionals who will serve them now and in the future.

- Build portfolios of real-world projects demonstrating competency with key technologies, visualization and communication techniques, and the ability to translate information into recommended actions.
- Gain a core analytical skill set upon which to layer more specialized technical skill sets or industry-specific applications.
- Develop a relationship to industry leaders and peers so that you may leverage your Northeastern education long after your formal education ends.
- Choose from a host of flexible programming options—all of which share an industry-defined core curriculum and a required, credit-bearing experiential requirement.
- Anticipate and contribute to the future direction of data analytics.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Note: ITC 6000 is for students without prior educational or professional experience with data and database structures. Students who do not complete ITC 6000 must complete a third elective course to reach 45 quarter hours.		
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6050	Introduction to Enterprise Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
ITC 6000	Database Management Systems	3

Experiential Learning Course

Code	Title	Hours
ALY 6080	Integrated Experiential Learning	3

Experiential Capstone Course

Code	Title	Hours
ALY 6980	Capstone	3

The remaining quarter hours of the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and elective list.

Concentrations

- Applied Machine Intelligence (p. 828)
- Evidence-Based Management (p. 828)
- Statistical Modeling (p. 828)

Electives

Code	Title	Hours
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6060	Decision Support and Business Intelligence	
ALY 6110	Data Management and Big Data	
ALY 6120	Leadership in Analytics	

ALY 6130	Risk Management for Analytics
ALY 6140	Python and Analytics Systems Technology
ALY 6150	Healthcare/Pharmaceutical Data and Applications
ALY 6160	Business Intelligence in Healthcare/Pharmaceutical
ALY 6983	Topics
CED 6230	Quantitative Methods
CMN 6005	Foundations of Professional Communication
COP 6940	Personal and Career Development
EAI 6000	Fundamentals of Artificial Intelligence
EAI 6010	Applications of Artificial Intelligence
EAI 6020	AI System Technologies
EAI 6400	Data Governance and Responsible AI
EDU 6184	Interdisciplinary Foundations
GIS 5201	Advanced Spatial Analysis
ITC 6020	Information Systems Design and Development
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility
ITC 6310	Information Security Governance
LDR 6110	Leading Teams Strategically in a Global Environment
LDR 6135	Ethical Leadership
PJM 6015	Project Risk Management
PJM 6125	Project Evaluation and Assessment
PJM 6180	Project Stakeholder Management

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

APPLIED MACHINE INTELLIGENCE

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6110	Data Management and Big Data	3
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6010	Applications of Artificial Intelligence	3
EAI 6020	AI System Technologies	3

EVIDENCE-BASED MANAGEMENT

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6060	Decision Support and Business Intelligence	3
ALY 6120	Leadership in Analytics	3
ALY 6130	Risk Management for Analytics	3
PJM 6005	Project Scope Management	3

STATISTICAL MODELING

Code	Title	Hours
ALY 6020	Predictive Analytics	3
ALY 6030	Data Warehousing and SQL	3
ALY 6040	Data Mining Applications	3
ALY 6110	Data Management and Big Data	3
ALY 6140	Python and Analytics Systems Technology	3

Applied Logistics, MPS

The Master of Professional Studies in Applied Logistics is built to prepare students to be agile in the changing warehousing and distribution industry. As a central pillar of the program, students will study how to handle challenges that arise quickly and develop leadership and project management skills to help communicate to customers, avoid reactionary responses, work collaboratively to find a solution, and to effectively communicate across the supply chain and with customers. By integrating systems thinking with training in the technical applications in logistics, students will gain well-rounded experience that allows them to understand and adapt to strategic imperatives while also being able to execute in detail. The program aims to develop proficiency in descriptive analytics and the use of real-time data to optimize routing among distribution centers and fulfill orders in response to changing customer profiles, shifting product sales, disruptions in the supplier network, and customer demand for packaging changes.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Courses

Code	Title	Hours
APL 6000	Foundations of Applied Logistics Execution	3
APL 6010	Warehouse Management	3
APL 6020	Freight Management	3
APL 6030	ERP Systems for Inventory Management	3

Capstone

Code	Title	Hours
APL 6980	Applied Logistics Capstone	3

The remaining quarter hours may be completed by a combination of completing a concentration and electives or selecting any courses listed in the concentrations and elective lists.

Concentrations

- Analytics (p. 829)
- Applied Machine Intelligence (p. 830)
- Leadership (p. 830)
- Project Management (p. 830)

Electives

Code	Title	Hours
APL 6050	Supplier Management	
APL 6100	Advanced Technology in Logistics and Distribution	
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6060	Negotiation, Mediation, and Facilitation	
INT 6943	Integrative Experiential Learning	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
PJM 5900	Foundations of Project Management	
PJM 6185	Managing Innovation Projects	
PJM 6210	Communication Skills for Project Managers	
SMT 6060	Decision Support and Sales Analytics	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

ANALYTICS CONCENTRATION

Code	Title	Hours
Required Courses		
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3

ALY 6070	Communication and Visualization for Data Analytics	3
Complete one of the following:		3
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

APPLIED MACHINE INTELLIGENCE CONCENTRATION

Code	Title	Hours
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6010	Applications of Artificial Intelligence	3
EAI 6020	AI System Technologies	3
ALY 6040	Data Mining Applications	3
ALY 6110	Data Management and Big Data	3

LEADERSHIP CONCENTRATION

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6150	Innovation and Organizational Transformation	3
Elective		
Complete one of the following:		3
LDR 6135	Ethical Leadership	
LDR 6140	Leadership Strategy, Design, and Practice	

PROJECT MANAGEMENT CONCENTRATION

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Elective		
Complete 3-6 quarter hours from the following:		3-6
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute any project management electives to satisfy the required program hours.

Applied Machine Intelligence, MPS

Humankind is on the threshold of a new era—an age of artificial intelligence (AI) as revolutionary in its global impact as the Industrial Revolution. With the proliferation of machine learning and AI across all sectors of the global society, and fields such as financial services, healthcare, and robotics, GEOINT and cybersecurity are already changing as intelligent computers take on once-indispensably human tasks. There is an immediate need for individuals to be knowledgeable in how to manage, analyze, communicate, visualize, and lead in the area of AI by being data, technology, and human literate. The experiential AI curricula includes an introductory core, as well as an advanced core with an end-to-end AI education in the areas of finance, HR, business ventures, and healthcare/pharmaceuticals. The goal is to proactively and thoughtfully prepare students for the evolving technology and the challenges it presents. The curricula framework adopts a multidisciplinary approach to problem solving by combining computer science and analytical skills with functional government and industry expertise, creativity, and leadership with program offerings on-ground and online.

The degree program is distinguished from others by:

- Focusing on the specific but widespread field of AI that exists within a variety of industries and applications
- Northeastern faculty experts, who have extensive and proven experience in computer science, analytics, geospatial science, information technology, etc.
- Courses that focus on providing critical skills in data management, data analysis, data visualization, problem solving, and advanced analytical tools, creating AI-driven decision making in fields like healthcare/pharmaceuticals, finance, HR, and business ventures

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ALY 6110	Data Management and Big Data	3
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6010	Applications of Artificial Intelligence	3
EAI 6020	AI System Technologies	3
EAI 6400	Data Governance and Responsible AI	3

Experiential Network and Capstone

Code	Title	Hours
EAI 6980	Integrated Experiential Capstone	3
Choose one of the following:		
ALY 6080	Integrated Experiential Learning	
INT 6940	Experiential Learning Projects for Professionals	

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and elective list.

Concentrations

- AI for Business Ventures (p. 832)
- AI for Finance (p. 832)
- AI for Healthcare (p. 832)
- AI for Human Resources (p. 832)

Electives

Code	Title	Hours
ALY 6140	Python and Analytics Systems Technology	
CMN 6000	Introduction to Organizational Communication	
CED 6050	Commerce and Economic Development	
EAI 6080	Advanced Analytical Utilization	
EDU 6184	Interdisciplinary Foundations	
GIS 5201	Advanced Spatial Analysis	
GIS 6360	Spatial Databases	
LDR 6135	Ethical Leadership	
PJM 6005	Project Scope Management	

PJM 6015	Project Risk Management
PJM 6205	Leading and Managing Technical Projects

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

AI FOR BUSINESS VENTURES

Code	Title	Hours
ALY 6040	Data Mining Applications	3
CED 6230	Quantitative Methods	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3
ITC 6015	Enterprise Information Architecture	3

AI FOR FINANCE

Code	Title	Hours
ALY 6040	Data Mining Applications	3
EAI 6050	Finance Information Processing	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3
FIN 6101	Accounting Fundamentals for Financial Institutions	3

AI FOR HEALTHCARE

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6150	Healthcare/Pharmaceutical Data and Applications	3
EAI 6060	Healthcare Information Processing	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3

AI FOR HUMAN RESOURCES

Code	Title	Hours
ALY 6040	Data Mining Applications	3
ALY 6120	Leadership in Analytics	3
EAI 6070	Human Resources Information Processing	3
EAI 6120	AI Communication and Visualization	3
HRM 6025	Workforce Analytics	3

Digital Media, MPS

Students in the Master of Professional Studies in Digital Media will build their skills and expertise while gaining experience using a variety of industry-standard and cutting-edge technologies and tools. Our curriculum is organized around three types of experiences: core courses, concentration electives, and a capstone that can be completed as an individual thesis or a team project.

Our core courses in media creation, interactive design, usability, design thinking, and narrative structure provide a baseline for producing content-rich experiences. A series of electives are offered in seven distinctive areas: 3D animation, game design, digital video, social media, digital media management, or one of two tracks in interactive design: visual design or usability and production. In the capstone experience, you'll work with the guidance of faculty to channel your passion into a project that provides tangible evidence of your abilities.

Whether you are a full- or part-time student, our cohort structure allows you to build meaningful working relationships with students from around the globe. Team-based assignments strengthen your project management and leadership skills and allow you to take part in the design and development of more complex media projects than you could by working alone. The team efforts will also prepare you for your future as a professional in digital media's collaboration-oriented culture.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Core Courses

Code	Title	Hours
DGM 6122	Foundations of Digital Storytelling	4
DGM 6145	Information Technology and Creative Practice	4
DGM 6521	Web Creation for Content Management Systems	2
Complete one of the following:		4
DGM 6140	Sound Design	
DGM 6168	Usability and Human Interaction	
Complete one of the following options:		8
Thesis Option		
DGM 6890	Thesis Proposal Development	
DGM 7990	Thesis (at 6 QH)	
Capstone Option		
DGM 7980	Capstone	
Choose one technical course from the workshops list below.		

Concentrations

The remaining quarter hours may be completed by selecting a combination of a concentration and additional electives/workshops or selecting any courses in the concentrations and elective lists. You must complete any prerequisites associated with DGM courses unless granted a waiver under special circumstances.

- 3D Animation (p. 834)
- Digital Media Management (p.)
- Digital Video (p.)
- Game Design (p.)
- Interactive Design (p.)
- Social Media (p.)

Electives

Code	Title	Hours
Complete one of the following:		3-4
ALY 6110	Data Management and Big Data	
DGM 6125	Time-Based Media	
DGM 6322	Advanced Digital Storytelling	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
EDU 6184	Interdisciplinary Foundations	
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems	

Workshops

Optional digital media workshops are designed to provide valuable technical skills and tools for students in all graduate degree programs.

Code	Title	Hours
Students may complete one of the following:		
DGM 6506	Introduction to Digital Video	
DGM 6515	Introduction to After Effects	
DGM 6516	Virtual and Augmented Reality (VR/AR)	
DGM 6892	Capstone Project Preparation	
TCC 6410	Online Documentation	
TCC 6630	Introduction to XML	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

3D ANIMATION

Code	Title	Hours
DGM 6450	Animation Basics	4
DGM 6510	3D Modeling	4
DGM 6530	Character Animation	4
DGM 6535	Rigging Principles and Techniques	4
DGM 6540	Compositing	4

DIGITAL MEDIA MANAGEMENT

Code	Title	Hours
DGM 6230	Digital Media Entrepreneurship	4
DGM 6279	Project Management for Digital Media	4
DGM 6280	Managing for Digital Media	4
DGM 6285	Interactive Marketing Fundamentals	4
DGM 6290	Social Media and Brand Strategy Implementation	4

DIGITAL VIDEO

Code	Title	Hours
DGM 6520	Lighting for the Camera	4
DGM 6435	Digital Video Production	4
DGM 6440	Editing in the Digital Studio	4
DGM 6540	Compositing	4
DGM 6545	Documentary and Nonfiction Production	4

GAME DESIGN

Code	Title	Hours
DGM 6308	Intermediate Programming for Digital Media	4
DGM 6400	Game Design Fundamentals	4
DGM 6403	Game Engine Fundamentals	4
DGM 6405	Game Development	4
DGM 6410	Game Design Technology Lab	4

INTERACTIVE DESIGN

Code	Title	Hours
Interactive Design		
DGM 6461	Interactive Information Design 1	4
Complete four courses from one of the following tracks:		16
Design Track		
DGM 6217	Typography for Interactivity	
DGM 6317	Screen-Based Publication Design	
DGM 6463	Interactive Information Design 2	

DGM 6471	Designing Infographics
Usability and Development Track	
DGM 6268	Usable Design for Mobile Digital Media
DGM 6308	Intermediate Programming for Digital Media
DGM 6451	Web Development
DGM 6525	Research Methods for Global User Experiences
TCC 6110	Information Architecture
TCC 6710	Content Strategy

SOCIAL MEDIA

Code	Title	Hours
Complete the following:		19-21
Required		
DGM 6285	Interactive Marketing Fundamentals	4
Electives		
Complete 15–17 quarter hours from the following:		
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6525	Research Methods for Global User Experiences	
DGM 6550	Search Engine Optimization: Strategy and Implementation	

Digital Media, MPS—Connect

The Master of Professional Studies in Digital Media Connect program is designed for students without prior experience in core technical and/or creative concepts. This program requires an additional 12 quarter hours of credit, with courses providing intensive, hands-on guidance into the essential knowledge required for the Master of Professional Studies Digital Media curriculum.

For students considering a career change into digital media, this coursework helps you connect your current background to a new digital media track. Courses focus on visual communications, programming foundations, and web creation. Once the fundamental courses are completed, students move into the more advanced Master of Professional Studies in Digital Media course requirements.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundation Courses

Code	Title	Hours
DGM 6105	Visual Communications Foundation	4
DGM 6108	Programming Foundations for Digital Media	4
DGM 6109	Lab for DGM 6108	2
DGM 6501	Web Creation Boot Camp	2

Required Core Courses

Code	Title	Hours
DGM 6122	Foundations of Digital Storytelling	4
DGM 6145	Information Technology and Creative Practice	4
DGM 6521	Web Creation for Content Management Systems	2
Complete one of the following:		4
DGM 6140	Sound Design	
DGM 6168	Usability and Human Interaction	
Complete one of the following options:		8
Thesis Option		
DGM 6890	Thesis Proposal Development	
DGM 7990	Thesis (at 6 QH)	
Capstone Option		
DGM 7980	Capstone	
Complete one technical course from the workshops list below.		

Concentrations

The remaining quarter hours may be completed by selecting a combination of a concentration and additional electives/workshops or selecting any courses in the concentrations and elective lists. You must complete any prerequisites associated with DGM courses unless granted a waiver under special circumstances.

- 3D Animation (p. 837)
- Digital Media Management (p.)
- Digital Video (p.)
- Game Design (p.)
- Interactive Design (p.)
- Social Media (p.)

Elective

Code	Title	Hours
Complete one of the following:		3-4
ALY 6110	Data Management and Big Data	
DGM 6125	Time-Based Media	
DGM 6322	Advanced Digital Storytelling	
DGM 6550	Search Engine Optimization: Strategy and Implementation	

EDU 6184	Interdisciplinary Foundations
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems

Workshops

Digital media workshops are designed to provide valuable technical skills and tools for students in all graduate degree programs.

Code	Title	Hours
DGM 6506	Introduction to Digital Video	
DGM 6515	Introduction to After Effects	
DGM 6516	Virtual and Augmented Reality (VR/AR)	
DGM 6892	Capstone Project Preparation	
TCC 6410	Online Documentation	
TCC 6630	Introduction to XML	

Program Credit/GPA Requirements

56 total quarter hours required
Minimum 3.000 GPA required

3D ANIMATION

Code	Title	Hours
DGM 6450	Animation Basics	4
DGM 6510	3D Modeling	4
DGM 6530	Character Animation	4
DGM 6535	Rigging Principles and Techniques	4
DGM 6540	Compositing	4

DIGITAL MEDIA MANAGEMENT

Code	Title	Hours
DGM 6230	Digital Media Entrepreneurship	4
DGM 6279	Project Management for Digital Media	4
DGM 6280	Managing for Digital Media	4
DGM 6285	Interactive Marketing Fundamentals	4
DGM 6290	Social Media and Brand Strategy Implementation	4

DIGITAL VIDEO

Code	Title	Hours
DGM 6435	Digital Video Production	4
DGM 6440	Editing in the Digital Studio	4
DGM 6520	Lighting for the Camera	4
DGM 6540	Compositing	4
DGM 6545	Documentary and Nonfiction Production	4

GAME DESIGN

Code	Title	Hours
DGM 6308	Intermediate Programming for Digital Media	4
DGM 6400	Game Design Fundamentals	4
DGM 6403	Game Engine Fundamentals	4
DGM 6405	Game Development	4
DGM 6410	Game Design Technology Lab	4

INTERACTIVE DESIGN

Code	Title	Hours
Interactive Design		
DGM 6461	Interactive Information Design 1	4
Complete four courses from one of the following tracks:		16
Design Track		
DGM 6217	Typography for Interactivity	

DGM 6317	Screen-Based Publication Design
DGM 6463	Interactive Information Design 2
DGM 6471	Designing Infographics
Usability and Development Track	
DGM 6268	Usable Design for Mobile Digital Media
DGM 6308	Intermediate Programming for Digital Media
DGM 6451	Web Development
DGM 6525	Research Methods for Global User Experiences
TCC 6110	Information Architecture
TCC 6710	Content Strategy

SOCIAL MEDIA

Code	Title	Hours
Required		
DGM 6285	Interactive Marketing Fundamentals	4
Electives		
Complete 15–17 quarter hours from the following:		
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6525	Research Methods for Global User Experiences	
DGM 6550	Search Engine Optimization: Strategy and Implementation	

Geospatial Services, MPS

The Northeastern University MPS in Geospatial Services program is designed for working professionals striving to maintain competitive, leading-edge capabilities at a time of rapidly growing utilization of geospatial data for diversity of government and business intelligence needs. Program strengths are highly correlated with geospatial workforce requirements as identified by geospatial enterprise leaders from government and industry. Our curriculum incorporates tools, technologies, and services required in three primary sectors:

- *Location-based geodata* (collect, manage, distribute spatial information and imagery)
- *Geo-applications and devices* (devices and software for creating, visualizing, and sharing geospatial information)
- *Geo-expert industries* (turn location-based information into insights for commercial and government organizations)

Available 100 percent online and built to Northeastern University's high academic standards, our program's experiential focus emphasizes the connections between learning and workplace needs.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GIS 5103	Foundations of Geographic Information Science	4
GIS 5201	Advanced Spatial Analysis	3
GIS 6980	Capstone	4
RMS 5105	Fundamentals of Remote Sensing	3
Complete two of the following:		6-7
EAI 6000	Fundamentals of Artificial Intelligence	
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility	
ITC 6300	Foundations of Information Security	
ITC 6460	Cloud Analytics	
PJM 5900	Foundations of Project Management	

The remaining quarter hours required for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and electives.

Concentrations

- Geographic Information Systems (p. 839)
- Geospatial Analytics (p. 840)
- Remote Sensing (p. 840)

Electives

Code	Title	Hours
COP 6940	Personal and Career Development	3-4
EAI 6000	Fundamentals of Artificial Intelligence	3
EDU 6184	Interdisciplinary Foundations	2
INT 6940	Experiential Learning Projects for Professionals	1-4

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

GEOGRAPHIC INFORMATION SYSTEMS

Code	Title	Hours
Complete six of the following:		18
GIS 6320	Use and Applications of Free and Open-Source GIS Desktop Software	
GIS 6340	GIS Customization	
GIS 6345	Geospatial Programming	
GIS 6350	Planning a GIS Implementation	
GIS 6360	Spatial Databases	
GIS 6370	Internet-Based GIS	

GIS 6385	GIS/Cartography
GIS 6983	Topics
ITC 6480	Amazon Web Service (AWS) Cloud Architecting

GEOSPATIAL ANALYTICS

Code	Title	Hours
Complete the following:		18
ALY 6020	Predictive Analytics	
ALY 6040	Data Mining Applications	
ALY 6030	Data Warehousing and SQL	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
ALY 6983	Topics	

REMOTE SENSING

Code	Title	Hours
RMS 6110	Introduction to Machine Learning for Image Data	3
Complete five of the following:		15-16
GIS 6345	Geospatial Programming	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	
RMS 6240	Introduction to Radar and LiDAR Remote Sensing	
RMS 6280	Automated Feature Extraction for the Geospatial Professional	
RMS 6290	Spectroscopic Image Analysis	
RMS 6983	Topics	

Informatics, MPS

A rapidly evolving area, informatics is increasingly used to solve today's problems through IT innovations across many industries, including healthcare, business consulting, education, finance, and social media. This master's degree attracts students and working professionals with a diverse background to learn and improve IT technical and management skills, highlighted by our strengthened curriculum on information security management, as well as cloud computing application and management. Students also have the opportunity to acquire technical training in data analytics, user-centered design and web development, and managing technical projects.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 6000	Database Management Systems	3
ITC 6010	Information Technology Strategy and Governance	3
ITC 6020	Information Systems Design and Development	3
ITC 6035	Information Technology Project Management	3
ITC 6400	Foundations of Informatics	3
Capstone and Experiential Learning		
ITC 6040	Informatics Capstone	3
INT 6940	Experiential Learning Projects for Professionals	1-4

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or by selecting any courses listed in the concentrations and electives lists.

Concentrations or Electives

Complete one of the following concentrations or complete the required hours by selecting any courses listed in the concentrations and electives lists:

- Analytics (p. 841)
- Cloud Computing Application and Management (p. 841)
- Human-Centered Informatics (p. 842)
- Information Security Management (p. 842)
- Leading and Managing Technical Projects (p. 842)

ANALYTICS CONCENTRATION

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Complete one of the following:		3
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

CLOUD COMPUTING APPLICATION AND MANAGEMENT CONCENTRATION

Code	Title	Hours
ITC 6015	Enterprise Information Architecture	3
ITC 6420	Introduction to Cloud Computing Applications and Management	3
ITC 6450	Advanced Cloud Computing Applications and Management	3
ITC 6460	Cloud Analytics	3
ITC 6520	Network Protection and Cloud Security	3
Complete one of the following:		3-4
ITC 6355	Web Application Design and Development	

ITC 6470	Enterprise Data Storage and Management Technologies
ITC 6480	Amazon Web Service (AWS) Cloud Architecting

HUMAN-CENTERED INFORMATICS CONCENTRATION

Code	Title	Hours
DGM 6168	Usability and Human Interaction	4
DGM 6268	Usable Design for Mobile Digital Media	4
DGM 6461	Interactive Information Design 1	4
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems	3
Complete one of the following:		3-4
ALY 6070	Communication and Visualization for Data Analytics	
DGM 6463	Interactive Information Design 2	
ITC 6355	Web Application Design and Development	

INFORMATION SECURITY MANAGEMENT CONCENTRATION

Code	Title	Hours
ITC 6300	Foundations of Information Security	3
ITC 6305	IT Infrastructure (Systems, Networks, Telecom)	3
ITC 6315	Information Security Risk Management	3
ITC 6520	Network Protection and Cloud Security	3
ITC 6530	Security Analytics	3
Complete one of the following:		3
ITC 6330	CISSP Preparation	
ITC 6490	Ethical Hacking	

LEADING AND MANAGING TECHNICAL PROJECTS CONCENTRATION

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3

[1] *Note:* Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete Foundations of Project Management (PJM 5900) may substitute an elective from the following list to satisfy the required program hours:

- Project Evaluation and Assessment (PJM 6125)
- Project Quality Management (PJM 6135)
- Managing Troubled Projects (PJM 6140)
- Introduction to Program and Portfolio Management (PJM 6710)

ELECTIVES

Code	Title	Hours
ALY 6015	Intermediate Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6050	Introduction to Enterprise Analytics	
ALY 6060	Decision Support and Business Intelligence	
ALY 6110	Data Management and Big Data	
ALY 6120	Leadership in Analytics	
ALY 6130	Risk Management for Analytics	
DGM 6501	Web Creation Boot Camp	
DGM 6145	Information Technology and Creative Practice	
DGM 6521	Web Creation for Content Management Systems	
EDU 6184	Interdisciplinary Foundations	
GIS 5103	Foundations of Geographic Information Science	
GIS 6340	GIS Customization	

GIS 6360	Spatial Databases
ITC 6030	Computer Systems and Networks
ITC 6080	Network Security Concepts
ITC 6082	Network Protection
ITC 6345	Systems and Network Administration
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility
PJM 5900	Foundations of Project Management
PJM 6205	Leading and Managing Technical Projects
TCC 6110	Information Architecture

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Insurance Analytics and Management, MPS

Overview

The Master of Professional Studies in Insurance Analytics and Management addresses the mounting need for talent in the insurance industry with focus on disruptive trends and the inherent challenges that this industry sector faces. This program will build on five distinct pillars that are designed to serve the market and to offer graduates a clear pathway into the industry. Those pillars are application orientation, domain knowledge, digital leadership and human-centered design, decision support, and digital transformation. The goal of the MPS program is to produce graduates who are thinkers and designers and developers who merge applications, humanics, data, and technology in the age of digital transformation to benefit their industry.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Courses

Code	Title	Hours
INS 6010	Insurance Finance	3
INS 6020	Claims Management	3
INS 6030	Insurance Underwriting	3
INS 6040	Introduction to Insurance Data Analytics	3
INS 6050	Intermediate Insurance Analytics	3

Experiential Project

Code	Title	Hours
INS 6080	Integrated Experiential Learning	3

Capstone

Code	Title	Hours
INS 6980	Capstone	3

Concentrations

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list.

- Advanced Insurance Management (p. 845)
- Customer Engagement (p. 845)
- Decision Support (p. 845)

Electives

Code	Title	Hours
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	
CED 6230	Quantitative Methods	
CED 6250	Derivatives and Alternative Investments	
EAI 6000	Fundamentals of Artificial Intelligence	
EAI 6020	AI System Technologies	
EAI 6080	Advanced Analytical Utilization	
EAI 6120	AI Communication and Visualization	
GIS 5103	Foundations of Geographic Information Science	
GIS 6370	Internet-Based GIS	
INS 6983	Special Topics	
LDR 6110	Leading Teams Strategically in a Global Environment	
PJM 5900	Foundations of Project Management	
PJM 6210	Communication Skills for Project Managers	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

ADVANCED INSURANCE MANAGEMENT CONCENTRATION

Code	Title	Hours
ALY 6983	Topics	3
INS 6110	Insurance Regulation and Law	3
INS 6120	Macro Challenges in Insurance	3
INS 6130	Advanced Reinsurance	3
LDR 6135	Ethical Leadership	3

CUSTOMER ENGAGEMENT CONCENTRATION

Code	Title	Hours
ALY 6060	Decision Support and Business Intelligence	3
ALY 6070	Communication and Visualization for Data Analytics	3
INS 6140	Distribution and Sales	3
PJM 6185	Managing Innovation Projects	3
SMT 6020	Managing the Customer Experience	3

DECISION SUPPORT CONCENTRATION

Code	Title	Hours
EAI 6000 is for students who score 85% or more on the Python placement exam upon declaring this concentration. Students who score less than 85% on the placement exam complete a noncredit Python workshop before completing EAI 6000.		
ALY 6060	Decision Support and Business Intelligence	3
ALY 6070	Communication and Visualization for Data Analytics	3
EAI 6000	Fundamentals of Artificial Intelligence	3
EAI 6020	AI System Technologies	3
LDR 6100	Developing Your Leadership Capability	3

Learning Experience Design and Technology, MPS

The Master of Professional Studies in Learning Experience Design and Technology is a robust practice-based program. It builds expertise in learning designers, educators, trainers, technologists, and other professionals by grounding them in the art and science of learning and the effective use of learning design principles and technology. It provides both foundational and advanced design-related coursework that is experiential, taught by experts in the field, and incorporates skill-building opportunities that align with contemporary industry-based competencies.

During their course of study, students will have the opportunity to:

- Design learning environments that support learners in meeting academic, personal, professional, and/or organizational goals
- Put creative ideas into action using a variety of technologies and design and delivery modalities
- Develop a robust online portfolio of work to demonstrate their design skills

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundation Courses

Code	Title	Hours
EDU 6050	Education as an Advanced Field of Study	5
EDU 6051	Introduction to Social Justice in Educational Settings	4

Core Courses

Code	Title	Hours
EDU 6319	How People Learn	4
EDU 6323	Digital Learning Tools and Technologies for LXD	4
EDU 6334	Foundations of Learning Experience Design	4
EDU 6335	Advanced Practices in Learning Experience Design	4
EDU 6336	Data Literacy for Data-Driven Decision Making	4

Capstone

Code	Title	Hours
EDU 6225	Capstone	4

Electives

Code	Title	Hours
Electives may be satisfied by any EDU 6000-level course not already being used toward degree requirements. Suggested EDU 6000-level courses are listed below. Additionally, CPS graduate-level courses that may also be used to satisfy elective requirements are listed below:		12
EDU 5978	Independent Study	
EDU 6001	Experiential Learning Theory and Practice	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	
EDU 6003	Applied Research in Experiential Teaching and Learning	
EDU 6004	Leading Experiential Teaching and Learning	
EDU 6202	Faculty, Curriculum, and Academic Community	
EDU 6323	Digital Learning Tools and Technologies for LXD	
EDU 6329	Connecting Theory and Practice	
EDU 6331	E-Learning Design as a Collaborative Profession	
EDU 6332	Open Learning	
EDU 6336	Data Literacy for Data-Driven Decision Making	
EDU 6338	Learning Experience Design Studio	
EDU 6558	Issues in Education	
CMN 6080	Intercultural Communication	
DGM 6501	Web Creation Boot Camp	
NPM 6140	Grant and Report Writing	
PJM 5900	Foundations of Project Management	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Applied Nutrition, MS

Increased attention on disease prevention through better dietary habits has heightened the demand for skilled nutrition professionals.

To meet the demands and need in the industry, this Master of Science in Applied Nutrition degree is designed to build upon your clinical knowledge and to allow you to concentrate in one of five specialty areas. This advanced program is open to individuals who hold undergraduate degrees in health science, dietetics, or a related area.

Led by real-world practitioners, including dietitians, an exercise scientist, and a clinical psychologist, this innovative nutrition degree seeks to provide you with a solid grounding in nutrition, metabolism, disease prevention, health promotion, and clinical behavior. Complementing the core nutrition courses is the college's renowned nutrition practicum that allows you to work directly with registered dietitians, fitness specialists, as well as other health professionals.

Further differentiating this master's degree in nutrition is the option to choose from five degree concentrations: business and entrepreneurship in nutrition; integrative health and wellness; nutrition education; nutrition and fitness; and obesity and nutritional health. This degree program seeks to give you the knowledge and skills you need to succeed in the field of nutrition.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NTR 6100	Advanced Nutrition and Metabolism	4
NTR 6110	Medical Nutrition Therapy	4
NTR 6112	Research Methods in Nutrition	4
NTR 6115	Health Promotion/Disease Prevention	4
NTR 6118	Clinical Health Behavior Change	4
NTR 6165	Food and Society	4
NTR 6866	Applied Research in Nutrition (Recommended as the last course taken)	1-4

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and electives list.

Electives

Code	Title	Hours
EDU 6184	Interdisciplinary Foundations	
NTR 6101	Nutrition Program Planning	
NTR 6105	Foundations of Integrative Health	
NTR 6119	Pediatric Nutrition	
NTR 6120	Healthy Aging: Nutrition Strategies for Optimal Longevity	
NTR 6125	The Process of Health and Healing: Exploring Systems in the Body—Part 1	
NTR 6130	Healthcare and Nutrition Communication	
NTR 6135	The Process of Health and Healing: Exploring Systems in the Body—Part 2	
NTR 6148	Exercise Physiology	
NTR 6150	Sports Psychology	
NTR 6155	Nutrition Entrepreneurship	
NTR 6160	Survey of Integrative Practices and Interventions	
NTR 6200	Nutrition Education	
NTR 6201	Commercialization of Nutrition and Nutritional Information	
NTR 6202	The Financing of Nutrition and Wellness	
NTR 7130	Overweight and Obesity 1	
NTR 7132	Overweight and Obesity 2	
NTR 7135	Eating Disorders in Children and Adults	
NTR 7140	Wellness and Nutrition	
NTR 7147	Sports and Fitness Nutrition	
NTR 7880	Wellness in Practice	
PJM 5900	Foundations of Project Management	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

BUSINESS AND ENTREPRENEURSHIP IN NUTRITION

Code	Title	Hours
NTR 6155	Nutrition Entrepreneurship	3
NTR 6130	Healthcare and Nutrition Communication	4
PJM 5900	Foundations of Project Management	4
NTR 6202	The Financing of Nutrition and Wellness	3
NTR 7880	Wellness in Practice	1-4

INTEGRATIVE HEALTH AND WELLNESS

Code	Title	Hours
Required Courses		
NTR 6105	Foundations of Integrative Health	4
NTR 6125	The Process of Health and Healing: Exploring Systems in the Body—Part 1	4
NTR 6135	The Process of Health and Healing: Exploring Systems in the Body—Part 2	4
NTR 6160	Survey of Integrative Practices and Interventions	4
Experiential Capstone		
NTR 7880	Wellness in Practice	2-4

NUTRITION EDUCATION

Code	Title	Hours
Required Courses		
NTR 6200	Nutrition Education	4
NTR 6130	Healthcare and Nutrition Communication	4
NTR 6201	Commercialization of Nutrition and Nutritional Information	3
NTR 7880	Wellness in Practice	1-4
Nutrition Education Elective		
Complete one of the following:		4
NTR 6119	Pediatric Nutrition	
NTR 6120	Healthy Aging: Nutrition Strategies for Optimal Longevity	
NTR 6101	Nutrition Program Planning	

NUTRITION AND FITNESS

Code	Title	Hours
Required Courses		
NTR 7147	Sports and Fitness Nutrition	3
NTR 6148	Exercise Physiology	3
NTR 6150	Sports Psychology	3
NTR 7880	Wellness in Practice	1-4
Nutrition and Fitness Elective		
Complete one of the following:		4
NTR 6120	Healthy Aging: Nutrition Strategies for Optimal Longevity	
NTR 6101	Nutrition Program Planning	

OBESITY AND NUTRITIONAL HEALTH

Code	Title	Hours
Required Courses		
NTR 7130	Overweight and Obesity 1	4
NTR 7132	Overweight and Obesity 2	4
NTR 6201	Commercialization of Nutrition and Nutritional Information	3
NTR 7880	Wellness in Practice	1-4
Obesity and Nutritional Health Elective		
Complete one of the following:		4

NTR 7140	Wellness and Nutrition
NTR 7135	Eating Disorders in Children and Adults

Commerce and Economic Development, MS

Globalization has created a borderless economy with a host of new opportunities and challenges for those engaged in commerce and economic development. While global markets offer exciting growth prospects, navigating the world stage requires in-depth knowledge of the financial, regulatory, and economic environments and institutions that affect the global economy and international trade. To meet the need for both insight and skills development, Northeastern University's College of Professional Studies—in collaboration with Northeastern University's College of Social Sciences and Humanities—offers the online Master of Science in Commerce and Economic Development.

This graduate-level program integrates economics, leadership, institutional organization, technology, and public policy into a unique and focused educational experience designed to help guide and advance a rewarding career in the private or public sectors.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CED 6010	Applied Microeconomic Theory 1	3
CED 6020	Applied Macroeconomic Theory 1	3
CED 6030	Mathematical Methods for Economics 1	3
CED 6040	Applied Econometrics	3
CED 6050	Commerce and Economic Development	3

Capstone

Code	Title	Hours
The following course should be taken last:		
CED 6910	Capstone: Master's Project	4

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or by selecting any courses listed in the concentration and elective lists.

Concentrations

- Economic Analysis (p. 851)
- Economic Entrepreneurship (p. 851)
- Data Analytics (p. 851)
- Financial Economics (p. 851)

Electives

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the program:		
ALY 6000	Introduction to Analytics	
ALY 6015	Intermediate Analytics	
ALY 6050	Introduction to Enterprise Analytics	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
CED 6011	Applied Microeconomic Theory 2	
CED 6021	Applied Macroeconomic Theory 2	
CED 6031	Mathematical Methods for Economics 2	
CED 6041	Applied Econometrics II	
CED 6051	Open Economy Macroeconomic Analysis	
CED 6070	Economics of Human Capital	
CED 6090	Cultural Economic Development	
CED 6110	Law and Economics	
CED 6120	Environmental Economics	
CED 6130	Sustainable Economic Development	
CED 6140	Economics of E-Commerce	
CED 6210	Managerial Finance	
CED 6220	International Finance	

CED 6230	Quantitative Methods
CED 6240	Financial Ethics
CED 6250	Derivatives and Alternative Investments
CMN 6080	Intercultural Communication
CMN 6095	Foundations of Developing Cultural Awareness
COP 6940	Personal and Career Development
EDU 6184	Interdisciplinary Foundations
FIN 6102	Asset and Liability Management
FIN 6120	Building Financial Relationships
FIN 6161	Investment Analysis
GST 6102	Global Corporate Social Responsibility
GST 6430	Leadership and Management
LDR 6145	Developing Sustainable Global Leadership

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

ECONOMIC ANALYSIS CONCENTRATION

Code	Title	Hours
CED 6011	Applied Microeconomic Theory 2	3
CED 6021	Applied Macroeconomic Theory 2	3
CED 6031	Mathematical Methods for Economics 2	3
CED 6041	Applied Econometrics II	3
CED 6051	Open Economy Macroeconomic Analysis	3

ECONOMIC ENTREPRENEURSHIP CONCENTRATION

Code	Title	Hours
ALY 6050	Introduction to Enterprise Analytics	3
CED 6070	Economics of Human Capital	3
CED 6140	Economics of E-Commerce	3
CMN 6095	Foundations of Developing Cultural Awareness	3
GST 6430	Leadership and Management	4

DATA ANALYTICS CONCENTRATION

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6015	Intermediate Analytics	3
ALY 6020	Predictive Analytics	3
ALY 6050	Introduction to Enterprise Analytics	3
or ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	3

FINANCIAL ECONOMICS CONCENTRATION

Code	Title	Hours
Complete five of the following:		15-18
CED 6210	Managerial Finance	
CED 6220	International Finance	
CED 6230	Quantitative Methods	
CED 6240	Financial Ethics	
CED 6250	Derivatives and Alternative Investments	
FIN 6102	Asset and Liability Management	
FIN 6120	Building Financial Relationships	
FIN 6161	Investment Analysis	

Corporate and Organizational Communication, MS

Across all industries and professions, strong written and oral communication skills are essential to success. Whether you are seeking to advance in a communications-related field or get ahead in your current organization, this program seeks to provide the practical knowledge and valuable perspectives you need to communicate across a variety of contexts and situations.

From negotiation and writing to crisis management and public speaking, the Master of Science in Corporate and Organizational Communication degree program examines topics that are critical to effective organizational communication. Incorporating best practices, case studies, and classroom learning, courses within this innovative master's degree in communication address complex communication challenges, seeking to provide you with a distinct advantage in today's competitive marketplace.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6000 and INT 6000	Introduction to Organizational Communication and Writing Lab [1]	4
CMN 6010	Strategic Communication Management	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6910	Organizational Communication Assessment	3
Complete two of the following:		6
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6100	Communication Networks and Managing Information	

[1] Introduction to Organizational Communication (CMN 6000) is required for students who do not have any professional experience in communication. Students with professional communication experience begin the program with Strategic Communication Management (CMN 6010) and complete an additional elective to satisfy the required program hours.

Capstone

Code	Title	Hours
CMN 6940	Projects for Professionals	4

Concentration or Electives

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or selecting any courses in the concentrations and elective lists.

CONCENTRATIONS

- Cross-Cultural Communication (p. 854)
- Human Resource Management (p. 854)
- Leadership (p. 855)
- Project Management (p. 855)
- Public and Media Relations (p. 855)
- Sales Management (p. 856)
- Social Media (p. 856)

ELECTIVE COURSES

Note: Students who take Introduction to Organizational Communication (CMN 6000) are only required to take two courses in this section.

Code	Title	Hours
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
CMN 6005	Foundations of Professional Communication	
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6050	Crisis Communication	

CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation
CMN 6095	Foundations of Developing Cultural Awareness
CMN 6096	Cultural Communications Lab
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management
COP 6940	Personal and Career Development
EDU 6184	Interdisciplinary Foundations
INT 6900	International Field Study Experience
LDR 6101	Leadership Challenge Lab
PBR 6001	Communications Technology Lab

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

CROSS-CULTURAL COMMUNICATION

Code	Title	Hours
Required Courses		
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation	3
CMN 6095	Foundations of Developing Cultural Awareness	3
Concentration Electives		
Choose from the following:		10
CMN 6096	Cultural Communications Lab	
GST 6100	Globalization and Global Politics and Economics	
GST 6101	Global Literacy, Culture, and Community	
HRM 6070	Global Human Resources Management	
INT 6900	International Field Study Experience	
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility	
LDR 6145	Developing Sustainable Global Leadership	
PBR 6100	Introduction to Public Relations	

HUMAN RESOURCE MANAGEMENT

Code	Title	Hours
Required Courses		
HRM 6015	Introduction to Human Resources Management [2]	3
HRM 6025	Workforce Analytics	3
HRM 6042	Strategic Workforce Planning	3
Concentration Electives		
Choose from the following:		7
CMN 6096	Cultural Communications Lab	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6035	Digital Human Resources Platforms	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

[2] Introduction to Human Resources Management (HRM 6015) is required for students who do not have at least two years of professional experience in human resources. Students with two years or more of professional project experience may substitute electives to satisfy the required program hours.

LEADERSHIP

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6135	Ethical Leadership	3
Concentration Electives		
Choose from the following:		6
CMN 6095	Foundations of Developing Cultural Awareness	
HRM 6050	Employee Engagement	
LDR 6115	Developing Strategic and Authentic Leadership Communication	
LDR 6140	Leadership Strategy, Design, and Practice	
LDR 6145	Developing Sustainable Global Leadership	
LDR 6150	Innovation and Organizational Transformation	

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [3]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Concentration Electives		
Choose from the following:		5
PJM 6125	Project Evaluation and Assessment	
PJM 6135	Project Quality Management	
PJM 6140	Managing Troubled Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6810	Principles of Agile Project Management	

[3] Students with project management experience are not required to take Foundations of Project Management (PJM 5900) and may substitute electives to satisfy the required program hours.

PUBLIC AND MEDIA RELATIONS

Code	Title	Hours
Required Courses		
PBR 6100	Introduction to Public Relations	3
PBR 6135	Public Relations Strategy and Planning	3
PBR 6710	Public Relations Research: Understanding External Audiences	3
Concentration Electives		
Choose from the following:		7
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6050	Crisis Communication	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
PBR 6001	Communications Technology Lab	
PBR 6125	Community Relations and Corporate Social Responsibility	
PBR 6130	Public Relations Content Development	
PBR 6140	Advanced Public Relations Content Development	

SALES MANAGEMENT

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3
Concentration Electives		
Complete a minimum of 6 quarter hours from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6060	Negotiation, Mediation, and Facilitation	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6135	Ethical Leadership	
PJM 5900	Foundations of Project Management	
PJM 6185	Managing Innovation Projects	
PJM 6210	Communication Skills for Project Managers	
SMT 6983	Special Topics	

SOCIAL MEDIA

Code	Title	Hours
Required Courses		
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	3
DGM 6285	Interactive Marketing Fundamentals	4
DGM 6290	Social Media and Brand Strategy Implementation	4
Concentration Electives		
Choose from the following:		5
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6075	Digital Marketing Analytics	
CMN 6096	Cultural Communications Lab	
DGM 6168	Usability and Human Interaction	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
PBR 6001	Communications Technology Lab	

Human Resources Management, MS

The human resources management program in the College of Professional Studies is designed to prepare students to make the connection between an organization's strategy and its people and other key stakeholders. The program focuses on vital human resource competencies and analytical skills—with an emphasis on experiential learning—required for students to serve as strategic business partners in their organizations. Students also have the opportunity to tailor their studies to support their specific career objectives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Based on your experience, complete one of the two options below:		
Two or more years of human resources experience:		6
HRM 6025	Workforce Analytics	
HRM 6042	Strategic Workforce Planning	
Fewer than two years of experience:		9
HRM 6015	Introduction to Human Resources Management	
HRM 6025	Workforce Analytics	
HRM 6042	Strategic Workforce Planning	
Core Electives		
Complete four of the following:		12
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6035	Digital Human Resources Platforms	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

Capstone

Code	Title	Hours
HRM 6940	Projects for Professionals	4

Concentration or Electives

In addition to the core requirements, students may complete either a combination of a concentration and additional electives or selecting any courses in the concentrations and elective lists.

CONCENTRATIONS

- Artificial Intelligence for Human Resources (p. 858)
- Digital Human Resources (p. 858)
- Global Talent Management (p. 858)
- Leadership (p. 859)
- Organizational Communication (p.)
- Project Management (p. 859)

ELECTIVES

Code	Title	Hours
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6050	Crisis Communication	
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6096	Cultural Communications Lab	

CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management
COP 6940	Personal and Career Development
LDR 6101	Leadership Challenge Lab

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

ARTIFICIAL INTELLIGENCE FOR HUMAN RESOURCES

Code	Title	Hours
Required Courses		
EAI 6070	Human Resources Information Processing	3
EAI 6080	Advanced Analytical Utilization	3
EAI 6120	AI Communication and Visualization	3
Electives		
Complete two of the following:		6
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6040	Data Mining Applications	
ALY 6060	Decision Support and Business Intelligence	
ALY 6110	Data Management and Big Data	

DIGITAL HUMAN RESOURCES

Code	Title	Hours
Required Course		
HRM 6035	Digital Human Resources Platforms	3
Electives		
Choose from the following:		13
ALY 6000	Introduction to Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6060	Decision Support and Business Intelligence	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6096	Cultural Communications Lab	
PBR 6001	Communications Technology Lab	

GLOBAL TALENT MANAGEMENT

Code	Title	Hours
Required Course		
HRM 6070	Global Human Resources Management	3
Electives		
Choose from the following:		12
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation	
CMN 6095	Foundations of Developing Cultural Awareness	
CMN 6096	Cultural Communications Lab	
GST 6101	Global Literacy, Culture, and Community	
HRM 6072	Global and Comparative Employment/Employee Relations	
HRM 6074	Global Talent Acquisition and Mobility	
LDR 6145	Developing Sustainable Global Leadership	
PJM 6145	Global Project Management	

LEADERSHIP

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6135	Ethical Leadership	3
Electives		
Complete two of the following:		6
CMN 6095	Foundations of Developing Cultural Awareness	
HRM 6050	Employee Engagement	
LDR 6115	Developing Strategic and Authentic Leadership Communication	
LDR 6140	Leadership Strategy, Design, and Practice	
LDR 6145	Developing Sustainable Global Leadership	
LDR 6150	Innovation and Organizational Transformation	

ORGANIZATIONAL COMMUNICATION

Code	Title	Hours
Required Courses		
CMN 6010	Strategic Communication Management	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6910	Organizational Communication Assessment	3
Electives		
Choose from the following:		7
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6096	Cultural Communications Lab	
CMN 6100	Communication Networks and Managing Information	
PBR 6001	Communications Technology Lab	

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Electives		
Choose from the following:		3
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

Global Studies and International Relations, MS

Globalization has created a world of new opportunities for those savvy enough to recognize them and acquire the new skill sets needed for success in international government, consulting, business and industry, nonprofit, and educational sectors.

This program is designed to prepare students for internationally focused positions that range from traditional practitioners of diplomacy; to development workers; to executives employed in the dynamic world of international consultancy, trade, and industry. With courses enriched by classmates from every continent, students are active learners in a collaborative, cross-cultural setting from their very first course.

The core curriculum ensures all students have a solid grounding in foundational courses such as international politics, economics, security, and diplomacy. Students then select from a broad-based menu of concentrations, allowing them to develop specialties. The program culminates in a capstone experience in which students elect to write a thesis, engage in a case study, or undertake short-term travel to conduct intensive field research.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GST 6100	Globalization and Global Politics and Economics	4
GST 6101	Global Literacy, Culture, and Community	4
GST 6109	Basic Field Research Methods	4
GST 6320	Peace and Conflict	4

Regional Studies Courses

Code	Title	Hours
Complete one of the following:		4
GST 6501	Regional Studies: East Asia	
GST 6502	Regional Studies: Middle East and North Africa	
GST 6503	Regional Studies: Sub-Saharan Africa	
GST 6504	Regional Studies: Europe and Eurasia	
GST 6505	Regional Studies: Southwest and Central Asia	
GST 6506	Regional Studies: Latin America	

Capstone

Code	Title	Hours
Complete one of the following:		4
GST 6920	Case Study in Global Studies	
GST 7990	Thesis	
INT 6900	International Field Study Experience	

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list. *Note:* A minimum of 18–20 quarter hours must be completed within global studies electives.

Concentrations

- Global Health and Development (p.)
- Conflict Resolution (p.)
- Diplomacy (p. 863)
- International Economics and Consulting (p.)

Electives

Code	Title	Hours
Choose from the following:		
Global Studies Electives		
GST 6102	Global Corporate Social Responsibility	
GST 6105	Foundations of Global Studies and International Relations	
GST 6200	The Funders	
GST 6210	The Developers	

GST 6220	Globalization of Emerging Economies
GST 6300	Security and Terrorism
GST 6310	Immigration and Labor
GST 6324	Divided Societies in the Modern World
GST 6326	International Conflict and Cooperation
GST 6327	Conflict and Postconflict Development
GST 6340	The Economics of Development
GST 6350	Global Economics of Food and Agriculture
GST 6360	Nuclear Nonproliferation
GST 6425	Comparative Higher Education Systems Across Regions
GST 6430	Leadership and Management
GST 6525	International Organizations: Law and Diplomacy
GST 6550	U.S. Foreign Policy
GST 6540	Politics of the European Union
GST 6560	Multilateral Diplomacy
GST 6580	Opportunities in International Consulting
GST 6590	Public Diplomacy
GST 6600	The Practice of Diplomacy
GST 6610	Sustainable Development
GST 6700	Global Health Perspectives, Politics, and Experiences in International Development
GST 6710	Critical Issues and Challenges in the Practice of Global Health
GST 6740	Human Rights
GST 6810	International Higher Education
GST 6820	Managing Study Abroad
GST 6830	Managing International Students
GST 6840	The Business of International Education
GST 6850	Immigration and Legal Issues in International Higher Education
GST 6965	Professional Practice in Global Education
GST 7983	Topics
Other Electives	
ALY 6000	Introduction to Analytics
ALY 6010	Probability Theory and Introductory Statistics
CED 6120	Environmental Economics
CED 6130	Sustainable Economic Development
CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation
COP 6940	Personal and Career Development
EDU 6184	Interdisciplinary Foundations
LDR 6145	Developing Sustainable Global Leadership
NPM 6140	Grant and Report Writing
PJM 5900	Foundations of Project Management

Program Credit/GPA Requirements

46 total quarter hours required
Minimum 3.000 GPA required

GLOBAL HEALTH AND DEVELOPMENT

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6210	The Developers	
GST 6340	The Economics of Development	
GST 6350	Global Economics of Food and Agriculture	

GST 6610	Sustainable Development
GST 6700	Global Health Perspectives, Politics, and Experiences in International Development
GST 6710	Critical Issues and Challenges in the Practice of Global Health

CONFLICT RESOLUTION

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6324	Divided Societies in the Modern World	
GST 6326	International Conflict and Cooperation	
GST 6327	Conflict and Postconflict Development	
GST 6300	Security and Terrorism	
GST 6360	Nuclear Nonproliferation	
GST 6740	Human Rights	

DIPLOMACY

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6600	The Practice of Diplomacy	
GST 6540	Politics of the European Union	
GST 6550	U.S. Foreign Policy	
GST 6560	Multilateral Diplomacy	
GST 6590	Public Diplomacy	
GST 6740	Human Rights	

INTERNATIONAL ECONOMICS AND CONSULTING

Code	Title	Hours
Complete five of the following (one of the courses can be from another global studies concentration, a regional studies course, or a special topics course if you choose):		20
GST 6102	Global Corporate Social Responsibility	
GST 6200	The Funders	
GST 6220	Globalization of Emerging Economies	
GST 6310	Immigration and Labor	
GST 6340	The Economics of Development	
GST 6430	Leadership and Management	
GST 6580	Opportunities in International Consulting	

Nonprofit Management, MS

Facing the threat of privatization and for-profit competition, nonprofit organizations are challenged to find leaders who not only possess keen business and managerial skills but can also effect change at a community or social level. Being successful in this dynamic and rewarding field requires strong leadership, managerial and interpersonal skills, as well as in-depth knowledge of fundraising, marketing, program development, and governance issues.

Integrating theoretical approaches with practical applications, the Master of Science in Nonprofit Management seeks to prepare you for a leadership position in a not-for-profit university, hospital, charity, foundation, or religious organization. Upon completion of this nonprofit degree, you emerge well equipped to embark on a career in nonprofit management—prepared, and inspired, to make a meaningful impact.

The mission of the Master of Science in Nonprofit Management at the College of Professional Studies is to offer courses that further develop the students' knowledge, skills, talent, and abilities. Faculty in the program support students' development goals through action-oriented courses that link theoretical learning to practical application. Nonprofit management courses aim to prepare students to be mission-driven executive leaders, managers, employees, and board members in public and private nonprofit organizations.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NPM 6100	Strategic Management for the Nonprofit Sector	3
NPM 6110	Legal and Governance Issues in Nonprofit Organizations	3
NPM 6120	Financial Management for Nonprofit Organizations	3
NPM 6125	Promoting Nonprofit Organizations	3
NPM 6130	Fundraising and Development for Nonprofit Organizations	3
NPM 6140	Grant and Report Writing	3
NPM 6150	Human Resources Management in Nonprofit Organizations	3
NPM 6980	Capstone	3

Concentration or Electives Option

The remaining required quarter hours for the program may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the electives list (p. 864).

- Fundraising (p. 865)
- Leadership and Communication (p. 865)
- Project Management
- Sales Management
- Social Innovation
- Social Media Analytics (p. 867)

Electives

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the program.		
Nonprofit Management Electives		
NPM 6210	Social Value Investing and Effective Partnerships	
NPM 6220	Donor Research and Management	
NPM 6230	Measuring Social Impact	
NPM 6240	Managing the Annual Fund	
NPM 6310	Social and Sustainable Entrepreneurship	
NPM 6320	New Ventures in Social Entrepreneurship	
Other Electives		
ALY 6000	Introduction to Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
ALY 6110	Data Management and Big Data	
CMN 6000	Introduction to Organizational Communication	
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	

CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance
CMN 6050	Crisis Communication
CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6065	Implementation and Management of Social Media Channels and Online Communities
CMN 6080	Intercultural Communication
CMN 6090	Organizational Culture, Climate, and Communication
CMN 6100	Communication Networks and Managing Information
COP 6940	Personal and Career Development
DGM 6285	Interactive Marketing Fundamentals
DGM 6290	Social Media and Brand Strategy Implementation
EDU 6184	Interdisciplinary Foundations
GST 6610	Sustainable Development
INT 6000	Writing Lab
INT 6943	Integrative Experiential Learning
LDR 6110	Leading Teams Strategically in a Global Environment
LDR 6120	Developing Organizational Success through Leadership Development
LDR 6135	Ethical Leadership
LDR 6140	Leadership Strategy, Design, and Practice
LDR 6150	Innovation and Organizational Transformation
PJM 5900	Foundations of Project Management
PJM 6005	Project Scope Management
PJM 6015	Project Risk Management
PJM 6025	Project Scheduling and Cost Planning
PJM 6135	Project Quality Management

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Concentrations

FUNDRAISING

Code	Title	Hours
Required Courses		
NPM 6210	Social Value Investing and Effective Partnerships	3
NPM 6220	Donor Research and Management	3
NPM 6230	Measuring Social Impact	3
Electives		
Complete a minimum of 6 quarter hours from the following:		6
ALY 6000	Introduction to Analytics	
ALY 6010 and ALY 6070	Probability Theory and Introductory Statistics and Communication and Visualization for Data Analytics	
DGM 6285	Interactive Marketing Fundamentals	
DGM 6290	Social Media and Brand Strategy Implementation	
NPM 6240	Managing the Annual Fund	

LEADERSHIP AND COMMUNICATION

Code	Title	Hours
Required Courses		
CMN 6090	Organizational Culture, Climate, and Communication	3
LDR 6150	Innovation and Organizational Transformation	3
Electives		
Complete a minimum of 9 quarter hours from the following:		9
CMN 6000 and INT 6000	Introduction to Organizational Communication and Writing Lab	

CMN 6060	Negotiation, Mediation, and Facilitation
CMN 6080	Intercultural Communication
CMN 6100	Communication Networks and Managing Information
LDR 6120	Developing Organizational Success through Leadership Development
LDR 6135	Ethical Leadership
LDR 6110	Leading Teams Strategically in a Global Environment
LDR 6140	Leadership Strategy, Design, and Practice

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Elective		
Complete one of the following: [1]		5
PJM 6125	Project Evaluation and Assessment	
PJM 6135	Project Quality Management	
PJM 6140	Managing Troubled Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6810	Principles of Agile Project Management	

[1] *Note:* Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete Foundations of Project Management (PJM 5900) may substitute any additional project management elective to satisfy the required program hours.

SALES MANAGEMENT

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3
Elective Courses		
Complete a minimum of 6 quarter hours from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6060	Negotiation, Mediation, and Facilitation	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6135	Ethical Leadership	
PJM 5900	Foundations of Project Management	
PJM 6210	Communication Skills for Project Managers	
PJM 6185	Managing Innovation Projects	
SMT 6983	Special Topics	

SOCIAL INNOVATION

Code	Title	Hours
Required Courses		
NPM 6230	Measuring Social Impact	3
NPM 6310	Social and Sustainable Entrepreneurship	3
NPM 6320	New Ventures in Social Entrepreneurship	3
Electives		
Complete a minimum of 6 quarter hours from the following:		6

ALY 6000	Introduction to Analytics
ALY 6010 and ALY 6070	Probability Theory and Introductory Statistics and Communication and Visualization for Data Analytics
DGM 6285	Interactive Marketing Fundamentals
DGM 6290	Social Media and Brand Strategy Implementation
GST 6610	Sustainable Development
LDR 6120	Developing Organizational Success through Leadership Development
PJM 5900	Foundations of Project Management
PJM 6125	Project Evaluation and Assessment
PJM 6983	Topics

SOCIAL MEDIA ANALYTICS

Code	Title	Hours
Required Courses		
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	3
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	3
DGM 6285	Interactive Marketing Fundamentals	4
Electives		
Complete a minimum of 5 quarter hours from the following:		5
ALY 6000	Introduction to Analytics	
ALY 6110 and ALY 6070	Data Management and Big Data and Communication and Visualization for Data Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
DGM 6290	Social Media and Brand Strategy Implementation	

Organizational Leadership, MS

As today's workforce continues to be faced by new challenges, leadership tasks and responsibilities have become more important as well as more complex. The Master of Science in Organizational Leadership uses a practical, experiential learning approach to help students examine and develop their individual leadership styles while building skills that inspire and drive productive activity in all kinds of professional environments. Graduates are well able to perform at a higher level regardless of their position within the organization, demonstrate readiness for promotion, start their own business or consulting practice, take on global strategic and management challenges, and drive organizational change and innovation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6115	Developing Strategic and Authentic Leadership Communication	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6135	Ethical Leadership	3
LDR 7980	The Capstone: Demonstrating Leadership in Action	4

Concentration or Electives

The remaining quarter hours may be completed by a combination of completing a concentration and additional electives or selecting any courses listed in the concentrations and elective list.

CONCENTRATIONS

- Coaching
- Health Management (p. 869)
- Human Resources Management (p. 869)
- Leading and Managing Technical Projects (p. 869)
- Organizational Communication (p. 869)
- Project Management (p. 870)
- Sales Management (p. 870)

ELECTIVES

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the Organizational Leadership program.		
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6095	Foundations of Developing Cultural Awareness	
CMN 6096	Cultural Communications Lab	
EDU 6184	Interdisciplinary Foundations	
HRM 6042	Strategic Workforce Planning	
HRM 6050	Employee Engagement	
HRM 6070	Global Human Resources Management	
HRM 6074	Global Talent Acquisition and Mobility	
INT 6900	International Field Study Experience	
LDR 6101	Leadership Challenge Lab	
LDR 6140	Leadership Strategy, Design, and Practice	
LDR 6145	Developing Sustainable Global Leadership	
LDR 6150	Innovation and Organizational Transformation	
LDR 6190	Leadership Coaching for Purpose and Performance	
LDR 6983	Topics	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

COACHING

Code	Title	Hours
LDR 6190	Leadership Coaching for Purpose and Performance	3
LDR 6195	Advanced Leadership Coaching: An Interdisciplinary Approach	3
Complete three of the following:		9
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6095	Foundations of Developing Cultural Awareness	
HRM 6050	Employee Engagement	
LDR 6150	Innovation and Organizational Transformation	

HEALTH MANAGEMENT

Code	Title	Hours
HMG 6110	Organization, Administration, Financing, and History of Healthcare	3
HMG 6130	Healthcare Strategic Management	3
HMG 6140	Principles of Population-Based Management	3
HMG 6160	Healthcare Information Systems Management	3
HMG 6170	Health Law, Politics, and Policy	3

HUMAN RESOURCES MANAGEMENT

Code	Title	Hours
Required Courses		
HRM 6015	Introduction to Human Resources Management	3
HRM 6025	Workforce Analytics	3
Complete three of the following (students waived out of HRM 6015, complete four of the following):		9-12
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6042	Strategic Workforce Planning	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

LEADING AND MANAGING TECHNICAL PROJECTS

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives from the following list to satisfy the required program hours.

- Project Evaluation and Assessment (PJM 6125)
- Project Quality Management (PJM 6135)
- Managing Troubled Projects (PJM 6140)
- Introduction to Program and Portfolio Management (PJM 6710)

ORGANIZATIONAL COMMUNICATION

Code	Title	Hours
CMN 6000	Introduction to Organizational Communication	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6050	Crisis Communication	3

CMN 6090	Organizational Culture, Climate, and Communication	3
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management	3
INT 6000	Writing Lab	1

PROJECT MANAGEMENT

Code	Title	Hours
Required Courses		
PJM 5900	Foundations of Project Management [2]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
Electives		**3**
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

[2] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

SALES MANAGEMENT

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3
Elective Courses		
Complete a minimum 6 quarter hours from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6060	Negotiation, Mediation, and Facilitation	
EAI 6020	AI System Technologies	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6135	Ethical Leadership	
PJM 5900	Foundations of Project Management	
PJM 6210	Communication Skills for Project Managers	
PJM 6185	Managing Innovation Projects	
SMT 6983	Special Topics	

Project Management, MS

Companies succeed or fail based on their ability to bring quality products and services to market in a timely manner. Without skilled project managers in place, companies are challenged to deliver projects on time, on budget, and according to specifications. From inception to completion, project managers are responsible for every step in the process: project definition, cost and risk estimation, schedule planning and monitoring, budget management, negotiation and conflict resolution, project leadership, and project presentation and evaluation.

The Master of Science in Project Management is designed to provide you with the practical skills and theoretical concepts you need to lead complex projects. Featuring real-world case studies, this project management degree presents techniques and tools for managing long- and short-term projects successfully and cost-effectively. Augmenting the core project management courses are concentrations that seek to provide you with content-specific expertise that enables you to deepen your knowledge in your field of interest.

In October of 2021, the Master of Science in Project Management accreditation was re-affirmed for the maximum five-year accreditation cycle (originally accredited in 2009) by the Project Management Institute Global Accreditation Center for Project Management Education Programs (GAC) (https://www.pmi.org/), the world's leading association for project management professionals. Accreditation is achieved by meeting the GAC's rigorous standards, which include an assessment of program objectives and outcomes, a review of onsite and online resources, evaluations of faculty and students, and proof of continuous improvements in the area of project management.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3
PJM 6135	Project Quality Management	3
The following course should be taken last:		
PJM 6910	Capstone	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

Concentration or Electives

The remaining required quarter hours for the program may be completed by a combination of completing a concentration, project management electives, and 6000-level electives or a combination of project management electives and selecting any courses listed in the concentrations and electives lists.

CONCENTRATIONS

- Agile Project Management (p. 872)
- Analytics (p. 872)
- Construction Management (p. 872)
- Leadership (p. 873)
- Leading and Managing Technical Projects (p.)
- Organizational Communication (p.)
- Project Business Analysis (p.)

PROJECT MANAGEMENT ELECTIVES

Code	Title	Hours
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	

PJM 6185	Managing Innovation Projects
PJM 6205	Leading and Managing Technical Projects
PJM 6210	Communication Skills for Project Managers
PJM 6215	Leading Remote Project Teams
PJM 6710	Introduction to Program and Portfolio Management
PJM 6983	Topics

ELECTIVES LIST

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the project management program:		
CMN 6000	Introduction to Organizational Communication	
CMN 6005	Foundations of Professional Communication	
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6095	Foundations of Developing Cultural Awareness	
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management	
COP 6940	Personal and Career Development	
EDU 6184	Interdisciplinary Foundations	
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

CONCENTRATION IN AGILE PROJECT MANAGEMENT

Code	Title	Hours
Students in this concentration are only required to complete one project management required elective.		
PJM 6205	Leading and Managing Technical Projects	3
PJM 6810	Principles of Agile Project Management	3
PJM 6815	Advanced Agile Project Management	3
PJM 6820	Agile Implementation and Governance	3
PJM 6825	Agile Lean Product Development	3

CONCENTRATION IN ANALYTICS

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Complete one of the following:		3
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

CONCENTRATION IN CONSTRUCTION MANAGEMENT

Code	Title	Hours
CMG 6400	Introduction to Construction Management	4
CMG 6402	Alternative Project Delivery Methods and Project Controls	4
CMG 6403	Safety, Project Risk, and Quality Management	4
CMG 6405	Construction Law	4

CONCENTRATION IN LEADERSHIP

Code	Title	Hours
Required Courses		
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6150	Innovation and Organizational Transformation	3
Elective		
Complete one of the following:		3
LDR 6135	Ethical Leadership	
LDR 6140	Leadership Strategy, Design, and Practice	

CONCENTRATION IN LEADING AND MANAGING TECHNICAL PROJECTS

Code	Title	Hours
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3
PJM 6825	Agile Lean Product Development	3

CONCENTRATION IN ORGANIZATIONAL COMMUNICATION

Code	Title	Hours
Required Course		
CMN 6000 and INT 6000	Introduction to Organizational Communication and Writing Lab	4
Electives		
Complete four of the following:		12
CMN 6020	Ethical Issues in Organizational Communication	
CMN 6050	Crisis Communication	
CMN 6060	Negotiation, Mediation, and Facilitation	
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6110	Group Dynamics and Interpersonal Conflict: Meeting Management	

CONCENTRATION IN PROJECT BUSINESS ANALYSIS

Code	Title	Hours
PJM 6185	Managing Innovation Projects	3
PJM 6610	Foundations of Project Business Analysis	3
PJM 6620	Strategy Analysis and Needs Assessment	3
PJM 6630	Requirements Analysis and Design	3
PJM 6640	Leadership Strategies for the Business Analyst	3

Regulatory Affairs, MS

The rapid advancement of technology within healthcare and other sectors has driven the evolution of a complex global regulatory landscape and concurrently created the need for professionals with the skills necessary to facilitate the commercialization of products used therein. In response to this demand, Northeastern University's College of Professional Studies offers the Master of Science in Regulatory Affairs degree.

This unique graduate degree is designed to both broaden and deepen the student's understanding of current global compliance requirements and their practical application in the design, development, approval, and postmarketing of products utilized within regulated industries. Courses within this degree program offer students an opportunity to integrate scientific and technical knowledge and engineering and regulatory perspectives within the larger context of global product commercialization. From research and discovery through the postmarket phase of product utilization, the Master of Science in Regulatory Affairs degree examines the processes required for stakeholders to maintain compliance to product standards and regulations throughout the global marketplace.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
BTC 6210	Human Experimentation: Methodological Issues Fundamentals	4
RGA 6002	Introduction to Regulatory Compliance and Practice	2
RGA 6203	Pharmaceutical and Medical Device Law: Topics and Cases	5
or RGA 6204	Legal Issues in International Food, Drug, and Medical Device Regulation	
RGA 6212	Introduction to Safety Sciences	4
RGA 6463	Regulatory Strategy for Product Development and Life-Cycle Management	4

Capstone

Code	Title	Hours
RGA 6300	Practical Applications in Global Regulatory Affairs	4

The remaining quarter hours may be completed by selecting a combination of a concentration and additional electives or selecting any courses listed in the concentrations and electives lists.

Concentrations

- Biopharmaceutical Regulatory Affairs (p. 875)
- Clinical Research Regulatory Affairs (p. 875)
- Medical Device Regulatory Affairs (p. 875)
- Nonclinical Biomedical Product Regulation (p. 875)
- Quality Assurance Compliance (p.)

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

Elective Courses

Code	Title	Hours
General Electives		
COP 6940	Personal and Career Development	
EDU 6184	Interdisciplinary Foundations	
INT 6943	Integrative Experiential Learning	
RGA 6205	Emerging Trends and Issues in the Medical Device Industry	
RGA 6210	Strategic Planning and Project Management for Regulatory Affairs	
RGA 6215	Project Management in Early Drug Discovery and Development	
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6219	Advanced Topics in Advertising and Promotion of Drugs and Medical Devices	
RGA 6255	Global Convergence of Regulatory Science and Reimbursement/Market Access	
RGA 6461	Cybersecurity and Regulation of Digital Health Technologies by the FDA	
Regulatory Affairs of Food		
GST 6350	Global Economics of Food and Agriculture	

GST 6610	Sustainable Development
GST 6102	Global Corporate Social Responsibility
RFA 6220	Food Safety and Surveillance: Concepts and Applications
International Regulatory Affairs	
RGA 6221	European Union Compliance Process and Regulatory Affairs
RGA 6222	European Medical Device Regulations
RGA 6223	Introduction to Australian, Asian, and Latin American Regulatory Affairs
RGA 6224	Regulation of Biomedical Product Commercialization by Health Canada
RGA 6228	Managing International Clinical Trials
RGA 6228	Managing International Clinical Trials
RGA 6243	Medical Device Product Development in Canada
RGA 6244	Therapeutic Product Development in Canada

Concentrations

BIOPHARMACEUTICAL REGULATORY AFFAIRS

Code	Title	Hours
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	2
RGA 6101	Therapeutic Product Development: A Regulatory Overview	4
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6380	Advanced Regulatory Writing: New Drug Applications	4
Complete one of the following:		4
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6235	Emerging Product Categories in the Regulation of Drugs and Biologics	

CLINICAL RESEARCH REGULATORY AFFAIRS

Code	Title	Hours
BTC 6211	Validation and Auditing of Clinical Trial Information	4
BTC 6213	Clinical Trial Design Optimization and Problem Solving	4
RGA 6101	Therapeutic Product Development: A Regulatory Overview	4
or RGA 6202	Medical Device Development: A Regulatory Overview	
Complete one of the following:		4
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6228	Managing International Clinical Trials	

MEDICAL DEVICE REGULATORY AFFAIRS

Code	Title	Hours
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	2
RGA 6202	Medical Device Development: A Regulatory Overview	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
Complete one of the following:		6
RGA 6205	Emerging Trends and Issues in the Medical Device Industry	
RGA 6222	European Medical Device Regulations	
RGA 6243	Medical Device Product Development in Canada	
RGA 6275	Product Development and Process Validation	
RGA 6370	Advanced Regulatory Writing: Medical Device Submissions	

NONCLINICAL BIOMEDICAL PRODUCT REGULATION

Code	Title	Hours
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6405	Nonclinical Regulations in Biomedical Product Commercialization	4
RGA 6420	Global IVD Regulations and Submissions	4

QUALITY ASSURANCE COMPLIANCE

Code	Title	Hours
Complete one of the following:		2
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	
RGA 6461	Cybersecurity and Regulation of Digital Health Technologies by the FDA	
Complete the following:		
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6234	Risk Management: Compliance and Processes	4
RGA 6275	Product Development and Process Validation	2
Choose from the following to reach 16 quarter hours:		4
RGA 6221	European Union Compliance Process and Regulatory Affairs	
RGA 6410	Fundamentals of CMC Regulations and Methods	
RFA 6220	Food Safety and Surveillance: Concepts and Applications	

Sports Leadership, MSLD

The practice-oriented sports leadership master's degree is structured to accommodate midcareer athletic administrators and coaches, as well as individuals seeking to prepare for careers in the sports industry.

Developed in collaboration with Northeastern University's Center for the Study of Sport in Society, the Master of Sports Leadership seeks to prepare you for a variety of sport-related occupations—whether it's working with a professional or intercollegiate sports team; with a fitness club or wellness organization; or in marketing, communication, or sports management. Courses within this unique graduate degree examine the social and business issues that are critical to sports leadership. Offered in an online format with intensive one-week institutes in Boston and Charlotte, this practice-oriented degree seeks to provide you with a well-rounded educational experience, equipping you to advance your career in the sports industry.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6400	Sports Management	3
LDR 6405	Sport in Society [1]	3
LDR 6410	Leadership and Organization in Sport	3
LDR 6430	Sports Law	3
LDR 6441	Sports Media Relations [1]	3

[1] Summer institute course are delivered on-ground on the Boston campus. Winter institute courses are delivered on-ground on the Charlotte campus.

Internship/Capstone

Code	Title	Hours
Complete one of the following. This course should be the last course taken and requires faculty advisor approval:		3
LDR 6961	Internship	
LDR 6980	Capstone	

The remaining 27 of 45 quarter hours may be completed by a combination of completing a concentration and additional electives or by selecting any courses listed in the concentrations and electives lists.

Concentrations

- Professional Sports Administration (p. 878)
- Collegiate Athletics Administration (p. 878)
- Analytics (p. 878)
- eSports (p. 878)

Electives List

Code	Title	Hours
Complete courses from the 6000 level. Below is a list of courses regularly offered as electives within the Sports Leadership program:		
ALY 6000	Introduction to Analytics	
ALY 6015	Intermediate Analytics	
ALY 6010	Probability Theory and Introductory Statistics	
ALY 6070	Communication and Visualization for Data Analytics	
CMN 6040	Consumer Behaviors in the Online Environment	
DGM 6400	Game Design Fundamentals	
DGM 6516	Virtual and Augmented Reality (VR/AR)	
EDU 6184	Interdisciplinary Foundations	
INT 6943	Integrative Experiential Learning	
LDR 6323	Event Management	
LDR 6427	Gender and Diversity in Sport	

LDR 6435	Fiscal Practices in Sports
LDR 6440	Sports Marketing and Promotions
LDR 6442	Athletic Fund-Raising
LDR 6443	Ticket Sales and Strategies
LDR 6445	Corporate Sponsorships
LDR 6465	Title IX
LDR 6455	NCAA Compliance
LDR 6470	Bystander Strategies for the Prevention of Gender-Based Violence
LDR 6480	The Business of eSports
LDR 6615	Academic Advising for Student-Athletes

Program Credit/GPA Requirements

45 total quarter hours required
Minimum 3.000 GPA required

PROFESSIONAL SPORTS ADMINISTRATION

Code	Title	Hours
LDR 6323	Event Management	3
LDR 6435	Fiscal Practices in Sports	3
LDR 6440	Sports Marketing and Promotions	3
LDR 6445	Corporate Sponsorships	3
LDR 6443	Ticket Sales and Strategies	3
LDR 6460	Risk Management in Athletics	3

COLLEGIATE ATHLETICS ADMINISTRATION

Code	Title	Hours
LDR 6427	Gender and Diversity in Sport	3
LDR 6442	Athletic Fund-Raising	3
LDR 6455	NCAA Compliance	3
LDR 6465	Title IX	3
LDR 6470	Bystander Strategies for the Prevention of Gender-Based Violence	3
LDR 6615	Academic Advising for Student-Athletes	3

ANALYTICS

Code	Title	Hours
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Complete two of the following:		6
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

ESPORTS

Code	Title	Hours
CMN 6040	Consumer Behaviors in the Online Environment	3
LDR 6323	Event Management	3
LDR 6480	The Business of eSports	3
LDR 6445	Corporate Sponsorships	3
DGM 6400	Game Design Fundamentals	4
DGM 6516	Virtual and Augmented Reality (VR/AR)	2

Graduate Certificate Programs

Gain a competitive advantage and stand out in the job market with a graduate certificate from Northeastern University's College of Professional Studies. With over 41 certificates available in fields such as education, project management, leadership, and technology, you'll find a flexible and convenient way to build your skills and career potential. To accommodate your life, courses are offered online, on campus, or in a hybrid format.

Programs

- 3D Animation (p. 880)
- Agile Project Management (p. 881)
- Applied Analytics (p. 882)
- Biopharmaceutical Regulatory Affairs (p. 883)
- Cloud Computing Application and Management (p. 884)
- Collegiate Athletics Administration (p. 885)
- Construction Management (p. 886)
- Cross-Cultural Communication (p. 887)
- Digital Media Management (p. 888)
- Digital Video (p. 889)
- eSports (p. 889)
- Experiential Teaching and Learning (p. 890)
- Financial Markets and Institutions (p. 891)
- Forensic Accounting (p. 892)
- Fundraising and Development (p. 893)
- Game Design (p. 894)
- Geographic Information Systems (p. 895)
- Global Studies and International Relations (p. 896)
- Health Management (p. 897)
- Higher Education Administration (p. 898)
- Human-Centered Informatics (p. 899)
- Human Resources Management (p. 900)
- Information Security Management (p. 901)
- Insurance Analytics and Management (p. 902)
- Integrative Health and Wellness (p. 903)
- Interactive Design (p. 904)
- International Biopharmaceutical Regulatory Affairs (p. 905)
- Leadership (p. 906)
- Leading and Managing Technical Projects (p. 907)
- Learning Experience Design and Technology (p. 908)
- Medical Device Regulatory Affairs (p. 909)
- Nonclinical Biomedical Product Regulation (p. 910)
- Nonprofit Management (p. 911)
- Organizational Communication (p. 912)
- Professional Sports Administration (p. 913)
- Project Business Analysis (p. 914)
- Project Management (p. 915)
- Public and Media Relations (p. 916)
- Quality Assurance Compliance (p. 917)
- Remote Sensing (p. 918)
- Sales Management (p. 919)
- Social Media for Organizational Performance
- Usability (p. 921)

3D Animation, Graduate Certificate

3D animation is not only a major component in the film and broadcast industries, it is also a crucial element in online entertainment and a driving force for the gaming industry. Companies use animation in advertisements, websites, and training programs. The growing use of gaming technologies in education and industry (often referred to as serious games) has given rise to a need for skilled animators who can work closely with business and academic institutions.

The Graduate Certificate in 3D Animation offers a practice-oriented approach to the art and science of animation, with a particular emphasis on the special requirements of 3D modeling and animating for the gaming industry. Course work is designed to develop students' powers of visualization as well as provide a conceptual basis for visual narrative. The program seeks to produce graduates who are skilled in the use of industry-standard animation applications; understand visual principles of lighting, modeling, and surfacing; and are conversant with motion and special effects compositing.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6450	Animation Basics	4
DGM 6510	3D Modeling	4
DGM 6530	Character Animation	4

Elective Courses

Code	Title	Hours
Complete a minimum of four quarter hours from the following:		4
DGM 6515	Introduction to After Effects	
DGM 6535	Rigging Principles and Techniques	
DGM 6540	Compositing	

Program Credit/GPA Requirements

16 quarter hours required
Minimum 3.000 GPA required

Agile Project Management, Graduate Certificate

Northeastern University's graduate certificate in agile is designed to empower students to explore agile principles and practice and remain up-to-date with current trends in the agile framework. The increasingly important role of agile practitioners and managers is becoming clear as agile business development processes are being adopted by major companies because of its high degree of success in achieving improved time to market, reducing costs, and increasing overall customer satisfaction.

The graduate certificate in agile is led by highly credentialed faculty members that are agile practitioners with decades of experience in helping companies successfully implement agile in their organizations.

Through courses you take online, our agile graduate certificate project management curriculum will give you the opportunity to:

- Develop a strong framework and understanding of the role of agile management
- Develop an understanding of the agile management processes and methodologies
- Develop an understanding of how an agile approach to managing projects can deliver value to the organization
- Develop a personal leadership strategy for success as an agile practitioner
- Develop an agile evaluation plan to measure success

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6810	Principles of Agile Project Management	3
PJM 6815	Advanced Agile Project Management	3
PJM 6820	Agile Implementation and Governance	3
PJM 6825	Agile Lean Product Development	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks and is recommended for students who do not have a basic working knowledge of Microsoft Project software. Students who do not complete Foundations of Project Management (PJM 5900) take project management elective credits to satisfy the required credits for the program.

Elective Courses

Code	Title	Hours
INT 6940	Experiential Learning Projects for Professionals	1-4
INT 6943	Integrative Experiential Learning	3
PJM 6075	Project Finance	3
PJM 6125	Project Evaluation and Assessment	3
PJM 6140	Managing Troubled Projects	3
PJM 6145	Global Project Management	3
PJM 6175	Project Resource Management	3
PJM 6180	Project Stakeholder Management	3
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6710	Introduction to Program and Portfolio Management	3
PJM 6983	Topics	1-4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Applied Analytics, Graduate Certificate

In a global environment characterized by digital transformation, rapid change, and high levels of uncertainty, the ability to hire, reskill, and upskill analytic talent is a major driver of organizational performance. The Graduate Certificate in Applied Analytics in the College of Professional Studies is designed to prepare students to develop analytical skills that will support decision making in an organization's strategy. The certification focuses on data discipline: navigating the sea of information that's generated by machines; technical ability: understanding how machines function and how to interact with them; and the human discipline: what humans can do that machines, for the foreseeable future, cannot emulate—all with an emphasis on experiential learning. Students also will have the opportunity to tailor their studies to support their specific career objectives.

To address the needs of students who are currently in an analytical role, as well as those who are new to the field, the certification curriculum incorporates a broad menu of course options and a pathway through the program based on a student's experience level, as well as concentrations that are aligned with student career objectives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Core Courses

Code	Title	Hours
Required Courses		
ALY 6000	Introduction to Analytics	3
ALY 6010	Probability Theory and Introductory Statistics	3
ALY 6015	Intermediate Analytics	3
ALY 6070	Communication and Visualization for Data Analytics	3
Electives		
Complete two of the following:		6
ALY 6020	Predictive Analytics	
ALY 6030	Data Warehousing and SQL	
ALY 6040	Data Mining Applications	
ALY 6110	Data Management and Big Data	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Biopharmaceutical Regulatory Affairs, Graduate Certificate

The biotechnology and pharmaceutical industries continue to experience rapid growth in the U.S. market. As companies in these industries seek approval to market their products in the United States, demand for qualified regulatory affairs professionals continues to increase. Product development scientists, marketers, quality personnel, as well as legal experts that guide companies through the Food and Drug Administration (FDA) approval process, will benefit from regulatory affairs training.

The Graduate Certificate in Biopharmaceutical Regulatory Affairs is designed to provide students with a greater understanding of U.S. biologic and pharmaceutical product regulation and their unique development, marketing, manufacturing, and postmarket approval-related issues. The program also seeks to prepare students to ensure regulatory compliance, proper validation, and utilization of proper quantitative measurement techniques. Courses from this certificate may be applied toward the Master of Science in Regulatory Affairs for Drugs, Biologics, and Medical Devices.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	2
RGA 6101	Therapeutic Product Development: A Regulatory Overview	4
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6380	Advanced Regulatory Writing: New Drug Applications	4
Complete one of the following:		4
RGA 6217	Biomedical Product Development: From Biotech to Boardroom to Market	
RGA 6235	Emerging Product Categories in the Regulation of Drugs and Biologics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Cloud Computing Application and Management, Graduate Certificate

Cloud computing is the delivery of computing services over the internet. Due to the relatively lower cost of IT solutions, many organizations have started to take advantage of cloud services provided by Amazon Web Services, Microsoft Azure, IBM Cloud and SoftLayer, Google Cloud Platform, Salesforce, and so on. These web service providers offer a broad range of global cloud-based IT products, including computing technologies, storage, databases, analytics, networking, mobile, developer tools, management tools, Internet of Things connectivity, and security and enterprise applications. These services can help organizations move faster, facilitate agile development, and better manage scalability.

The cloud computing application and management (CCA&M) graduate certificate offers students an opportunity to develop technical and management skills to address the needs of enterprise IT services. They study theoretical and practical aspects of distributed systems from both technical and business perspectives. Successful students will be able to identify frameworks, techniques, and existing IT solutions to manage internet services at different levels (infrastructure, platform, and software) and will also be able to demonstrate the ability to use APIs to integrate applications and business operations into the cloud. They can be directly employed by web service providers or instead work as IT solutions managers in organizations that contract with web service providers.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 6420	Introduction to Cloud Computing Applications and Management	3
ITC 6450	Advanced Cloud Computing Applications and Management	3
ITC 6015	Enterprise Information Architecture	3
ITC 6460	Cloud Analytics	3
ITC 6520	Network Protection and Cloud Security	3
Complete one of the following:		3-4
ITC 6355	Web Application Design and Development	
ITC 6470	Enterprise Data Storage and Management Technologies	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Collegiate Athletics Administration, Graduate Certificate

College athletics in the United States is comprised of more than 1,200 schools, conferences, and organizations that collectively invest in the well-being of student-athletes—both on and off the field.

The Graduate Certificate in Collegiate Athletics Administration offers students an opportunity to obtain an in-depth understanding of the largest amateur segment of the sports industry. Through the program's curriculum, students will be given the opportunity to acquire leadership skills and knowledge in a variety of collegiate athletics topics including sports management, NCAA compliance, fund-raising, academic advising, gender and diversity in sport, and Title IX legislation.

Credits earned in this certificate may be used to satisfy some of the degree requirements Master of Sports Leadership (p. 877) program. For further information see the Seeking More Than One Certificate or Degree (p. 804) page.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6427	Gender and Diversity in Sport	3
LDR 6442	Athletic Fund-Raising	3
LDR 6455	NCAA Compliance	3
LDR 6465	Title IX	3
LDR 6470	Bystander Strategies for the Prevention of Gender-Based Violence	3
LDR 6615	Academic Advising for Student-Athletes	3

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Construction Management, Graduate Certificate

Over the last two decades, construction in both the public and private sector has become increasingly complex, requiring construction and project managers to have a stronger skill base to be successful in acquiring and executing projects.

The Graduate Certificate in Construction Management is intended to serve owners' representatives, consulting engineers, architects, design engineers, contractors, and subcontractors. Individuals who have a bachelor's degree, but not necessarily in construction, and who have been identified by their companies as having high potential for advancement are also good candidates for this program.

Courses from this certificate may be applied toward the Master of Science in Project Management.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMG 6400	Introduction to Construction Management	4
CMG 6402	Alternative Project Delivery Methods and Project Controls	4
CMG 6403	Safety, Project Risk, and Quality Management	4
CMG 6405	Construction Law	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Cross-Cultural Communication, Graduate Certificate

The Graduate Certificate in Cross-Cultural Communication will help to equip professionals with the knowledge and competencies to:

- Analyze personal cross-cultural awareness and implicit bias, in addition to interpret organizational cross-cultural communication strategy to develop effective communication processes and activities
- Evaluate communication audiences from a holistic perspective, thereby constructing effective verbal and nonverbal interactions based on cross-cultural consumption
- Formulate enlightened cross-cultural communication and inclusive diversity strategies, processes, and policies
- Demonstrate critical thinking skills through research, case analysis, role-plays, and experiential learning demonstrating agility, quick response, and diplomacy employing cross-cultural communication strategies

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6085	Strategies for Cross-Cultural Facilitation and Negotiation	3
CMN 6095	Foundations of Developing Cultural Awareness	3

Elective Courses

Code	Title	Hours
Choose from the following:		10
CMN 6096	Cultural Communications Lab	
GST 6100	Globalization and Global Politics and Economics	
GST 6101	Global Literacy, Culture, and Community	
HRM 6070	Global Human Resources Management	
INT 6900	International Field Study Experience	
ITC 6045	Information Technology Policy, Ethics, and Social Responsibility	
LDR 6145	Developing Sustainable Global Leadership	
NPM 6230	Measuring Social Impact	
PBR 6100	Introduction to Public Relations	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Digital Media Management, Graduate Certificate

The digital media market space can present unexpected challenges to standard business models. The Graduate Certificate in Digital Media Management offers courses designed to help managers apply best business practices to these nontraditional challenges. Students are offered the opportunity to gain skills in managing functionally diverse digital media teams, responding effectively to response-critical projects, and implementing marketing strategy in a variety of media channels.

Courses in the program were selected by faculty from the College of Professional Studies' Master of Professional Studies in Digital Media. The certificate consists of courses selected from the MPS in Digital Media (p. 833) curriculum.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6279	Project Management for Digital Media	4
DGM 6280	Managing for Digital Media	4
DGM 6285	Interactive Marketing Fundamentals	4
Complete one of the following:		4
DGM 6230	Digital Media Entrepreneurship	
DGM 6290	Social Media and Brand Strategy Implementation	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Digital Video, Graduate Certificate

With the quality and ease of use of digital video camcorders, anyone can capture moving images, but the result is like a Stradivarius violin: It takes training to make music. The Graduate Certificate in Digital Video is a hands-on introduction to digital video technologies, as well as an examination of the social, cultural, and political implications of moving-image production in the digital age. Students have an opportunity to gain competency in digital production and postproduction while exploring various formal, conceptual, and structural strategies. Students will also have an opportunity to learn to generate digital video that communicates effectively and inventively, in preparation for positions in the creative industries of gaming, design, and media production.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6435	Digital Video Production	4
DGM 6440	Editing in the Digital Studio	4
DGM 6506	Introduction to Digital Video	2
DGM 6540	Compositing	4
Complete one of the following:		2
DGM 6515	Introduction to After Effects	
DGM 6516	Virtual and Augmented Reality (VR/AR)	

Elective

Code	Title	Hours
Complete one of the following:		4
DGM 6520	Lighting for the Camera	
DGM 6545	Documentary and Nonfiction Production	

Program Credit/GPA Requirements

20 total quarter hours required
Minimum 3.000 GPA required

eSports, Graduate Certificate

Overview

Students will have the opportunity to take specialized courses that focus on the emerging eSports field. The certificate is designed for professionals in sports leadership careers who want to have a deeper understanding of eSports. It also provides a pathway to prepare sports and gaming enthusiasts with a combination of coursework across graduate programs to confidently enter this emerging sports sector. This is in keeping with the commitment to serve diverse students who may want to explore a nontraditional learning path as they consider a new career or wish to continue career development in synch with changes occurring in the profession around them.

Credits earned in this certificate may be used to satisfy some of the degree requirements of the Master of Sports Leadership program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6040	Consumer Behaviors in the Online Environment	3
DGM 6400	Game Design Fundamentals	4
DGM 6516	Virtual and Augmented Reality (VR/AR)	2
LDR 6323	Event Management	3
LDR 6445	Corporate Sponsorships	3
LDR 6480	The Business of eSports	3

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Experiential Teaching and Learning, Graduate Certificate

Experiential learning has been documented to be an effective pedagogy for promoting deeper learning, fostering student engagement, and ultimately closing the opportunity gap for underserved students. However, many educators and educational leaders are not familiar with best-practice strategies for leading, practicing, and researching experiential learning in their classrooms and therefore need themselves to become adult learners to begin the process of pedagogical transformation.

The Graduate Certificate in Experiential Teaching and Learning is designed to provide K–12 experiential educators with the knowledge, skills, and attitudes needed to design, facilitate, research, and lead engaging and meaningful learning experiences. The program explores the theoretical foundations, approaches, and strategies for learning through experience and how to apply these competencies with a commitment toward fostering educational equity.

Classroom teachers who are interested in transforming their practice as well as educators who are interested in seeking out leadership roles within schools will benefit from earning the Graduate Certificate in Experiential Teaching and Learning as the certificate covers content and skills needed for leading both student and adult experiential learning.

The certificate is comprised of 16 quarter hours, which may be applied toward the Master of Education in Learning and Instruction.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
EDU 6001	Experiential Learning Theory and Practice	4
EDU 6002	Culturally Responsive Experiential Teaching and Learning	4
EDU 6003	Applied Research in Experiential Teaching and Learning	4
EDU 6004	Leading Experiential Teaching and Learning	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Financial Markets and Institutions, Graduate Certificate

In this rapidly changing business environment, the barriers between institutions are eroding, and competition is increasing due to deregulation and new product development. Managing internal operations more efficiently and adapting to the changing external environment is critical to the long-term survival of institutions. The Graduate Certificate in Financial Markets and Institutions seeks to prepare students to measure the impact of accounting decisions on performance; to manage risks, assets, and liabilities to meet corporate goals; to understand domestic and international financial systems and the institutions within them; and to build financial relationships that foster marketing financial products.

An examination of financial services industry principles and practices seeks to provide individuals working in brokerage houses, investment or commercial banks, insurance companies, or real estate with a greater understanding of financial systems as well as how to manage risks, assets, and liabilities in meeting corporate goals.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
FIN 6101	Accounting Fundamentals for Financial Institutions	3
FIN 6102	Asset and Liability Management	3
FIN 6120	Building Financial Relationships	3
FIN 6161	Investment Analysis	3
Complete four quarter hours of the course below:		
CED 6995	Project	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Forensic Accounting, Graduate Certificate

News surrounding corporate corruption has had a significant impact on businesses, particularly the accounting industry. In response, the government has enacted sweeping accounting and business laws such as the Sarbanes-Oxley 2002 legislation. Additionally, many professional organizations, including the American Institute of Certified Public Accountants (AICPA) and the Association of Certified Fraud Examiners (ACFE), have made the prevention, detection, and prosecution of fraud and accounting abuse a priority.

This **four-course graduate certificate in forensic accounting** is designed to help students apply techniques in identifying, collecting, and examining evidence, including how to identify financial statement misrepresentation, transaction reconstruction, and tax evasion.

Note: Courses from this certificate may not be applied toward the Master of Science in Leadership.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Courses should be taken in the following sequence:

Code	Title	Hours
ACC 6210	Forensic Accounting Principles	3
ACC 6220	Dissecting Financial Statements	3
ACC 6230	Investigative Accounting and Fraud Examination	3
ACC 6240	Litigation Support	3
Complete the following course for four quarter hours:		4
CED 6995	Project	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Fundraising and Development, Graduate Certificate

This Graduate Certificate in Fundraising and Development is designed to prepare students for a career in fundraising and development roles, or provide a transition for a more comprehensive curriculum within the Master of Science in Nonprofit Management. The certificate seeks to provide expert-level skills to students who want to gain experience with the fundraising and development fields using current industry tools and techniques through a student-centered curriculum. Courses are designed to provide a solid foundation of knowledge on fundraising and development, which are areas in the nonprofit field experiencing growth and increased career opportunities.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NPM 6130	Fundraising and Development for Nonprofit Organizations	3
NPM 6140	Grant and Report Writing	3
NPM 6220	Donor Research and Management	3
NPM 6230	Measuring Social Impact	3
NPM 6240	Managing the Annual Fund	3

Elective Courses

Code	Title	Hours
Choose from the following:		1
CMN 6096	Cultural Communications Lab	
INT 6940	Experiential Learning Projects for Professionals	
INT 6000	Writing Lab	
NPM 6100	Strategic Management for the Nonprofit Sector	
NPM 6210	Social Value Investing and Effective Partnerships	
NPM 6995	Project	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Game Design, Graduate Certificate

Game design is one of the fastest-growing fields in entertainment, business, and education. From healthcare to political science, companies use games to educate their constituents and enhance employee skills.

The Graduate Certificate in Game Design offers a practice-oriented approach to the art and science of game making. The program emphasizes visual design and programming for video games and fosters conceptual understanding of the principles of game design for all varieties of games—from educational board games to iPhone games.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6308	Intermediate Programming for Digital Media	4
DGM 6400	Game Design Fundamentals	4
DGM 6403	Game Engine Fundamentals	4
DGM 6405	Game Development	4
DGM 6410	Game Design Technology Lab	4

Program Credit/GPA Requirements

20 total quarter hours required
Minimum 3.000 GPA required

Geographic Information Systems, Graduate Certificate

A geographic information system (GIS) combines layers of data to give needed information on specific locations. Such a system can map environmental sensitivities or geological features or can report on how best to speed emergency personnel to an accident or crime scene. Current fields using GIS include healthcare, public safety, environmental management, transportation and operations technology, real estate, and public utilities.

The Graduate Certificate in Geographic Information Systems program offers hands-on training, seeking to give students the necessary skills and understanding to apply GIS competently and effectively. As a result of the certificate curriculum, students should be well versed in GIS theory, have practical hands-on exposure to GIS software and hardware, understand the representation of data in both mapped and tabular forms, and know how to plan and construct spatial databases.

The courses in this certificate program may be applied to the Master of Professional Studies in Geospatial Services (p. 839).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GIS 5103	Foundations of Geographic Information Science	4
RMS 5105	Fundamentals of Remote Sensing	3
GIS 5201	Advanced Spatial Analysis	3

Electives

Code	Title	Hours
Complete two of the following:		6
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	
GIS 6320	Use and Applications of Free and Open-Source GIS Desktop Software	
GIS 6340	GIS Customization	
GIS 6345	Geospatial Programming	
GIS 6350	Planning a GIS Implementation	
GIS 6360	Spatial Databases	
GIS 6370	Internet-Based GIS	
GIS 6385	GIS/Cartography	
GIS 6983	Topics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Global Studies and International Relations, Graduate Certificate

The Graduate Certificate in Global Studies and International Relations is designed to provide students with the skills and training necessary to analyze, research, and evaluate a topic of interest in a global location. Overall, the program curriculum focuses on the themes of transition and development in the global world. Core courses provide a base of knowledge about global issues and are combined with an elective that allows students to focus on a specific area of interest.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
GST 6100	Globalization and Global Politics and Economics	4
GST 6101	Global Literacy, Culture, and Community	4
GST 6320	Peace and Conflict	4

Elective

Code	Title	Hours
Complete one of the following:		4
GST 6501	Regional Studies: East Asia	
GST 6502	Regional Studies: Middle East and North Africa	
GST 6503	Regional Studies: Sub-Saharan Africa	
GST 6504	Regional Studies: Europe and Eurasia	
GST 6505	Regional Studies: Southwest and Central Asia	
GST 6506	Regional Studies: Latin America	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Health Management, Graduate Certificate

Projections for the healthcare industry state that job growth will remain above average into the next decade. The needs of an aging population along with the increased human life cycle are just some of the factors contributing to this growth.

The Graduate Certificate in Health Management examines the financial, political, legal, and operational aspects of a healthcare facility and explores the evolution of healthcare delivery in the United States.

Health managers are found in different roles across healthcare organizations including:

- Strategic planning
- Operations
- Human resources
- Fund-raising
- Purchasing

Health managers are responsible for designing, administering, managing, and evaluating health policies, programs, and services. The courses in this certificate also serve as a concentration in the Master of Science in Leadership program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
HMG 6110	Organization, Administration, Financing, and History of Healthcare	3
HMG 6120	Human Resource Management in Healthcare	3
NPM 6120	Financial Management for Nonprofit Organizations	3
HMG 6130	Healthcare Strategic Management	3

Elective Courses

Code	Title	Hours
Complete two of the following (minimum of 6 quarter hours):		6
NPM 6110	Legal and Governance Issues in Nonprofit Organizations	
NPM 6150	Human Resources Management in Nonprofit Organizations	
HMG 6140	Principles of Population-Based Management	
HMG 6160	Healthcare Information Systems Management	
HMG 6170	Health Law, Politics, and Policy	
HRM 6020	Talent Acquisition and Onboarding	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Higher Education Administration, Graduate Certificate

Institutions of higher education around the world are facing considerable pressures that range from changing demographics to financial strain amid disruptions unimaginable 20 years ago. Administrators must develop foundational skills to create conditions that allow their students and institutions to thrive in a constantly changing world. The Graduate Certificate in Higher Education Administration is designed to prepare practitioners for the unique and difficult challenges facing the next generation of higher education professionals. This program allows students the flexibility to build upon their skills in a customized manner with a focus on practical skills and course designs firmly grounded in experiential learning.

The Graduate Certificate in Higher Education Administration program seeks to prepare students with the knowledge to understand the structure, governance, and operation of various higher education organizations. Within the context of classes, students have an opportunity to develop solutions to real-world problems.

Unique Features

- The ability to complete the program 100 percent while accessing and contributing to an extensive professional network—critical in the world of higher education.
- Northeastern faculty who are currently meaningfully engaged in the field, bringing their practical expertise to our students.
- The integration of experiential projects within several courses allowing students to develop practical skills.
- Credits can be applied toward the Master of Education, Higher Education Administration (p. 826) program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Core Courses

Code	Title	Hours
EDU 6202	Faculty, Curriculum, and Academic Community	4
EDU 6205	The Demographics of the New College Student	4
EDU 6219	Higher Education Law and Policy	4

Elective

Code	Title	Hours
Complete one of the following:		4
EDU 6217	The History of Colleges and Universities	
EDU 6218	Money Matters: Financial Management in Higher Education	
EDU 6224	Strategic Leadership in Enrollment Management	
EDU 6234	Program Evaluation, Assessment, and Accreditation in Higher Education	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Human-Centered Informatics, Graduate Certificate

Human-centered informatics (HCI) focuses on the design, development, and evaluation of IT systems with a particular emphasis on the relations and interactions between people and IT systems. The emphasis of understanding users experience when they interact with technology in the information-rich environment and the design of interfaces between users and systems makes it different from the focus of software engineering programs or visual and artistic design programs.

The human-centered informatics graduate certificate offers students the opportunity to learn the theories of cognitive and social psychology as well as universal principles of design adopted in human-computer interaction. Students develop the technical skills to study user experience in various IT environments (home, business, social media, healthcare, etc.), focusing on user needs, information architecture, and design of user interfaces. Successful students that graduate with the HCI graduate certificate will be able to propose innovative or improve design solutions to real-world problems.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
ITC 6410	Fundamentals of Human Behaviors for Interactive Systems	3
DGM 6461	Interactive Information Design 1	4
DGM 6168	Usability and Human Interaction	4
DGM 6268	Usable Design for Mobile Digital Media	4
Elective		
Complete one of the following:		3-4
DGM 6463	Interactive Information Design 2	
ALY 6070	Communication and Visualization for Data Analytics	
ITC 6355	Web Application Design and Development	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Human Resources Management, Graduate Certificate

In today's multifaceted organizations, human resource professionals must respond to the growing challenges of regulatory compliance, complex benefit plans, and training and motivating employees.

The Graduate Certificate in Human Resources Management seeks to foster a deep understanding of organizational development and effective change management, workforce planning and strategic recruitment, and training and performance management.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
HRM 6015	Introduction to Human Resources Management [1]	3
HRM 6025	Workforce Analytics	3
HRM 6042	Strategic Workforce Planning	3

[1] This course is for students with less than two years of human resources experience. Students who do not complete this course take electives to satisfy required program credits.

Electives

Code	Title	Hours
Complete seven quarters hours of the following:		7
CMN 6096	Cultural Communications Lab	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6010	Compensation and Benefits	
HRM 6020	Talent Acquisition and Onboarding	
HRM 6030	The Employment Contract	
HRM 6035	Digital Human Resources Platforms	
HRM 6047	Managing the Employee Life Cycle	
HRM 6050	Employee Engagement	
HRM 6060	Organizational Design	
HRM 6070	Global Human Resources Management	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Information Security Management, Graduate Certificate

Information security is a management issue with global business implications. To succeed in today's network economy requires more than simply a focus on information technology (IT) issues. Succeeding also requires a focus on security strategy and management. IT security governance is an overarching consideration in all risk-assessment and management-related endeavors and is important for information security since many issues have legal, regulatory, policy, and ethical considerations. The associated risks of business today must be clearly understood and managed.

The Graduate Certificate in Information Security Management is designed to provide a conceptual and practical overview of information security management. It begins with an overview of key information security management issues and principles. It presents security governance challenges including the policy, law, regulatory, and ethical accountability frameworks that information security risk managers must work within. The program includes review courses that prepare students for the Certified Information Systems Security Professional (CISSP) and Certified Information Systems Auditor (CISA) exams.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
ITC 6300	Foundations of Information Security	3
ITC 6305	IT Infrastructure (Systems, Networks, Telecom)	3
ITC 6310	Information Security Governance	3
ITC 6315	Information Security Risk Management	3
ITC 6520	Network Protection and Cloud Security	3

Electives

Code	Title	Hours
Complete one of the following:		3
ITC 6330	CISSP Preparation	
ITC 6530	Security Analytics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Insurance Analytics and Management, Graduate Certificate

Overview

Learners have an opportunity to gain appropriate technical skills, insurance design expertise, and experience needed to assume professional roles in the insurance field. Upon completion, learners should be prepared to:

- Investigate and identify opportunities to address insurance questions and/or challenges in the evolving digital agenda of the insurance industry.
- Articulate and defend the significance and implications of the intersections of application orientation, domain knowledge, digital leadership and human-centered design, decision support, and digital transformation across the insurance enterprise.
- Integrate the principles, tools, and methods of digital transformation and human-centered design to solve organizational problems by making informed decisions related to the design and deployment of systems in human environments and workflows within the organization.
- Develop a formally proposed solution and/or application, real or hypothetical, to address an insurance-related question and/or challenge.
- Apply data management and strategic analysis, problem-solving, decision-making, effective visualization/communication, and digital leadership skills to the application or deployment of technologies and products in a real-world scenario.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Core Courses		
INS 6020	Claims Management	3
INS 6030	Insurance Underwriting	3
INS 6040	Introduction to Insurance Data Analytics	3
INS 6050	Intermediate Insurance Analytics	3
Electives		
Complete two of the following:		6
ALY 6070	Communication and Visualization for Data Analytics	
EAI 6000	Fundamentals of Artificial Intelligence	
EAI 6020	AI System Technologies	
INS 6120	Macro Challenges in Insurance	
INS 6140	Distribution and Sales	
INS 6983	Special Topics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Integrative Health and Wellness, Graduate Certificate

The Graduate Certificate in Integrative Health and Wellness is designed to equip students to apply cross-disciplinary approaches to patient or client health and wellness. Students explore how to interact with diverse patients or clients within a variety of settings and how to utilize a holistic model for patient care by incorporating strengths-based perspective, cross-cultural communication, resilience, advocacy, and problem solving. This certificate equips emerging and current healthcare practitioners and professionals to apply integrative well-being principles toward a wide variety of approaches and practices that create cohesive and holistic assessments and intervention plans for those they serve. Students have an oppoprtunity to learn how to advocate for access and navigate the wide variety of care options that are available, while considering social determinants of health, patient's cultural and economic belief systems, social and mental supports, and the potential appropriate interventions. Students will work side-by-side with a multidisciplinary array of practitioners to develop the needed assessment and intervention skills to excel within the wide range of roles and applications available across integrative healthcare in our global 21st-century delivery system.

The mission of the Graduate Certificate in Integrative Health and Wellness at Northeastern University is to cultivate diverse practitioners who can use innovative assessments and resource identification tools to coordinate holistic patient care. Here, we train health practitioners and professionals on how to be agile learners, thinkers, and creators in integrative health, wellness, and resilience

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Curriculum (16 credits)

Code	Title	Hours
NTR 6105	Foundations of Integrative Health	4
NTR 6125	The Process of Health and Healing: Exploring Systems in the Body—Part 1	4
NTR 6135	The Process of Health and Healing: Exploring Systems in the Body—Part 2	4
NTR 6160	Survey of Integrative Practices and Interventions	4

Experiential Capstone (2–4 credits)

Code	Title	Hours
NTR 7880	Wellness in Practice	2-4

Interactive Design, Graduate Certificate

Digital media plays an increasingly significant role in the global culture and economy. The Graduate Certificate in Interactive Design offers an overview of courses in the creative process of storytelling and communicating through visuals and sound. Students have an opportunity to gain expertise in time-based design and interface and experience design through a practice-oriented problem-solving approach.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6217	Typography for Interactivity	4
DGM 6317	Screen-Based Publication Design	4
DGM 6461	Interactive Information Design 1	4

Elective Courses

Code	Title	Hours
Choose from the following:		4
DGM 6463	Interactive Information Design 2	
DGM 6471	Designing Infographics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

International Biopharmaceutical Regulatory Affairs, Graduate Certificate

To work in today's global biopharmaceutical industry, there is a strong need to understand international regulations that impact the development, marketing, and manufacturing of pharmaceutical and biotechnology products.

The Graduate Certificate in Biopharmaceutical International Regulatory Affairs curriculum focuses on factors that facilitate the safety, performance, and efficacy of biomedical goods. Program training covers the assessment of international regulations and interpretation of their likely impact on a company's global commercialization strategies. Through participation in the program, students will have an opportunity to gain an understanding of international regulatory requirements necessary to implement such strategies.

Course work covers biotechnology and pharmaceutical product approval processes, regulatory analysis, and liability laws as they exist across different regulatory systems. The graduate certificate will provide core regulatory knowledge to students entering into the field from bench research, clinical studies, quality control/assurance, pharmacy, bioengineering, business, and legal analysis. The curriculum covers regulatory environments in Europe, Latin America, Australia, Japan, and other emerging economies. Courses from this certificate may be applied toward the Master of Science in Regulatory Affairs for Drugs, Biologics, and Medical Devices.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
RGA 6221	European Union Compliance Process and Regulatory Affairs	4
Complete a minimum of 12 quarter hours		12
RGA 6204	Legal Issues in International Food, Drug, and Medical Device Regulation	
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	
RGA 6210	Strategic Planning and Project Management for Regulatory Affairs	
RGA 6212	Introduction to Safety Sciences	
RGA 6223	Introduction to Australian, Asian, and Latin American Regulatory Affairs	
RGA 6224	Regulation of Biomedical Product Commercialization by Health Canada	
RGA 6244	Therapeutic Product Development in Canada	
RGA 6245	Regulation of Generic Pharmaceutical and Biosimilar Products	
RGA 6255	Global Convergence of Regulatory Science and Reimbursement/Market Access	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Leadership, Graduate Certificate

Today's cross-functional teams and organizations require a leadership style that capitalizes on the collective expertise and capabilities of the group. The development and mastery of collaborative leadership skills are not typically part of one's focused discipline preparation; hence, leadership requires deliberate development by those who assume leadership roles.

The Graduate Certificate in Leadership starts with the premise that everyone is capable of leadership. The program studies every aspect of leadership dynamics from the leader as an individual to working in teams and from the organization itself to the development of strategic leadership techniques. Course work exposes participants to a series of alternative perspectives of leadership, including collaborative models. Using the course's action-learning methods, participants build a personal model of leadership that they can put to immediate use in their workplace.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6100	Developing Your Leadership Capability	3
LDR 6110	Leading Teams Strategically in a Global Environment	3
LDR 6120	Developing Organizational Success through Leadership Development	3
LDR 6140	Leadership Strategy, Design, and Practice	3

Leadership Electives

Code	Title	Hours
Complete two of the following:		6
LDR 6135	Ethical Leadership	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
LDR 6150	Innovation and Organizational Transformation	
CMN 6010	Strategic Communication Management	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Leading and Managing Technical Projects, Graduate Certificate

Whether you're an established project manager, or you're working in a technical field and aspire to be one, Northeastern's Graduate Certificate in Leading and Managing Technical Projects seeks to give you the foundational skills and practical knowledge you need to be successful.

Through courses you take online, our technical project management curriculum will give you the opportunity to:

- Develop the leadership and management skills to lead technical projects
- Learn how to communicate technical content to a nontechnical audience
- Gain practice leading remote teams, including global teams
- Plan and schedule projects using the most current and relevant methodologies
- Develop a personal leadership approach to motivate and inspire others

Credits earned in this certificate may be used to satisfy some of the degree requirements of a College of Professional Studies master's program. For further information, see the Seeking More Than One Certificate or Degree page.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6205	Leading and Managing Technical Projects	3
PJM 6210	Communication Skills for Project Managers	3
PJM 6215	Leading Remote Project Teams	3
PJM 6810	Principles of Agile Project Management	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks and is recommended for students who do not have a basic working knowledge of Microsoft Project software. Students who do not complete Foundations of Project Management (PJM 5900) take project management electives to satisfy required program credits.

Elective Courses

Code	Title	Hours
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Learning Experience Design and Technology, Graduate Certificate

The Graduate Certificate in Learning Experience Design and Technology offers a practice-based exploration of the key skills required in the rapidly expanding field of learning design. Never before has the need for professionals with LXD expertise been so essential across all industry sectors. The certificate is designed to meet this need by grounding designers, educators, technologists, and other professionals in the art and science of effective learning design. Students will have the opportunity to build or strengthen design and technological skills that can be applied across PK–12, higher education, government, military, corporate, and nonprofit environments. Skills can be applied to learners of all ages and in online, mobile, virtual, face-to-face, and blended formats.

The program's innovative approach blends academic and workplace-based learning with a focus on how people learn, foundational learning design skills, and advanced learning design topics. Experiential opportunities are built into each course. Students will have the opportunity to develop an online portfolio of work to demonstrate their capacity to think strategically; put creative ideas into action using a variety of technologies; learning design environments that meet academic, personal, professional, and organizational goals; and interpret and clearly communicate results to stakeholders. Credits earned in this certificate may be used to satisfy some of the degree requirements of the Master of Professional Studies in Learning Experience Design and Technology program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Core Requirements		
EDU 6319	How People Learn	4
EDU 6334	Foundations of Learning Experience Design	4
EDU 6335	Advanced Practices in Learning Experience Design	4

Electives

Code	Title	Hours
Complete a minimum of 4 quarter hours from the list below to reach the program credits required		4
CMN 6080	Intercultural Communication	
DGM 6501	Web Creation Boot Camp	
EDU 5978	Independent Study	
EDU 6001	Experiential Learning Theory and Practice	
EDU 6002	Culturally Responsive Experiential Teaching and Learning	
EDU 6003	Applied Research in Experiential Teaching and Learning	
EDU 6004	Leading Experiential Teaching and Learning	
EDU 6202	Faculty, Curriculum, and Academic Community	
EDU 6323	Digital Learning Tools and Technologies for LXD	
EDU 6329	Connecting Theory and Practice	
EDU 6331	E-Learning Design as a Collaborative Profession	
EDU 6332	Open Learning	
EDU 6336	Data Literacy for Data-Driven Decision Making	
EDU 6338	Learning Experience Design Studio	
EDU 6558	Issues in Education	
NPM 6140	Grant and Report Writing	
PJM 5900	Foundations of Project Management	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Medical Device Regulatory Affairs, Graduate Certificate

The national and regional medical device industries have continued to experience significant market growth, despite the fluctuations in the overall global economy. There are more than 7,000 medical device companies in the United States alone, and nearly 1,000 of these are based in Massachusetts. In total, the medical device sector in Massachusetts employs 36,000 workers, has a payroll of over $1.8 billion, and annual product shipments of $7.3 billion.

The Graduate Certificate in Medical Device Regulatory Affairs provides students with an opportunity to gain a detailed knowledge of the regulations influencing the commercialization of new and existing medical devices. The intensely practical curriculum spans the entire life cycle of product development and introduces students to the salient features governing both pre- and postapproval stages. The program content also examines the relationship between regulatory agencies and the medical device industry. Students have the opportunity to take specialized courses on regulatory systems outside the United States.

The certificate will help advance the careers of students coming from such fields as bioengineering, quality control/assurance, intellectual property, business, and marketing. The choice of several courses makes this certificate ideal for students already working in the regulatory world as well as those just entering into the profession.

Courses from this certificate may be applied toward the Master of Science in Regulatory Affairs.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
Required Courses		
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	2
RGA 6202	Medical Device Development: A Regulatory Overview	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
Electives		
Choose from the following:		6
RGA 6205	Emerging Trends and Issues in the Medical Device Industry	
RGA 6222	European Medical Device Regulations	
RGA 6243	Medical Device Product Development in Canada	
RGA 6275	Product Development and Process Validation	
RGA 6370	Advanced Regulatory Writing: Medical Device Submissions	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Nonclinical Biomedical Product Regulation, Graduate Certificate

The professional practice of nonclinical regulatory affairs involves understanding, developing, and applying global compliance standards to the biomedical product commercialization process in several cross-functional areas that are separate and distinct from direct clinical patient care. This includes, but is not limited to, design and preclinical development processes, including *in vitro* and *in vivo* animal testing, *in silico* testing, small-scale/large-scale manufacturing process development and validation, development and maintenance of supply chains, as well as product handling and distribution. The Graduate Certificate in Nonclinical Biomedical Product Regulation introduces students to the practice of understanding, developing, and effectively applying global nonclinical compliance standards to new healthcare technologies. Students in the certificate program have the opportunity to:

- Differentiate between the nonclinical vs. clinical aspects of the global biomedical product commercialization process from a regulatory compliance perspective
- Explain the compliance-associated requirements needed to successfully practice professional nonclinical work within the global biomedical products industry
- Describe the nonclinical regulatory standards utilized by the United States Food and Drug Administration (FDA) and other global regulatory agencies to evaluate the safety and efficacy of new and existing biomedical products employed by healthcare practitioners in various patient settings
- Apply fundamental global nonclinical regulations to the biomedical product commercialization process, including therapy design, manufacturing process development and validation, cybersecurity, and supply chain risk management

Students that successfully complete this certificate may apply their courses toward the Master of Science in Regulatory Affairs (p. 874).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
RGA 6207	Global Impact of Electronic Common Technical Document (eCTD) Submissions	4
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6405	Nonclinical Regulations in Biomedical Product Commercialization	4
RGA 6420	Global IVD Regulations and Submissions	4

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Nonprofit Management, Graduate Certificate

Nonprofits today simply require a higher level of management expertise. Nonprofit managers are required to manage people and programs more efficiently and effectively. The Graduate Certificate in Nonprofit Management focuses on developing skills in organizational management, financial management, fund-raising, grant and report writing, human resources management, and governance.

The program integrates theoretical approaches with practical application to prepare students for positions in either small or large nonprofit organizations. The program targets individuals who work in the nonprofit sector as executive directors, managers, program staff, board members, and volunteers. Students have an opportunity to participate in case studies, individual and group projects, and class discussions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
NPM 6110	Legal and Governance Issues in Nonprofit Organizations	3
NPM 6120	Financial Management for Nonprofit Organizations	3
NPM 6125	Promoting Nonprofit Organizations	3
NPM 6130	Fundraising and Development for Nonprofit Organizations	3
NPM 6150	Human Resources Management in Nonprofit Organizations	3

Electives

Code	Title	Hours
Choose from the following:		1
CMN 6096	Cultural Communications Lab	
INT 6940	Experiential Learning Projects for Professionals	
INT 6000	Writing Lab	
NPM 6100	Strategic Management for the Nonprofit Sector	
NPM 6140	Grant and Report Writing	
NPM 6995	Project	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Organizational Communication, Graduate Certificate

The study of organizational communication focuses on the dynamics of communication in complex organizations for the purpose of learning how individuals within such organizations can become effective communicators. Whether the context of such communication is meetings or professional presentations, communicating during a crisis, or intercultural exchanges, the message is consistent: Effective communication is a crucial factor in determining organizational success.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6010	Strategic Communication Management	3
CMN 6020	Ethical Issues in Organizational Communication	3
CMN 6910	Organizational Communication Assessment	3

Elective Courses

Code	Title	Hours
Choose from the following:		7
CMN 6080	Intercultural Communication	
CMN 6090	Organizational Culture, Climate, and Communication	
CMN 6096	Cultural Communications Lab	
CMN 6100	Communication Networks and Managing Information	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Professional Sports Administration, Graduate Certificate

The Graduate Certificate in Professional Sports Administration is designed to give students an in-depth understanding of this professional segment of the sports industry. Through the program's curriculum, students will be given the opportunity to acquire professional leadership skills and knowledge in a variety of topical areas including sports management, marketing, sponsorship, event management, risk management, and finance.

Credits earned in this certificate may be used to satisfy some of the degree requirements of the Master of Sports Leadership (p. 877) program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6323	Event Management	3
LDR 6435	Fiscal Practices in Sports	3
LDR 6440	Sports Marketing and Promotions	3
LDR 6443	Ticket Sales and Strategies	3
LDR 6445	Corporate Sponsorships	3
LDR 6460	Risk Management in Athletics	3

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Project Business Analysis, Graduate Certificate

At the heart of every project is requirements analysis. It's a critical skill set, leveraged across the spectrum of project work. This program provides practicing project managers with a solid framework and understanding of the process of developing requirements. It also emphasizes the need to engage stakeholders throughout the process to ensure outcomes meet the desired needs of the organization.

This graduate certificate allows you to possess an in-demand skill set. It gives you a better opportunity at finding entry-level positions as a PMO analyst or entry-level business analyst. And it prepares you with the knowledge, skills, and tools needed to create and manage requirements to meet stakeholder needs effectively.

In this program, you will:

- Develop a strong framework and understanding of the role of business analyst
- Understand and analyze the voice of the customer and explore potential solutions for their needs
- Apply tools and techniques to elicit requirements (business requirements, stakeholder requirements)
- Translate the needs of the business into clear, concise, quality requirements (solution requirements, functional and nonfunctional requirements)
- Apply analytical skills in the business analysis process
- Develop a personal leadership strategy for success as a business analyst

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6610	Foundations of Project Business Analysis	3
PJM 6620	Strategy Analysis and Needs Assessment	3
PJM 6630	Requirements Analysis and Design	3
PJM 6640	Leadership Strategies for the Business Analyst	3

[1] Foundations of Project Management (PJM 5900) is for students with less than three years of experience directing or leading project tasks and is recommended for students who do not have a basic working knowledge of Microsoft Project software. Students who do not complete PJM 5900 may substitute project management electives to satisfy required program hours.

Elective Courses

Code	Title	Hours
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6185	Managing Innovation Projects	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6983	Topics	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Project Management, Graduate Certificate

Technical and managerial employees at all levels of organizations are being asked to manage small and large projects. Many of these professionals have not been specifically trained to effectively and efficiently manage projects. The task of managing projects has its own body of knowledge. This program seeks to provide the practical and theoretical knowledge for which the Project Management Institute tests, and it is expected that individuals who successfully complete this program will be capable of fulfilling the education requirements of the Project Management Professional (PMP) certification exam.

This certificate program in project management is designed with sufficient course flexibility to accommodate professionals with various levels of project management experience. Project management principles are applicable to both manufacturing and service industries, including professionals in fields such as software engineering, construction management, and financial services.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PJM 5900	Foundations of Project Management [1]	4
PJM 6005	Project Scope Management	3
PJM 6015	Project Risk Management	3
PJM 6025	Project Scheduling and Cost Planning	3

[1] Foundations of Project Management (PJM 5900) is for students with fewer than three years of experience directing or leading project tasks. Students who do not complete PJM 5900 may substitute project management electives to satisfy the required program hours.

Elective Courses

Code	Title	Hours
Choose from the following:		3
INT 6940	Experiential Learning Projects for Professionals	
INT 6943	Integrative Experiential Learning	
PJM 6075	Project Finance	
PJM 6125	Project Evaluation and Assessment	
PJM 6140	Managing Troubled Projects	
PJM 6145	Global Project Management	
PJM 6175	Project Resource Management	
PJM 6180	Project Stakeholder Management	
PJM 6205	Leading and Managing Technical Projects	
PJM 6210	Communication Skills for Project Managers	
PJM 6215	Leading Remote Project Teams	
PJM 6710	Introduction to Program and Portfolio Management	
PJM 6983	Topics	

Program Credit/GPA Requirements

16 quarter hours required
Minimum 3.000 GPA required

Public and Media Relations, Graduate Certificate

There is growing demand for communication professionals with digital media skills and a strategic perspective on brand and reputation management. According to the Bureau of Labor Statistics, employment of public relations specialists and managers will grow by 12 percent and 13 percent, respectively. The Graduate Certificate in Public and Media Relations is designed to prepare communication professionals who focus on external stakeholders for the challenges of a rapidly changing industry. This program focuses on developing strategic communication plans, crafting compelling messages, and performing audience research, while preparing students with the latest skills in digital platforms, tools, and techniques.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PBR 6100	Introduction to Public Relations	3
PBR 6135	Public Relations Strategy and Planning	3
PBR 6710	Public Relations Research: Understanding External Audiences	3

Elective Courses

Code	Title	Hours
Complete 7 quarter hours from the following:		7
CMN 6025	Digital Era Skills: Platforms, Tools, and Techniques	
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	
CMN 6050	Crisis Communication	
CMN 6075	Digital Marketing Analytics	
DGM 6290	Social Media and Brand Strategy Implementation	
DGM 6550	Search Engine Optimization: Strategy and Implementation	
PBR 6001	Communications Technology Lab	
PBR 6125	Community Relations and Corporate Social Responsibility	
PBR 6130	Public Relations Content Development	
PBR 6140	Advanced Public Relations Content Development	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Quality Assurance Compliance, Graduate Certificate

Global regulatory requirements and compliance standards for development, marketing approval, and clinical utilization of new biomedical products continue to evolve rapidly in today's dynamic healthcare environment. The professional practice of quality assurance involves ensuring compliance to appropriate industry-specific regulatory standards throughout a biomedical product's life cycle.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
Complete one of the following:		2
RGA 6000	Introduction to Food and Drug Administration (FDA) Pharmaceutical Regulation	
RGA 6001	Introduction to Food and Drug Administration (FDA) Medical Device Regulation	
RGA 6461	Cybersecurity and Regulation of Digital Health Technologies by the FDA	
Complete the following courses:		
RGA 6233	Application of Quality System Regulation in Medical Device Design and Manufacturing	4
RGA 6234	Risk Management: Compliance and Processes	4
RGA 6275	Product Development and Process Validation	2
Choose from the following to reach 16 quarter hours:		4
RGA 6221	European Union Compliance Process and Regulatory Affairs	
RGA 6410	Fundamentals of CMC Regulations and Methods	
RFA 6220	Food Safety and Surveillance: Concepts and Applications	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

Remote Sensing, Graduate Certificate

Remote sensing is the measurement of information by a recording device that is not in physical contact with the object being measured. In practice, remote sensing is the utilization at a distance (as from aircraft, space shuttle, spacecraft, satellite, or ship) of any device for gathering information about the environment. The term remote sensing is most often applied to terrestrial and weather observations but can be applied to planetary environments and astronomy. Remote sensing is applicable to many other situations, including land-use change, pollution tracking, land-use and planning, transportation systems, and military observation.

The online Graduate Certificate in Remote Sensing aims to make education and training in remote sensing available to adult and professional students. The remote sensing certificate program seeks to produce students who are well versed in remote sensing theory, who have hands-on exposure to remote sensing software and hardware, and who have learned how to extract pertinent data from remotely sensed data sets. This six-course certificate program seeks to provide students with the necessary skills and understanding to apply remote sensing knowledge competently and effectively in a variety of areas.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Courses

Code	Title	Hours
RMS 5105	Fundamentals of Remote Sensing	3
RMS 6110	Introduction to Machine Learning for Image Data	3

Remote Sensing Electives

Code	Title	Hours
Complete four of the following:		12
GIS 6345	Geospatial Programming	
ITC 6480	Amazon Web Service (AWS) Cloud Architecting	
RMS 6240	Introduction to Radar and LiDAR Remote Sensing	
RMS 6280	Automated Feature Extraction for the Geospatial Professional	
RMS 6290	Spectroscopic Image Analysis	
RMS 6983	Topics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Sales Management, Graduate Certificate

Overview

The Graduate Certificate in Sales Management is designed to provide sales managers with an integrated approach to sales management that recognizes the customer journey does not end with a sale; instead, it is a continuous process of identifying opportunity, recognizing customer challenges, addressing customer pain points, and supporting customer success. To develop these skills, it is important for sales managers to better understand how analytics and AI can be used to understand customer behavior and predict market trends, develop strong leadership skills to build successful teams, and to use project management techniques to better reach goals.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
LDR 6100	Developing Your Leadership Capability	3
SMT 6010	Building Business Acumen	3
SMT 6020	Managing the Customer Experience	3
SMT 6060	Decision Support and Sales Analytics	3

Elective Courses

Code	Title	Hours
Complete a minimum of 6 credits from the following:		6
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6060	Negotiation, Mediation, and Facilitation	
HRM 6005	Creating a High-Performance Organization: Strategic Organizational and HRM Choices	
HRM 6020	Talent Acquisition and Onboarding	
LDR 6110	Leading Teams Strategically in a Global Environment	
LDR 6190	Leadership Coaching for Purpose and Performance	
SMT 6983	Special Topics	

Program Credit/GPA Requirements

18 total quarter hours required
Minimum 3.000 GPA required

Social Media for Organizational Performance, Graduate Certificate

In organizations, social media management and strategy development have become core skills required for communication professionals. According to WANTED Analytics, over 1.6 million working professionals utilize social media skills in jobs at the manager and executive level. The Graduate Certificate in Social Media for Organizational Performance focuses on strategic framework and the role digital media has in supporting organizational performance. The program integrates theory and practice, including experimenting with various tools and platforms and reflecting on lessons learned from active management and experimentation.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
CMN 6045	Leveraging Digital Technologies: Strategy, Assessment, and Governance	3
DGM 6285	Interactive Marketing Fundamentals [1]	4
DGM 6290	Social Media and Brand Strategy Implementation	4

Electives

Code	Title	Hours
Complete a minimum of five quarter hours from the following:		5
CMN 6040	Consumer Behaviors in the Online Environment	
CMN 6065	Implementation and Management of Social Media Channels and Online Communities	
CMN 6075	Digital Marketing Analytics	
CMN 6096	Cultural Communications Lab	
DGM 6168	Usability and Human Interaction	
DGM 6550	Search Engine Optimization: Strategy and Implementation [2]	
PBR 6001	Communications Technology Lab	

Program Credit/GPA Requirements

16 total quarter hours required
Minimum 3.000 GPA required

1 Interactive Marketing Fundamentals (DGM 6285) is for students who do not have digital media marketing experience. Students who do not complete this course take additional elective credits to satisfy the required credits for the program. Students may also meet the requirement through prior learning assessment. Visit the Credit for Prior Learning (https://cps.northeastern.edu/academics/prior-learning-assessments/) page for more information.

2 Contact your advisor to enroll in this course. Students who choose Search Engine Optimization: Strategy and Implementation (DGM 6550) are not required to complete its course prerequisites.

Usability, Graduate Certificate

The Graduate Certificate in Usability is a practical, in-demand, career-focused graduate certificate. The certificate stresses both a broad, theory-based introduction to the field, as well as the ability to choose from focused electives, with an emphasis on practical assignments. This certificate highlights the key skills and tools used by usability generalists, working in a broad variety of fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
DGM 6168	Usability and Human Interaction	4
DGM 6268	Usable Design for Mobile Digital Media	4
DGM 6461	Interactive Information Design 1	4
DGM 6525	Research Methods for Global User Experiences	4

Electives Courses

Code	Title	Hours
Complete 4 quarter hours from the following:		4
DGM 6308	Intermediate Programming for Digital Media	
DGM 6451	Web Development	
TCC 6110	Information Architecture	

Program Credit/GPA Requirements

20 total quarter hours required
Minimum 3.000 GPA required

College of Science

Website (http://www.northeastern.edu/cos/graduate/)

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Graduate Student Services
617.373.4275
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The College of Science seeks to offer advanced students outstanding academics and real-world research experience through cutting-edge research opportunities that are both discipline based and interdisciplinary. Our doctoral and master's degree programs in the physical sciences, life sciences, and mathematics seek to give students a deep understanding of emerging fields such as chemical biology, cognition and neuroscience, environmental and marine science, biochemistry, bioinformatics, biotechnology, nanoscience, and network science. Our programs are positioned at the forefront of discovery, invention, and innovation. We seek to prepare students and professionals to enter the scientific workforce serving the academic, government, or private sector.

Academic Policies and Procedures

- Academic Appeals Policies (p. 924)
- Awards (p. 927)
- Changes in Requirements (p. 928)
- Cooperative Education Policies (p. 929)
- Course Registration (p. 931)
- The Doctor of Philosophy Degree (PhD) (p. 932)
- Grading Policies (p. 934)
- The Master's Degree Academic Requirements (p. 935)
- Satisfactory Progress (p. 936)
- Time Limitation (p. 937)
- Transfer Credit (p. 938)

Academic Appeals Policies

Northeastern University affirms that it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, or otherwise unfairly treated. Information about the university appeals process and procedures can be found in the Graduate Catalog. (p. 70)

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, and that this constitutes a substantive basis for the appeal, they should consult with the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/) as soon as they become aware of alleged prohibited harassment or discrimination, and they are not required to wait until a term grade or determination is received before seeking advice or redress. If the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/) is advised of such alleged prohibited conduct as part of an academic appeal, the appeal shall first be pursued and investigated through the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/). Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures.

Before invoking the appeals procedures, students are encouraged to speak informally to their instructors or academic advisors about any determination or grade about which they have questions. If students choose to pursue an appeal, the College of Science process is described in the appeals section that follows. The Graduate Curriculum Committee, which is comprised of program and department directors, serves as the Academic Appeals Committee for the College of Science.

Grade Appeals

If a graduate student wishes to dispute a grade in a course taught by a member of the College of Science faculty, the first step is for the student to discuss their concerns with the faculty member who taught the course to see if it is possible to reach agreement on the issue(s). If the student is not able to resolve their issues with the faculty member who taught the course, the student should work with the department/program director to attempt a department-level resolution.

If these informal attempts to resolve the issue fail, the student can enter the formal procedure at the college level.

The student should meet with the associate dean for graduate affairs and professional programs who will attempt to resolve the issue by working with the instructor and the department/program. Contact Graduate Student Services at COSGradStudents@northeastern.edu to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine whether or not there is just cause to convene the Graduate Curriculum Committee.

The decision to convene the Graduate Curriculum Committee will be based upon the following:

- The student sincerely attempted to resolve the complaint with the professor and the department/program.
- The complaint is substantive in nature (adjudication could affect student's course grade and/or academic record).
- The complaint has been brought forward in a timely manner.
  - The statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student.
  - If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of degree conferral date.

If the associate dean determines the appeal should be brought to the Graduate Curriculum Committee, the student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean.

- The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint.
  - It is the student's responsibility to make their case. Students may submit any evidence such as emails, quizzes, examinations, etc.
- Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the faculty member and to the department/program director and convene a meeting of the Graduate Curriculum Committee.
- If the student fails to provide a thoughtful and well-reasoned written summary of the case, then the matter will be considered closed at the college level.
- The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

GRADUATE CURRICULUM COMMITTEE

- The Graduate Curriculum Committee serves as the Academic Appeals Committee for the College of Science.
- The Graduate Curriculum Committee is convened in order to determine whether a fair and due process was used to determine the student's grade.
- The role of the committee is to conduct a review when a grade appeal is filed by a student for one of the following reasons, concern that:
  - The course grading policy was not applied consistently to all students within a class and/or section.
  - The instructor's method of assigning grades differed from the method outlined in the instructor's course syllabus.
  - The instructor failed to provide a clear policy on how grades would be assigned.

APPEALS MEETING

The student and the faculty member have the right to attend and present their case orally to the committee. The faculty member and the student are not required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the committee may have. If

the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. The complainant and the faculty member both have the right to testify privately and separately before the committee. Lawyers are not permitted in these proceedings. Generally, the faculty member and complainant are each given a 15-minute period to present their case.

The student usually presents their complaint to the committee first. The committee may then ask the complainant any questions they have based upon either the written statement submitted by the complainant or the complainant's oral presentation. The faculty member then presents their case, which is followed by questions from the committee. After both the complainant and faculty member have addressed the committee, the committee then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the committee believes it cannot resolve any issues without additional information, the committee may request any information needed from either the complainant, faculty member, or department/program. This information must be provided to the committee within one week of the meeting. If the requested information is not provided in the required time frame, then the committee may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the committee will be made based on a simple majority (51%) vote.
- The associate dean is chair of the committee and only votes when there is a tie.
- The student bringing the complaint to the committee carries the burden of proof based on the weight of the evidence in demonstrating that the grade is incorrect or unjustified.
- If the committee decides that the grading process was unfair, the committee can request that the instructor changes the student's grade.
  - If an acceptable agreement involves a change of grade, the instructor is responsible for submitting a change of grade to the Office of the University Registrar in a timely manner following notification of the committee's decision.
- The student shall be notified within three business days of a decision being reached.

If the student or the faculty member is not satisfied with the committee's disposition of the matter, or if the grade appeal is not resolved within 35 calendar days after the written statement is submitted to the college, they may further pursue the matter by requesting in writing that the university convene an academic appeals resolution committee to review the issue. This must be submitted within 10 calendar days of the notification from the college. This committee has been designated as the final authority on these matters. Students may obtain information on this process by contacting the Office of the Provost.

Academic Dismissal Appeal

If a student wishes to dispute an academic dismissal, the first step is to consult the graduate director about appealing to the department/program. If and when all departmental appeals are exhausted, the student can enter the formal procedure at the college level.

The student will meet with the associate dean for graduate affairs and professional programs who will attempt to resolve the issue by working with the department/program. Contact Graduate Student Services to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine if the complaint is substantive and there is just cause to convene the Graduate Curriculum Committee.

The student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean. The statement must be submitted no later than 10 calendar days from the day when the academic determination is made available to the student. The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint. Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the department/program director and convene a meeting of the Graduate Curriculum Committee. If the student fails to provide a thoughtful and well-reasoned written summary of the case, then the matter will be considered closed at the college level.

The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

GRADUATE CURRICULUM COMMITTEE

- The Graduate Curriculum Committee serves as the Academic Appeals Committee for the College of Science.
- The Graduate Curriculum Committee is convened in order to determine whether a fair and due process was used.

APPEALS MEETING

The student has the right to attend and present their case orally to the committee. The student is not required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the committee may have. If the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. Lawyers are not permitted in these proceedings.

The student usually presents their complaint to the committee first. The committee may then ask the complainant questions based upon either the written case submitted by the complainant or the complainant's oral presentation. The committee then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the committee believes it cannot resolve any issues without additional information, the committee may request any information needed from either the complainant or department/program. This information must be provided to the committee within one week of the meeting. If the needed

information is not provided in the time frame required, then the committee may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the committee will be made based on a simple majority (51%) vote.
- The associate dean is chair of the committee and only votes when there is a tie.
- The student bringing the complaint to the committee carries the burden of proof based on the weight of the evidence in demonstrating that the dismissal is incorrect or unjustified.
- If the committee decides that the academic dismissal should be revoked, the committee can request that the department reinstate the student immediately.

Decisions concerning dismissals cannot be appealed beyond the college level. While program dismissals cannot be appealed beyond the college level, underlying academic judgments that led to a dismissal can be appealed.

Awards

Only those students who are registered in degree programs are eligible for awards. Award recipients will receive an official award letter from the College of Science via email. Pay attention to this letter as it is an official contract that should be read carefully. In addition, to maintain awards, students must be making satisfactory progress toward their degrees.

Receipt of financial support administered by the College of Science is contingent on satisfactory academic progress toward the degree and on meeting department-specific guidelines. The College of Science requires that all students receiving awards will generally have two semesters to reach a 3.000 grade-point average. Students whose cumulative GPA is below 3.000 will be reviewed by their departments and by the College of Science and may have their funding terminated on recommendation of their department or by decision of the College of Science in consultation with their department. Renewals of awards will depend on the student making satisfactory academic progress toward the degree, including a GPA of 3.000 or the department's minimum GPA, if it is higher than the College of Science minimum, and satisfactory performance of any duties required by the award.

Changes in Requirements

The continuing development of the college may result in regular revision of curricula. When curriculum changes are made, students are allowed to complete the degree requirements of the program when they matriculated. If a student wishes to follow the new curriculum/program, they may request this in writing to the College of Science Graduate Student Services office at the time of the announcement of said changes.

Cooperative Education Policies

The College of Science Graduate Cooperative Education Program is one option for experiential learning and is available to students enrolled full-time at Northeastern University in a degree-granting program.

The goals of cooperative education are for students to:

- ***Integrate knowledge*** and skills learned in the classroom and co-op to identify and solve problems
- ***Gain new knowledge*** and develop new skills to successfully engage in unfamiliar activities and projects
- ***Identify and leverage opportunities*** to learn beyond the classroom
- ***Articulate*** the intellectual skills that underlie the work they engage in
- ***Assess, critique, and improve*** their work
- ***Adapt*** their behavior to different audiences they interact with (e.g., communication, self-representation, etc.)
- ***Behave professionally*** in various environments (i.e., team, independent, etc.) by adhering to ethical standards and being accountable for their commitments

Master's-level students must meet the eligibility requirements and follow the guidelines below. Co-op is not guaranteed, and students must compete and be selected for a limited number of co-op opportunities.

Eligibility Requirement for Co-op

- To be eligible for co-op, College of Science graduate students must:
  - Be enrolled full-time at Northeastern. Approval is required from the co-op faculty for exceptions.
  - Have completed a minimum of 16 master's-level academic credits prior to the start of co-op.
  - Meet the 3.000 minimum grade-point average requirement.
  - Have no incomplete grades, not be on academic probation, or have any outstanding disciplinary issues.
  - Have at least two required courses remaining in their program after completing co-op (for programs that do not require co-op).
- Graduate certificate students are not eligible for co-op.
- International students on an F-1 visa must have a valid I-20 and must follow Curricular Practical Training protocol.
- Students must successfully complete the Professional Development for Co-op course. This course covers the College of Science co-op performance standards, which encourage professional and ethical behaviors throughout the co-op process and clarify procedures required for continued success of students and the co-op program. The standards establish professional expectations of the student throughout the co-op search process and during the co-op term and address co-op related issues that may involve performance.
- Students must notify their co-op advisor when they receive a co-op offer.

Guidelines

1. Co-ops must be aligned with academic terms (fall, spring, and full summer or summer 1 and summer 2).
2. Students may participate in co-op activities with a single company for four or six months for no fewer than 12 weeks.
3. Co-ops are required to be full-time, a minimum of 32 hours per week.
4. Course enrollment while on co-op is dependent upon academic program.
5. Students can create their own co-op placement outside of NUworks. Approval from the co-op faculty and adherence to all guidelines are required.
6. Students working in industry must complete an industry project to fulfill the co-op requirement. This must be approved by the co-op faculty and program director.
7. College of Science students are only allowed to complete one co-op work experience per degree.

Registering for Co-op

Students are registered for the co-op work experience course based on the co-op position in NUworks. All co-op positions must be aligned with the academic calendar and be approved by the co-op faculty.

Co-op Documentation

Students who fully and successfully participate in co-op will receive a grade of Satisfactory (S). Those who fail to complete their co-op assignment will receive a grade of Unsatisfactory (U). These grades will appear on the student's academic transcript. Academic credit is not awarded for the completed co-op.

Global University System

University and college cooperative education policies apply to students on all campuses.

The College of Science Co-op Standing Committee

In the event a situation arises that requires special consideration, the College of Science students who are dismissed from or resign from a co-op job will have an opportunity to meet with the co-op standing committee for a review. A decision will be made on future co-op eligibility and access to NUworks.

PhD Students

Please contact your department or Graduate Student Services to inquire about guidelines for experiential learning opportunities.

Course Registration

Students are encouraged to obtain advisor approval of course selections each semester. This approval is required for all assistantship recipients, and some departments require it for all students. Students should check with individual departments for specific guidelines.

The Doctor of Philosophy Degree (PhD)

The Doctor of Philosophy degree is awarded to candidates who provide evidence of high scholastic attainment and research ability in their major field. Specific degree requirements are administered by a committee in charge of the degree program. It is the responsibility of the chair of this committee to certify to the College of Science the completion of each requirement for each candidate.

Residence Requirement

A PhD student must spend the equivalent of at least one academic year in residence at Northeastern University as a full-time graduate student. The committee of each degree program specifies the method by which the residence requirement is satisfied.

Qualifying Exam

In programs where a qualifying exam is required, students must complete this requirement within the time limit set by the program of study.

Comprehensive Examination

Degree programs may require a comprehensive examination. Generally, students are expected to complete all of the required degree coursework prior to taking the comprehensive examination. Students must complete this requirement within the time limit set by the program of study, usually within one term of completing the required coursework.

Doctoral Degree Candidacy

PhD degree candidacy is established when students have completed all departmental and university requirements for candidacy. These requirements vary by department and include completing the minimum number of graduate semester hours required of doctoral students by the department (this may include an earned master's degree accepted by the department) and passing a qualifying examination and/or a comprehensive examination. Once students reach doctoral degree candidacy they will be certified, in writing, by the college. Registration in coursework is not permitted once a student reaches candidacy.

Continuity of Registration

For each of the first two semesters that a doctoral candidate has established candidacy, the student must register for Dissertation. For each semester beyond the two Dissertation registrations, the student must register for Doctoral Dissertation Continuation until the dissertation is approved by the College of Science. During the terms when a student is registered for Doctoral Dissertation or Dissertation Continuation, coursework is not permitted as the course requirements for the degree have already been met. If the academic program requires enrollment in seminars or courses in addition to Dissertation or Dissertation Continuation, the department's graduate director will make a recommendation to the College of Science for approval. Approval must happen prior to registration. Students must be registered for Dissertation or Dissertation Continuation during the semester in which they take the final oral examination (including the full summer semester if that is when defense occurs). Any student who does not attend Northeastern for a period of one year may be required to apply for readmission. A student who does not enroll for a period of three semesters, or one year, will be required to apply for readmission. Readmission is done via Slate. A student who does not enroll for a period of two semesters, or less than one year, may petition their department for reactivation. If the department is supportive, the student will be required to submit a written request to the departmental graduate committee. If the graduate committee feels the student is worthy of reactivation, the student's written request must be submitted to Graduate Student Services. Please note that college admissions deadlines apply to requests for readmission and reactivation.

Dissertation

The dissertation committee shall have at least three faculty members, two of whom shall be from Northeastern. The chair of the dissertation committee (who is presumed to be the thesis advisor) will be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold a PhD (or other research doctorate) or an appropriate terminal degree for the discipline. Exceptions to this policy will be considered and, if appropriate, approved by the provost or their designee. Colleges may permit full-time faculty from other ranks to serve in this role based on the research qualifications and experience of individual faculty members.

The PhD committee should be appointed early enough to advise in the formulation of the student's program and in refining the research topic for the dissertation. Within the constraints of the above criteria, the PhD program faculty will determine the process by which dissertation committees are established. The final list of dissertation committee members shall be reported to the college's associate dean for graduate education or unit managing the degree program.

If a student's major advisor leaves Northeastern (including transition to emeritus status), that person may continue the research direction of the dissertation or thesis. However, a co-advisor must be appointed from the academic department or program. The student will then have two advisors, one an official member of the Northeastern faculty who will be available for research and administrative matters and the ex-Northeastern advisor. If a new major advisor is appointed, the former Northeastern faculty member may serve as an outside member of the committee.

Final Oral Examination

An oral defense of the dissertation is required and must be held at least 14 calendar days before the degree conferral date. The defense shall be conducted with the committee members present either in person or via electronic means. In the case where neither the candidate nor the committee members are present in person on campus (i.e., the candidate and all committee members are connected only remotely via electronic means), there shall be a location established and technology enabled for public, in-person attendance of the defense by the university community and this accommodation made known to the university.

Interdisciplinary Doctoral Programs

Some graduate students may wish to pursue doctoral programs that involve substantial work in two or more departments. To meet this need, an interdisciplinary program may be established that corresponds in scope and depth to doctoral standards but does not agree exactly with the individual departmental regulations. Consult this graduate catalog for policies and guidelines pertaining to this doctoral option.

Grading Policies

In the College of Science, not more than two courses or 6 semester hours of credit, whichever is greater, may be repeated to satisfy the requirements for the degree. Only such repeats will be counted in calculating the cumulative grade-point average.

No grade changes are permitted after the end of the final examination period one calendar year from the semester in which the student registered for the course. In calculating the overall cumulative average, all graduate-level coursework completed at the time of clearance for graduation will be counted unless the student is immediately continuing on for a PhD degree in their department.

Students cannot elect a pass/fail grading scheme for College of Science courses, unless the course grading scheme is designated pass/fail.

The Master's Degree Academic Requirements

A candidate for the master's degree must complete a minimum of 30 semester hours of graduate-level coursework and such other study as may be required by the department in which the student is registered.

To qualify for the degree, a minimum cumulative grade-point average of 3.000, equivalent to a grade of B, must be obtained. This average will be calculated each semester according to the university grading system and will exclude any transfer credits and nonrepeatable courses that have been retaken. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be terminated from the program.

Comprehensive Examination

A final written or oral comprehensive examination is required in some programs. This examination will be given by the department concerned at least two weeks before the commencement at which the degree is expected to be conferred.

Thesis

A master's thesis is required in some programs and should demonstrate the individual's capacity to execute independent work based on original material. Registration for Thesis is required in most programs.

Theses must be approved by the departmental graduate committee and, in cases in which a grade is required, must receive a grade of B (3.000) or better to be accepted.

Continuity of Registration

Students are expected to maintain satisfactory progress toward their intended degrees. All students must be registered in the last semester of their program. A student who does not enroll for a period of three semesters, or one year, will be required to apply for readmission. Readmission is done via Slate. A student who does not enroll for a period of two semesters, or less than one year, may petition their department for reactivation. If the department is supportive, the student will be required to submit a written request to the departmental graduate committee. If the graduate committee feels the student is worthy of reactivation, the student's written request must be submitted to Graduate Student Services. Please note that college admissions deadlines apply to requests for readmission and reactivation.

Satisfactory Progress

Satisfactory progress means satisfying requirements in the College of Science, in this graduate catalog, and in the regulations specified by the departments.

The College of Science sets minimum standards for all students to fulfill. Departments and programs may have additional requirements that exceed those of the College of Science. Students in the College of Science must be making satisfactory progress, including working toward the graduation requirement of a grade-point average of 3.000 in their coursework and the timely completion of coursework and comprehensive/qualifying examinations. See also the university's policy on academic standing ("Minimum Cumulative GPA (p. 88)").

Time Limitation

Refer to university policy regarding time limitations. If students wish to apply for an extension of the time limit, they must submit a petition to their department of study. The petition must include a detailed plan for completion of all remaining degree requirements. In the case of master's degree time limit extension requests for coursework, the department must certify that the content of each of the courses has not changed since the time the student completed the course. If deemed appropriate, the department will recommend a time limit extension to Graduate Student Services. The associate dean for graduate affairs and professional programs has final approval of time limit extensions.

Transfer Credit

A student may petition to transfer up to 9 semester hours of their degree program using credits from another institution, provided that the credits transferred consist of a grade of B (3.000) or better in graduate-level courses, have been earned at an accredited institution, and have not been used toward any other degree. Students transferring credit from an international institution must submit a course-by-course credential evaluation.

Note: If approved by the College of Science, credits from Northeastern University's College of Professional Studies transfer to the College of Science as external credits and count toward the maximum amount of transfer credit. As courses at other institutions may not parallel courses at Northeastern, the student's academic department will determine the number of semester hours the external course will be worth. This calculation may result in fewer semester hours than the course was assigned at the institution at which the student completed the course. In addition, courses accepted for transfer credit must have been completed within five years of the date the student is admitted to graduate study. Grades are not transferred. Some departments may accept fewer transfer credits.

Biology

Website (http://www.northeastern.edu/biology/)

Jonathan L.Tilly, PhD
University Distinguished Professor and Chair

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The PhD program in biology emphasizes close interaction between graduate students and faculty in developing the intellectual and experimental skills required for creative independent research. Rigorous courses in a core biology curriculum, as well as advanced courses in particular research interests, are complemented by intensive research culminating in completion of a dissertation under faculty supervision. Students have an opportunity to declare a concentration in either cell and molecular biology or molecular microbiology.

The Department of Biology oversees the bioinformatics Master of Science program. The interdisciplinary program provides cross-disciplinary training in biology, computer science, and informational technology preparing students for cutting-edge jobs in the biotechnology and pharmaceutical industries. The program consists of four parts: fundamental courses, core courses, co-op and experiential learning, and electives.

The Graduate Certificate in Bioinformatics offers professionals working in the research, healthcare, and pharmaceutical industries the ability to employ bioinformatics algorithms and techniques to biological problems in their current practice. It also gives people looking to switch careers the data and genomic analysis skills needed to be more competitive in the biological and pharmaceutical industries.

The Graduate Certificate in Omics provides students the opportunity to explore in detail the key genomic technologies and computational approaches that are driving advances in prognostics, diagnostics, and treatment, learning how scientists sequence, assemble, and analyze the function and structure of genomes. The certificate explores methods for determining traits and diseases by studying the larger population as well as how gene identification can help identify targets for therapeutic intervention. Students that are already in the field or have an interest will significantly benefit from a certificate like this.

Programs

Doctor of Philosophy (PhD)

- Biology (p. 940)

Master of Science (MS)

- Bioinformatics (p. 942)
- Cell and Gene Therapies (p. 946)

Graduate Certificate

- Bioinformatics (p. 948)
- Omics (p. 950)

Biology, PhD

The PhD program entails course work from a core biology curriculum along with advanced courses in the student's area of research interest. This is complemented by intensive research and completion of a dissertation under faculty supervision. Faculty research includes biochemistry, microbiology, cell and molecular biology, genetics, neurobiology, regenerative biology, and the biology of reproduction. Two optional concentrations are available: cell and molecular biology and molecular microbiology.

Students who have completed required coursework with a cumulative GPA of 3.000 or better may be eligible to receive an (https://catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/)MS Biology (https://catalog.northeastern.edu/graduate/science/biology/biology-ms/) *degree. In addition, students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal* MS Biology (https://catalog.northeastern.edu/graduate/science/biology/biology-ms/) *degree. Note that no students will be admitted directly into the* MS Biology (https://catalog.northeastern.edu/graduate/science/biology/biology-ms/) *to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Colloquia (minimum of three)
First-author publication
Dissertation defense

Core Requirements

Code	Title	Hours
Research Ethics		
BIOL 7399	Research Problem Solving, Ethics, and Communication Skills	4
Colloquium		
Complete the following (repeatable) course twice:		2
BIOL 5100	Biology Colloquium	

Concentrations or Electives Option

- Cell and Molecular Biology (p.) Concentration (p. 940)
- Molecular Microbiology (p. 941) Concentration (p. 941)
- Electives Option (p. 941)

Dissertation

Code	Title	Hours
BIOL 9990	Dissertation Term 1	
BIOL 9991	Dissertation Term 2	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

CELL AND MOLECULAR BIOLOGY CONCENTRATION

Code	Title	Hours
Required Coursework		
BIOL 6300	Biochemistry	4
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology	4
Electives		
In consultation with faculty advisor, complete 16 semester hours from the topic of cell and molecular biology:		16
BIOL 5103 to BIOL 9984		

MOLECULAR MICROBIOLOGY CONCENTRATION

Code	Title	Hours
Required Coursework		
BIOL 6300	Biochemistry	4
BIOL 6405	Prokaryotic Cell and Molecular Biology	4
Electives		
In consultation with faculty advisor, complete 16 semester hours from the topic of molecular microbiology:		16
BIOL 5103 to BIOL 9984		

ELECTIVES OPTION

Code	Title	Hours
Required Coursework		
Complete 8 semester hours from the following:		8
BIOL 6303	Neurobiology and Behavior	
BIOL 6401	Research Methods and Critical Analysis in Molecular Cell Biology	
BIOL 6405	Prokaryotic Cell and Molecular Biology	
Electives		
Complete 16 semester hours from the following:		16
BIOL 5103 to BIOL 9984		

Advanced Entry Program Requirements

The biology PhD program seeks to provide a broad background knowledge base in conjunction with in-depth study of a specialized area of biology. The program emphasizes close interaction between graduate students and faculty members in developing the intellectual and experimental skills required for creative, independent research.

Students entering the PhD program with a related Master of Science degree typically have significantly reduced course loads. An individualized course of study is designed by the biology graduate curriculum committee in consultation with the student and the student's advisor. The student can then focus on intensive research and completion of a dissertation under faculty supervision. Faculty research includes biochemistry, microbiology, cell and molecular biology, genetics, neurobiology, regenerative biology, and the biology of reproduction. Financial support (teaching assistantships or research assistantships) is normally provided for PhD students who are making satisfactory progress toward completion of their degree.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Dissertation committee
Dissertation proposal
Colloquia (minimum of three)
First-author publication
Dissertation defense

Core Requirements

APPROVED COURSE WORK

Consult your faculty advisor for acceptable courses.

APPROVED ELECTIVES

Consult your faculty advisor for acceptable electives.

Dissertation

Code	Title	Hours
BIOL 9990	Dissertation Term 1	
BIOL 9991	Dissertation Term 2	

Program Credit/GPA Requirements

Variable total semester hours required
Minimum 3.000 GPA required

Bioinformatics, MS

The Master of Science (MS) in Bioinformatics seeks to provide students with core knowledge in bioinformatics programming, integrating knowledge from the biological, computational, and mathematical disciplines. Upon completion, students are equipped to apply bioinformatics and computational methods to biological problems. Students in the MS program have the opportunity to gain professional work experience via co-op.

The program consists of core course work in computational methods, programming, and statistics, enhanced by electives in molecular biology, biochemistry, molecular modeling, web development, database design and management, data mining, and other related topics.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Computational Methods		
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4
Research and Seminar		
BIOL 6381	Ethics in Biological Research	2
BIOT 5219	The Biotechnology Enterprise	2
Statistics and Programming		
BINF 6200	Bioinformatics Programming	4
MATH 7340	Statistics for Bioinformatics	4
Co-op and Experiential Learning		**0**
BINF 6500	Professional Development for Co-op	
Select one of the following:		
BINF 6964	Co-op Work Experience	
BINF 5964	Projects for Professionals [1]	

[1] The option of BINF 5964 Projects for Professionals is not available at all campus locations. Please refer to your advisor or admissions coach for course availability each semester at your campus location.

Concentrations or Electives Option

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration.

- Bioinformatics and Cheminformatics
- Bioinformatics Enterprise
- Biotechnology
- Data Analytics (p. 944)
- Health Informatics (p. 945)
- Medical Health Informatics (p. 945)
- Omics
- Electives Option (p. 945)

Elective List

Code	Title	Hours
Electives outside this list may be chosen in consultation with faculty advisor.		
BINF 6400	Genomics in Bioinformatics	
BINF 6420	Omics in Bioinformatics	
BIOE 5235	Biomedical Imaging	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 6100	Medical Physiology	
BIOL 5100	Biology Colloquium	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	

BIOL 5573	Medical Microbiology
BIOL 5581	Biological Imaging
BIOL 5583	Immunology
BIOL 5585	Evolution
BIOL 5587	Comparative Neurobiology
BIOL 5591	Advanced Genomics
BIOL 5593	Cell and Molecular Biology of Aging
BIOL 5597	Immunotherapies of Cancer and Infectious Disease
BIOL 6299	Molecular Cell Biology for Biotechnology
BIOL 6300	Biochemistry
BIOL 6301	Molecular Cell Biology
BIOL 6303	Neurobiology and Behavior
BIOT 5120	Foundations in Biotechnology
BIOT 5145	Basic Biotechnology Lab Skills
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future
BIOT 5225	Managing and Leading a Biotechnology Company
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship
BIOT 5340	Introduction to Biotherapeutic Approvals
BIOT 5500	Concepts in Regulatory Science
BIOT 5560	Bioprocess Fundamentals
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production
BIOT 5635	Downstream Processes for Biopharmaceutical Production
BIOT 5640	Drug Product Processes for Biopharmaceuticals
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology
BIOT 5820	Cellular Therapies
BIOT 5850	Higher-Order Structure Analytics
BIOT 6214	Experimental Design and Biostatistics
BIOT 6320	Quality Management Systems and Validation
BIOT 7245	Biotechnology Applications Laboratory
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis
CHEM 5616	Protein Mass Spectrometry
CHEM 5617	Protein Mass Spectrometry Laboratory
CHEM 5620	Protein Chemistry
CHEM 5638	Molecular Modeling
CHEM 7317	Analytical Biotechnology
CS 5010	Programming Design Paradigm
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CS 5400	Principles of Programming Language
CS 5500	Foundations of Software Engineering
CS 5600	Computer Systems
CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
DA 5020	Collecting, Storing, and Retrieving Data
DA 5030	Introduction to Data Mining/Machine Learning
DS 5230	Unsupervised Machine Learning and Data Mining
EEMB 5130	Population Dynamics
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5102	Data Management in Healthcare

HINF 5105	The American Healthcare System
HINF 5110	Global Health Information Management
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 6220	Database Design, Access, Modeling, and Security
HINF 6404	Patient Engagement Informatics and Analytics
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 7203	Numerical Analysis 1
MATH 7205	Numerical Analysis 2
MATH 7233	Graph Theory
MATH 7241	Probability 1
MATH 7243	Machine Learning and Statistical Learning Theory 1
MATH 7341	Probability 2
MATH 7342	Mathematical Statistics
MATH 7344	Regression, ANOVA, and Design
PHSC 6290	Biophysical Methods in Drug Discovery
PHSC 6300	Pharmaceutical Science Seminar
PHYS 5116	Network Science 1
PHYS 7332	Network Science Data 2
PT 5410	Functional Human Neuroanatomy
PT 5411	Lab for PT 5410

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

BIOINFORMATICS AND CHEMINFORMATICS CONCENTRATION

Code	Title	Hours
BINF 6400	Genomics in Bioinformatics	4
BIOL 6299	Molecular Cell Biology for Biotechnology	3
Elective from Elective List (p. 942)		5

BIOINFORMATICS ENTERPRISE CONCENTRATION

Code	Title	Hours
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
Elective from Elective List (p. 942)		3

BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5120	Foundations in Biotechnology	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOL 6299	Molecular Cell Biology for Biotechnology (Electives)	3
Elective from Elective List (p. 942)		3

DATA ANALYTICS CONCENTRATION

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning (or Elective)	4
INSH 5302	Information Design and Visual Analytics	4

HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
HINF 5101	Introduction to Health Informatics and Health Information Systems	3
HINF 5102	Data Management in Healthcare	3
HINF 6220	Database Design, Access, Modeling, and Security	3
Elective from Elective List (p. 942)		3

MEDICAL HEALTH INFORMATICS CONCENTRATION

Code	Title	Hours
HINF 5105	The American Healthcare System	3
HINF 5110	Global Health Information Management	3
HINF 5200	Theoretical Foundations in Personal Health Informatics	4
Elective from Elective List (p. 942)		2

OMICS CONCENTRATION

Code	Title	Hours
BINF 6400	Genomics in Bioinformatics	4
BINF 6420	Omics in Bioinformatics	4
Elective from Elective List (p. 942)		4

ELECTIVES OPTION

Code	Title	Hours
Complete 12 semester hours from the approved Elective List. (p. 942)		12

Cell and Gene Therapies, MS

Northeastern University's Master of Science in Cell and Gene Therapies is a professional master's program, an innovative, nonthesis graduate degree. It combines advanced interdisciplinary training in advanced therapies, such as cell therapies and gene therapies, with the development of high-value business skills critical to success in today's dynamic workplace. This program is designed to prepare graduates to innovate, collaborate, and lead as research, managerial, or technical professionals in a wide range of the cell and gene therapies fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Code	Title	Hours
Required Core		
BINF 6200	Bioinformatics Programming	4
BIOL 5543	Stem Cells and Regeneration	4
BIOL 5583	Immunology	4
BIOL 6381	Ethics in Biological Research	2
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 5800	Gene Therapies	2
BIOT 5820	Cellular Therapies	2
BIOT 5830	Regulatory Landscape of Cell and Gene Therapies	2
BIOT 5840	Cell and Gene Therapy Lab	3
PMST 6254	Advanced Drug Delivery Systems	3
Co-op		
BIOT 6500	Professional Development for Co-op	0
BIOT 6964	Co-op Work Experience	0
Elective		
Complete a minimum of 3 semester hours from the following to meet the 32 total hours for the program:		3
BINF 6308	Bioinformatics Computational Methods 1	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 6000	Principles of Bioengineering	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 6381	Ethics in Biological Research	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5330	Drug Safety and Immunogenicity	
BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 5400	Scientific Information Management for Biotechnology Managers	
BIOT 5500	Concepts in Regulatory Science	
BIOT 5560	Bioprocess Fundamentals	
BIOT 5635	Downstream Processes for Biopharmaceutical Production	
BIOT 5640	Drug Product Processes for Biopharmaceuticals	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	
BIOT 5850	Higher-Order Structure Analytics	
BIOT 6300	Pharmaceutical Microbiology	
BIOT 6310	CGMP Statutes and Regulation	
BIOT 6320	Quality Management Systems and Validation	
BIOT 6340	Sterile Manufacturing Operations	
CHME 5101	Fundamentals of Chemical Engineering Analysis	

CHME 5160	Drug Delivery: Engineering Analysis
CHME 5185	Design of Experiments and Ethical Research (DOEER)
CHME 5630	Biochemical Engineering
CHME 5631	Biomaterials Principles and Applications
CHME 5632	Advanced Topics in Biomaterials

Program Credit/GPA Requirements

32 semester hours required
Minimum 3.000 GPA required

Bioinformatics, Graduate Certificate

The Graduate Certificate in Bioinformatics seeks to provide students with core knowledge in bioinformatics programming, integrating knowledge from the biological, computational, and mathematical disciplines. Students gain the data and genomic analysis skills needed to employ bioinformatics techniques to biological problems. The graduate certificate consists of four courses, three bioinformatics courses and one elective, totaling 15–16 semester hours.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BINF 6200	Bioinformatics Programming	4
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4

Elective

Code	Title	Hours
Complete one of the following. Electives outside this list may be chosen in consultation with faculty advisor.		3-4
BINF 6400	Genomics in Bioinformatics	
BINF 6420	Omics in Bioinformatics	
BIOE 5235	Biomedical Imaging	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 6100	Medical Physiology	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5585	Evolution	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 5593	Cell and Molecular Biology of Aging	
BIOL 5597	Immunotherapies of Cancer and Infectious Disease	
BIOL 6299	Molecular Cell Biology for Biotechnology	
BIOL 6300	Biochemistry	
BIOL 6301	Molecular Cell Biology	
BIOL 6303	Neurobiology and Behavior	
BIOT 5120	Foundations in Biotechnology	
BIOT 5145	Basic Biotechnology Lab Skills	
BIOT 5219	The Biotechnology Enterprise	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	
BIOT 5560	Bioprocess Fundamentals	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 5635	Downstream Processes for Biopharmaceutical Production	
BIOT 5640	Drug Product Processes for Biopharmaceuticals	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	
BIOT 5850	Higher-Order Structure Analytics	
BIOT 7245	Biotechnology Applications Laboratory	
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	
CHEM 5616	Protein Mass Spectrometry	
CHEM 5617	Protein Mass Spectrometry Laboratory	

CHEM 5620	Protein Chemistry
CHEM 7317	Analytical Biotechnology
CS 5010	Programming Design Paradigm
CS 5100	Foundations of Artificial Intelligence
CS 5200	Database Management Systems
CS 5400	Principles of Programming Language
CS 5500	Foundations of Software Engineering
CS 5600	Computer Systems
CS 5610	Web Development
CS 5700	Fundamentals of Computer Networking
CS 5800	Algorithms
CS 6140	Machine Learning
CS 6200	Information Retrieval
CS 6220	Data Mining Techniques
DA 5020	Collecting, Storing, and Retrieving Data
DA 5030	Introduction to Data Mining/Machine Learning
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 7203	Numerical Analysis 1
MATH 7205	Numerical Analysis 2
MATH 7233	Graph Theory
MATH 7241	Probability 1
MATH 7340	Statistics for Bioinformatics
MATH 7341	Probability 2
MATH 7342	Mathematical Statistics
MATH 7344	Regression, ANOVA, and Design
PHSC 6214	Experimental Design and Biostatistics
PHYS 5116	Network Science 1
PHYS 7332	Network Science Data 2

Program Credit/GPA Requirements

15–16 total semester hours required
Minimum 3.000 GPA required

Omics, Graduate Certificate

Students will explore in detail the key genomic technologies and computational approaches that are driving advances in prognostics, diagnostics, and treatment, learning how scientists sequence, assemble, and analyze the function and structure of genomes. The certificate explores methods for determining traits and diseases by studying the larger population, as well as how gene identification can help identify targets for therapeutic intervention. Students that are already in the field or have an interest in the field will significantly benefit from this curriculum.

Program Requirements

Requirements

Code	Title	Hours
Required Courses		
BINF 6310	Introduction to Computational Methods in Bioinformatics	4
BINF 6400	Genomics in Bioinformatics	4
BINF 6420	Omics in Bioinformatics	4
BINF 6430	Transcriptomics in Bioinformatics	4

Program Credit/GPA Requirements

16 total semester hours required

Minimum 3.000 GPA required

Chemistry and Chemical Biology

Website (https://cos.northeastern.edu/chemistry-chemical-biology/)

Penny Beuning, PhD
Professor and Chair

617.373.2822

The PhD program in chemistry provides research and professional opportunities for students that are based on fundamental chemical principles with translational applications to the real world. The program is built on academic rigor and research impact, based on the creativity and strengths of an increasingly diverse faculty and student body. We have harnessed our extensive connections in industry to create and maintain a thriving industry-entry PhD program and provide our regular PhD students with internship opportunities in industry, government laboratories, and other venues that may lead to a wide range of careers. Students in our program leave with flexible skills that can be applied in creative and meaningful ways in academics, industry, and beyond. We are aligned in our core values with the mission of Northeastern University to "educate students for a life of fulfillment and accomplishments and create and translate knowledge to meet global and societal needs." This mission is at the core of the curriculum, research, mentoring strategies, and professional development opportunities offered to our students. It is implemented in a highly multidisciplinary and transparent environment where students have a voice and take real ownership and responsibility for their professional success. Within this context, PhD students work with chemistry and chemical biology faculty in interdisciplinary areas that include biochemistry and chemical biology, synthetic chemistry, medicinal chemistry, polymer and materials chemistry, environmental chemistry, computational chemistry, and bioanalytical chemistry.

The Master of Science in Chemistry is designed to allow practicing chemical professionals who have an earned bachelor's degree in chemistry or a closely related field to pursue a master's degree in chemistry by completing a coursework program during the evening weekday hours. Full-time or part-time options are available. The department offers a diverse range of courses that mirror the faculty's research interests in biochemistry, chemical biology, synthetic chemistry, medicinal chemistry, polymer and materials chemistry, environmental chemistry, computational chemistry, and bioanalytical chemistry.

Website (https://cos.northeastern.edu/master-of-science-in-biotechnology/)

Jocelyn Haversat, PhD
Associate Teaching Professor and Director, Biotechnology Programs

617.373.6998

The biotechnology programs are housed in the Department of Chemistry and Chemical Biology. The Master of Science in Biotechnology, a professional science master's degree program, is an innovative, nonthesis, experiential graduate degree. It combines advanced interdisciplinary training in biotechnology, biology, chemistry, regulatory, and pharmaceutical sciences with the development of high-value business skills critical to success in the biotechnology industry. Students develop and apply their skills in a hands-on co-op experience with one of Northeastern's many academic and industry partners. Full-time, part-time, and remote options are available with online and evening course offerings.

The biotechnology program also offers several graduate certificates in the areas of biodefense and biosecurity, biopharmaceutical analytical sciences, biotechnology, biotechnology enterprise, biotechnology regulatory science, experimental biotechnology, manufacturing and quality operations, molecular biotechnology, pharmaceutical technologies, process science, and vaccine development.

Programs

Doctor of Philosophy (PhD)

- Chemistry (p. 953)

Master of Science (MS)

- Biotechnology (p. 955)
- Biotechnology, MS—Experiential (p. 961)
- Chemistry (p. 962)

Graduate Certificate

- Biodefense and Biosecurity (p. 963)
- Biopharmaceutical Analytical Sciences (p. 964)
- Biotechnology (p. 965)
- Biotechnology Enterprise (p. 966)
- Biotechnology Regulatory Science (p. 967)
- Experimental Biotechnology (p. 968)
- Manufacturing and Quality Operations in Biotechnology (p. 969)
- Molecular Biotechnology (p. 970)
- Pharmaceutical Technologies (p. 971)

- Process Science (p. 972)
- Vaccine Development (p. 973)

Chemistry, PhD

The PhD program in chemistry is designed for students who have earned a bachelor's or a master's degree in chemistry or related areas and who wish to earn a doctorate in chemistry. Research spans a wide range of multidisciplinary fields, with strengths in clean energy, polymers, materials, medicinal chemistry, bioanalytical chemistry, and chemical biology. Our research programs draw from a strong foundation in analytical, organic, physical, and biological chemistry in a collaborative and diverse environment. Our student-focused approach to mentoring, a strong graduate student association, and faculty deeply rooted both in academics and industry provide a flexible platform for student development toward a large diversity of career paths.

Students typically take courses their first year while supported on teaching assistantships and achieve PhD candidacy in the second year. The primary emphasis of the program is on the completion of an original research project, its articulation in a well-written thesis, and its subsequent defense before the thesis committee through an open seminar followed by oral examination by the committee members.

PhD Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations
Annual review
Candidacy
Minimum of two seminars
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Required Core		
CHEM 5600	Research Skills and Ethics in Chemistry	3
CHEM 7710	Laboratory Rotations in Chemistry and Chemical Biology	0
CHEM 7750	Advanced Problem Solving	3
Complete the following (repeatable) course three times:		3
CHEM 5501	Chemical Safety in the Research Laboratory	
Seminar		
At least one seminar must be taken for a letter grade.		
CHEM 8504	Graduate Seminar	1
Research		
CHEM 8984	Research	1-6
Chemistry		
Complete 18 semester hours from the following:		18
CHEM 5550 or within the range of CHEM 5610 to CHEM 7320		

Dissertation

Code	Title	Hours
Complete the following courses:		
CHEM 9990	Dissertation Term 1	
CHEM 9991	Dissertation Term 2	
Registration in the following course is required for any additional terms taken to complete the dissertation.		
CHEM 9996	Dissertation Continuation	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Advanced entry into the PhD program requires a master's degree in chemistry or a related area. Graduate courses taken during acquisition of the Master of Science degree allow completion of the PhD program with fewer course credits. Other than the course requirements, which are specified separately, see the PhD program requirements for details.

INDUSTRY ENTRY PHD

This program is strictly for students who already have a master's degree in chemistry or related area and have full-time employment at a company. The company must commit to all financial responsibilities accrued in obtaining the degree and allow time for the student to work on a PhD thesis in collaborative research with a company supervisor and one of our faculty members. Graduate courses in the Department of Chemistry and Chemical Biology are generally taught in the evenings to accommodate the fact that our students work in industry during the day.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations
Annual review
Candidacy
Minimum of two seminars
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Required Core		
CHEM 5600	Research Skills and Ethics in Chemistry	3
CHEM 7750	Advanced Problem Solving	3
Seminar		
CHEM 8504	Graduate Seminar	1

Dissertation

Code	Title	Hours
CHEM 9990	Dissertation Term 1	
CHEM 9991	Dissertation Term 2	

Program Credit/GPA Requirements

7 total semester hours required
Minimum 3.000 GPA required

Biotechnology, MS

Overview

Northeastern's Master of Science in Biotechnology is a professional master's program, an innovative, nonthesis graduate degree. It combines advanced interdisciplinary training in biotechnology, biology, chemistry, and pharmaceutical sciences with the development of high-value business skills critical to success in today's dynamic workplace. This program is designed to prepare graduates to innovate, collaborate, and lead as research, managerial, or technical professionals in a wide range of biotechnology specialties. The two-year program offers students the possibility to pursue one of ten concentrations to further their knowledge in a specific topical area of the field.

Concentrations

AGRICULTURAL BIOTECHNOLOGY CONCENTRATION

The agricultural concentration goes beyond the production of biological drugs and focuses on the key agricultural biotechnology (agritech) principles and methods used today. Students have an opportunity to learn the principles of agritech and the role they play in the concepts and fundamentals of agriculture today. The concentration addresses plant, animal, food, and ecological biotechnology. The learning of the students is reinforced by both lecture courses and project-driven laboratory experience that provides hands-on learning of modern agricultural methodologies.

BIODEFENSE CONCENTRATION

The biodefense concentration is designed to prepare students for the initial homeland biodefense and bioterrorism response. Students have an opportunity to learn the microbiology and epidemiology of biological agents that are potential threats, identify and propose countermeasures, and develop expertise in response and recovery strategies and policies. The learning combines the foundational biotechnology courses with case-based and hands-on bioethical, biowarfare, and bioterrorism courses.

BIOPHARMACEUTICAL ANALYTICAL SCIENCES CONCENTRATION

The biopharmaceutical analytical sciences concentration focuses on structures and activities of biological molecules and their variants formed during the production of biopharmaceuticals. Students have an opportunity to learn the diversity of molecular forms derived from the biological products through various biological and chemical mechanisms and the impact of these structural changes on the safety and efficacy of these biopharmaceuticals. The students have an opportunity to learn the science and practice applied in the biotechnology industry to analyze and characterize these molecular forms. This is accomplished through both lecture courses of the analytical sciences and project-driven laboratory experience that utilizes analytical techniques such as mass spectrometry and molecular separations.

BIOTECHNOLOGY ENTERPRISE CONCENTRATION

Biotechnology is a deeply scientific endeavor. All aspects of a biotech enterprise are related back to science, which is integrated throughout a biotech's various operations. The biotechnology enterprise concentration offers our science students a holistic study about the business of biotech. In addition to the core biotechnology curriculum, students also study what it takes to move a product from discovery to R&D through approval and launch. Successful students are prepared for diverse roles primarily outside the lab: supporting clinical trials in project and program management roles; fulfilling associate and early career roles in medical affairs; fortifying various teams in quality, regulatory, supply chain, and manufacturing; working with and managing aspects of alliances and partnerships; offering product due diligence, product development, and market analytics rooted in science; and taking on various team lead and early career management roles soon after graduation.

BIOTECHNOLOGY REGULATORY SCIENCE CONCENTRATION

The biotechnology regulatory science concentration focuses on the science behind good regulatory practice today. This concentration addresses the issues surrounding current and innovative science practices that influence regulatory decisions. Students have an opportunity to learn the science behind compliance. This is accomplished through both lecture courses and project-driven laboratory experience that provides hands-on learning of the science behind dossier analysis.

MANUFACTURING AND QUALITY OPERATIONS IN BIOTECHNOLOGY CONCENTRATION

The manufacturing and quality operations in biotechnology concentration has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art biopharmaceutical manufacturing and quality operations. In particular, the focus of this concentration is training the workforce to ensure quality medicines are produced. Individuals—particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals—have an opportunity to improve their competency and learn new practical skills, which enables them to increase productivity and further contribute to their professions.

MOLECULAR BIOTECHNOLOGY CONCENTRATION

The molecular biotechnology concentration provides students with didactic and practical knowledge in molecular biotechnology, protein expression, and structural biology. Students have an opportunity to learn how to generate and optimize molecular forms used to express recombinant proteins to be used as biopharmaceuticals. Particular attention is paid to cutting-edge technologies such as RNAi and CRISPR/Cas9. In addition, the students have an opportunity to learn how to purify biopharmaceuticals and analyze aggregation and how to prevent it.

PHARMACEUTICAL TECHNOLOGIES CONCENTRATION

The pharmaceutical technologies concentration focuses on the conversion of purified proteins to biopharmaceutical drug products that are compatible for clinical use. This concentration addresses the design of the product formulation and the development and implementation of the drug product manufacturing processes. Students have an opportunity to learn the sciences of the interactions of the biologic molecules in the process conditions and the relevant process technology, such as aseptic operations and freeze-drying, needed for drug product manufacturing. This

is accomplished through both lecture courses and project-driven laboratory experience that offers hands-on learning of formulation design and drug product process development.

PROCESS SCIENCE CONCENTRATION

The process science concentration focuses on the production of drug substance of biopharmaceuticals from cell culture process to purification of the biologic molecules. Students have an opportunity to learn the principles of development and implementation of biological manufacturing processes through the integration of concepts and fundamentals of engineering and life sciences. The concentration addresses biochemical engineering, mammalian cell culture process development, and protein purification. The learning of the students is reinforced by both lecture courses and project-driven laboratory experience that provides hands-on learning of cell culture and protein separation.

SCIENTIFIC INFORMATION MANAGEMENT CONCENTRATION

The scientific information management concentration focuses on the collection, analysis, and visualization of scientific data. This concentration addresses the issues surrounding big data that face industry today. Students have an opportunity to learn how to manage, store, visualize, and provide overall analysis of large scientific datasets. This is accomplished through both lecture courses and project-driven laboratory experience that provides hands-on learning of the impacts of data on the scientific process.

Gordon Institute of Engineering Leadership

MASTER'S DEGREE IN BIOTECHNOLOGY WITH GRADUATE CERTIFICATE IN ENGINEERING LEADERSHIP

Students may complete a Master of Science in Biotechnology in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The certificate program requires fulfillment of the 16-semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 42-semester-hour master's degree and certificate requires 26 hours of biotechnology coursework.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
BIOL 6299	Molecular Cell Biology for Biotechnology	3
BIOT 5120	Foundations in Biotechnology	3
BIOT 5219	The Biotechnology Enterprise	2
BIOT 5621	Protein Principles in Biotechnology	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
Co-op and Experiential Learning		**0**
BIOT 6500	Professional Development for Co-op	
Select one of the following:		
BIOT 6964	Co-op Work Experience	
BIOT 5964	Projects for Professionals [1]	

[1] The option of BIOT 5964 Projects for Professionals is not available at all campus locations. Please refer to your advisor or admissions coach for course availability each semester at your campus location.

Concentrations

Complete one of the following concentrations or the elective option:

- Agricultural Biotechnology (p. 957)
- Biodefense (p. 957)
- Biopharmaceutical Analytical Sciences (p. 957)
- Biotechnology Enterprise (p. 957)
- Biotechnology Regulatory (p.) Science (p.)
- Manufacturing and Quality Operations in Biotechnology (p. 957)
- Molecular Biotechnology (p. 958)
- Pharmaceutical Technologies (p.)
- Process Science (p.)

- Scientific Information Management (p.)
- Elective Option (p. 958)

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

AGRICULTURAL BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 6100	Agricultural Biotechnology	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

BIODEFENSE CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 6600	Agents of Bioterrorism	3
BIOT 6610	Biosecurity and Bioterrorism	3
PPUA 6532	Building Resilience into Local Government	4
Elective (p. 958)		4

BIOPHARMACEUTICAL ANALYTICAL SCIENCES CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 6320	Quality Management Systems and Validation	3
BIOT 7245	Biotechnology Applications Laboratory	3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	3
Electives (p. 958)		8

BIOTECHNOLOGY ENTERPRISE CONCENTRATION

Code	Title	Hours
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	3
Electives (p. 958)		12

BIOTECHNOLOGY REGULATORY SCIENCE CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5330	Drug Safety and Immunogenicity	3
BIOT 5500	Concepts in Regulatory Science	3
BIOT 6320	Quality Management Systems and Validation	3
or BIOT 5340	Introduction to Biotherapeutic Approvals	
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		5

MANUFACTURING AND QUALITY OPERATIONS IN BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 6300	Pharmaceutical Microbiology	3
BIOT 6320	Quality Management Systems and Validation	3
BIOT 6340	Sterile Manufacturing Operations	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		5

MOLECULAR BIOTECHNOLOGY CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 5850	Higher-Order Structure Analytics	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

PHARMACEUTICAL TECHNOLOGIES CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5640	Drug Product Processes for Biopharmaceuticals	3
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

PROCESS SCIENCE CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5560	Bioprocess Fundamentals	3
BIOT 5635	Downstream Processes for Biopharmaceutical Production	3
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		8

SCIENTIFIC INFORMATION MANAGEMENT CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 7245	Biotechnology Applications Laboratory	3
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	4
Electives (p. 958)		6

ELECTIVE OPTION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 7245	Biotechnology Applications Laboratory	3
Electives (p. 958)		14

Electives List

Code	Title	Hours
Complete electives from the following list and/or 1 SH BUSN graduate-level courses. Electives not on this list may be chosen with faculty advisor approval.		
BINF 6200	Bioinformatics Programming	
BINF 6308	Bioinformatics Computational Methods 1	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
BIOL 5597	Immunotherapies of Cancer and Infectious Disease	
BIOL 6381	Ethics in Biological Research	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5225	Managing and Leading a Biotechnology Company	

BIOT 5226	Biotechnology Entrepreneurship
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship
BIOT 5330	Drug Safety and Immunogenicity
BIOT 5340	Introduction to Biotherapeutic Approvals
BIOT 5400	Scientific Information Management for Biotechnology Managers
BIOT 5500	Concepts in Regulatory Science
BIOT 5560	Bioprocess Fundamentals
BIOT 5635	Downstream Processes for Biopharmaceutical Production
BIOT 5640	Drug Product Processes for Biopharmaceuticals
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology
BIOT 5820	Cellular Therapies
BIOT 5850	Higher-Order Structure Analytics
BIOT 5910	Vaccines and Immunization
BIOT 5920	Foundations in Vaccine Regulatory Science
BIOT 5930	Molecular Tools for Vaccine Design
BIOT 6100	Agricultural Biotechnology
BIOT 6300	Pharmaceutical Microbiology
BIOT 6310	CGMP Statutes and Regulation
BIOT 6320	Quality Management Systems and Validation
BIOT 6340	Sterile Manufacturing Operations
BIOT 6600	Agents of Bioterrorism
BIOT 6610	Biosecurity and Bioterrorism
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis
CHEM 5616	Protein Mass Spectrometry
CHEM 5617	Protein Mass Spectrometry Laboratory
CHEM 5621	Principles of Chemical Biology for Chemists
CHEM 5625	Chemistry and Design of Protein Pharmaceuticals
CHEM 5638	Molecular Modeling
CHME 7340	Chemical Engineering Kinetics
DA 5020	Collecting, Storing, and Retrieving Data
DA 5030	Introduction to Data Mining/Machine Learning
EMGT 5220	Engineering Project Management
ENTR 6210	Managing Operations in Early Stage Ventures
ENTR 6211	Entrepreneurship: Services and Retail Business Creation
ENTR 6212	Business Planning for New Ventures
ENTR 6219	Financing Ventures from Early Stage to Exit
ENTR 6241	Entrepreneurial Marketing and Selling
ENTR 6250	Lean Design and Development
ENVR 6102	Environmental Science and Policy Seminar 2
HINF 5105	The American Healthcare System
HINF 6201	Organizational Behavior, Work Flow Design, and Change Management
INNO 6225	Acquisitions, Alliances, and Growth
INSH 5301	Introduction to Computational Statistics
INTB 6200	Managing the Global Enterprise
INTB 6212	Cultural Aspects of International Business
MGMT 6213	Managing Ethics in the Workplace and Marketplace
MGMT 6223	Strategic Decision Making for Healthcare Professionals
MGMT 6225	Sustainability and Leadership
MGSC 6200	Information Analysis
NNMD 5270	Foundations in Nanomedicine: Therapeutics
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market
NNMD 5272	Nanomedicine Seminar
NNMD 5274	Nanomedicine Seminar 2

NNMD 5370	Nanomedicine Research Techniques
PHSC 5212	Research Skills and Ethics
PHSC 5300	Pharmaceutical Biochemistry
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies
PHSC 5560	Nanotoxicity
PHSC 6224	Behavioral Pharmacology and Drug Discovery
PHSC 6290	Biophysical Methods in Drug Discovery
PHSC 7010	Pharmaceutical Sciences Laboratory
PHTH 5320	Grant Writing in Public Health
POLS 7341	Security and Resilience Policy
POLS 7346	Resilient Cities
POLS 7343	Counterterrorism
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 6532	Building Resilience into Local Government
STRT 6200	Strategic Decision Making in a Changing Environment

Biotechnology, MS—Experiential

Admissions to this program have been suspended.

Northeastern's Experiential Master of Science in Biotechnology is an intensive, accelerated, experiential, job-relevant master's program featuring an adaptable array of experiential options hosted by employer partners with a built-in talent acquisition pathway. The experiential Master of Science builds on five pillars to create an innovative, evidence-based, work-based learning (WBL) experience to deliver a robust, industry-aligned curriculum with richly integrated experiential learning centered on deep employer engagement; problem-solving and critical thinking skills; and augmented with support layers for problem solving, critical thinking, student services, career design, and built-in talent acquisition to match rising professionals with hiring employer partners in high-demand domains.

Program Requirements

Core Requirements

Code	Title	Hours
BIOL 6299	Molecular Cell Biology for Biotechnology	3
BIOT 5120	Foundations in Biotechnology	3
BIOT 5219	The Biotechnology Enterprise	2
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5500	Concepts in Regulatory Science	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 6214	Experimental Design and Biostatistics	2
BIOT 6980	Biotechnology Capstone	2
BIOT 7245	Biotechnology Applications Laboratory	3
BIOT 7250	Advanced Biotechnology Applications Laboratory	3
CHEM 5620	Protein Chemistry	3
Co-op		
BIOT 6500	Professional Development for Co-op	0
BIOT 6964	Co-op Work Experience	0

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Chemistry, MS

Master's Coursework Option

The Department of Chemistry and Chemical Biology offers a full-time or part-time, course-based master's degree. Classes are generally offered in the evenings to accommodate students who have full-time jobs. A research thesis is not a requirement for the degree.

Master's Thesis Option

The department welcomes applications for the thesis-based master's degree only from students who are currently enrolled at Northeastern.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 30 semester hours from the following courses:		30
CHEM 5550 to CHEM 7750		

THESIS OPTION

Code	Title	Hours
Course Work		
Complete 18 semester hours from the following:		18
CHEM 5550, or within the range of CHEM 5610 to CHEM 7320		
Graduate Seminar		
Seminar must be completed twice. At least one seminar must be taken for a letter grade.		2
CHEM 5904	Seminar	
or CHEM 8504	Graduate Seminar	
Laboratory		
Complete the following (repeatable) course twice:		2
CHEM 5501	Chemical Safety in the Research Laboratory	
Research		
CHEM 5984	Research	4-6
or CHEM 8984	Research	
Thesis		
CHEM 7990	Thesis	4

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Biodefense and Biosecurity, Graduate Certificate

The Graduate Certificate in Biodefense and Biosecurity has been designed in response to a need in the biotechnology industry for individuals who desire to become professionals in biodefense or biosecurity. The concentration seeks to give individuals a background into the technology to detect, analyze, and respond to biosecurity threats. Enrolled students will study the microbiology and epidemiology of biological agents that are potential threats; identify and propose what countermeasures can be used; and through coursework develop expertise in the response, strategies, and policies related to biodefense and biosecurity. The graduate certificate consists of three biotechnology courses and one public policy and urban affairs course totaling 13-semester-hour credits.

Program Requirements

Required Courses

Code	Title	Hours
BIOT 6600	Agents of Bioterrorism	3
BIOT 6610	Biosecurity and Bioterrorism	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
PPUA 6532	Building Resilience into Local Government	4

Program Credit/GPA Requirements

13 total semester hours required
Minimum 3.000 GPA required

Biopharmaceutical Analytical Sciences, Graduate Certificate

The Graduate Certificate in Biopharmaceutical Analytical Sciences has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art analyses of protein with focus on the characterization of innovator and biosimilars. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals, have an opportunity to improve their competency and learn new practical skills that enable them to increase productivity and further contribute to their professions. In addition, the certificate was designed for both individuals with and without experience in biopharmaceuticals and their analysis.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 6320	Quality Management Systems and Validation	3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	3
CHEM 5617	Protein Mass Spectrometry Laboratory	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Biotechnology, Graduate Certificate

The Graduate Certificate in Biotechnology has been designed in response to a need in the biotechnology industry for individuals without a biotechnology background to obtain a strong foundation in basic biotechnology concepts and skills. Individuals, particularly those who are working in fields other than biotechnology, will acquire competency and learn new practical skills enabling them to increase productivity and allow for transitions into more biotechnology-related fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOL 6299	Molecular Cell Biology for Biotechnology	3
BIOT 5120	Foundations in Biotechnology	3
BIOT 5621	Protein Principles in Biotechnology	3
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Biotechnology Enterprise, Graduate Certificate

The graduate certificate in biotechnology enterprise has been designed in response to a need in the biotechnology industry for individuals with a biotechnology background to obtain a strong foundation in the business aspects of biotechnology. Individuals, particularly those who are working in the field of biotechnology, will improve their business competency enabling them to better manage a team or move into a more business-orientated role.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	3
BIOT 5400	Scientific Information Management for Biotechnology Managers	3

Elective

Code	Title	Hours
Complete one elective from the following list:		3
ENTR 6210	Managing Operations in Early Stage Ventures	
ENTR 6211	Entrepreneurship: Services and Retail Business Creation	
ENTR 6212	Business Planning for New Ventures	
INTB 6200	Managing the Global Enterprise	
INTB 6212	Cultural Aspects of International Business	
MGSC 6200	Information Analysis	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Biotechnology Regulatory Science, Graduate Certificate

This certificate was designed in response to a need in the biotechnology industry for individuals, in particular regulators, to obtain a strong foundation in the science behind good regulatory practice today, specifically in relation to biopharmaceuticals.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5330	Drug Safety and Immunogenicity	3
BIOT 5500	Concepts in Regulatory Science	3
BIOT 5621	Protein Principles in Biotechnology	3
BIOT 6320	Quality Management Systems and Validation	3
or BIOT 5340	Introduction to Biotherapeutic Approvals	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Experimental Biotechnology, Graduate Certificate

The graduate certificate in experimental biotechnology has been designed in response to a need in the biotechnology industry for individuals without a biotechnology background to obtain a strong foundation in lab-based, hands-on, biotechnology skills. Individuals, particularly those who are working in fields other than biotechnology, will acquire competency and learn new practical lab skills enabling them to increase productivity and transition into more biotechnology-related fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
BIOT 5219	The Biotechnology Enterprise	2
BIOL 5549	Inventions in Microbial Biotechnology	4
BIOT 6214	Experimental Design and Biostatistics	2
BIOT 7245	Biotechnology Applications Laboratory	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Manufacturing and Quality Operations in Biotechnology, Graduate Certificate

The graduate certificate in manufacturing and quality operations has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art biopharmaceutical manufacturing and quality operations. In particular, the focus of this certificate is training the workforce to ensure quality medicines are produced. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals, have an opportunity to improve their competency and learn new practical skills, which enables them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 6300	Pharmaceutical Microbiology	3
BIOT 6310	CGMP Statutes and Regulation	3
BIOT 6320	Quality Management Systems and Validation	3
BIOT 6340	Sterile Manufacturing Operations	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Molecular Biotechnology, Graduate Certificate

The graduate certificate in molecular biotechnology has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of state-of-the-art molecular biology techniques and advanced protein structure analysis. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development and manufacturing of biopharmaceuticals, will improve improve their competency and learn new practical skills enabling them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	3
BIOT 5810	Cutting-Edge Applications in Molecular Biotechnology	3
BIOT 5850	Higher-Order Structure Analytics	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Pharmaceutical Technologies, Graduate Certificate

The Graduate Certificate in Pharmaceutical Technologies has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of the stages of drug development, biopharmaceutical development. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development, and manufacturing of biopharmaceuticals, will improve their competency and learn new practical skills enabling them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5640	Drug Product Processes for Biopharmaceuticals	3
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Process Science, Graduate Certificate

The graduate certificate in process sciences has been designed in response to a need in the biotechnology industry for individuals with an advanced knowledge of the principles and practices of process development of biopharmaceuticals. Individuals, particularly those who are working in the various sectors of biotechnology including basic research of biological systems, discovery, development and manufacturing of biopharmaceuticals, will improve their competency and learn new practical skills enabling them to increase productivity and further contribute to their professions.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5400	Scientific Information Management for Biotechnology Managers	3
BIOT 5560	Bioprocess Fundamentals	3
BIOT 5635	Downstream Processes for Biopharmaceutical Production	3
BIOT 5640	Drug Product Processes for Biopharmaceuticals	3

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Vaccine Development, Graduate Certificate

The SARS-CoV-2 pandemic has reemphasized the importance of vaccines in our medical toolkit to prevent the spread of infectious diseases. The Certificate in Vaccine Development explores what vaccines are, how they work (immunization), how regulatory science has evolved in vaccine approvals, and how vaccines are created. This certificate includes three courses specifically focused on the science of vaccines and two courses focusing on cell culture and good manufacturing practices. Credits earned in this certificate may be used to satisfy requirements in the Master of Science in Biotechnology.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 5910	Vaccines and Immunization	3
BIOT 5920	Foundations in Vaccine Regulatory Science	3
BIOT 5930	Molecular Tools for Vaccine Design	3
BIOT 6310	CGMP Statutes and Regulation	3

Program Credit/GPA Requirements

15 total semester hours required
Minimum 3.000 GPA required

Marine and Environmental Sciences

Website (http://www.northeastern.edu/mes/)

Geoffrey C. Trussell, PhD
Professor and Chair

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The PhD program in marine and environmental sciences is designed to train high-caliber and independent scientists whose research addresses fundamental and applied ecological and evolutionary questions at local, regional, national, and global scales.

This training will include both general and specialized coursework in ecology and evolution, geoscience, sustainability, and marine sciences, with curricular programs providing specialized options tailored to each student's research interests. Students benefit from top-notch research facilities at the Marine Science Center in Nahant and on the main campus in Boston. Graduates of the program are prepared for careers in academia, government agencies, and the private sector.

The Master of Science in Marine Biology, also known as the Three Seas Program, gives students an opportunity to learn in three world-renowned research facilities in New England, the Caribbean, and the Pacific Northwest. In addition to rigorous coursework, the program offers the opportunity for students to formulate research questions, design and conduct critical experiments, and interpret and present results. The 15-month program culminates with an internship in the field and independent research project.

The Master of Science in Environmental Science and Policy is a joint program between the College of Science and the College of Social Sciences and Humanities. The interdisciplinary program aims to prepare the next generation of environmental professionals for dynamic opportunities focused on the science and policy of sustainability and resilience.

Programs

Doctor of Philosophy (PhD)

- Human Behavior and Sustainability Sciences (p. 980)
- Marine and Environmental Sciences (p. 975)

Master of Science (MS)

- Climate Science and Engineering (p. 385)
- Environmental Science and Policy (p. 985)
- Marine Biology (p. 987)

Graduate Certificate

- Sustainability Sciences (p. 989)

Marine and Environmental Sciences, PhD

The PhD in Marine and Environmental Sciences (MES) program provides students with advanced course work and training in the concentration areas of marine sciences, geosciences, sustainability sciences, and ecology and evolutionary biology.

Students must pass three examinations during the course of their graduate studies:

1. An oral examination by the student's dissertation committee.
2. A proposal defense presented to the student's dissertation committee that explains the research areas that the student proposes to work in.
3. A defense of the student's written dissertation consisting of a public seminar, public question-and-answer period, and private defense of their work to their dissertation committee. Dissertation committees consist of at least four Northeastern faculty and one external faculty member.

A cumulative GPA of 3.000 is required for graduation. All PhD students are required to have at least two first-authored publications submitted to or accepted in a peer-reviewed journal prior to their defense. The PhD will be awarded following submission of a dissertation, approved by the candidate's dissertation committee, to the College of Science.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Marine and Environmental Sciences (https://catalog.northeastern.edu/graduate/science/marine-environmental-sciences/marine-environmental-sciences-ms/) *degree. Note that no students will be admitted directly into the Marine and Environmental Sciences program to pursue a master's degree.*

PhD Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying examination
Dissertation proposal
Candidacy
First-author publication
Dissertation defense

Core Requirements

Code	Title	Hours
Statistics		
Complete one of the following:		4-5
EEMB 5522	Experimental Design Marine Ecology	
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500	
Alternative statistics course as approved by graduate committee		
Research		
Complete the following (repeatable) course twice:		8
EEMB 8984	Research	

Concentration

Complete one of the following concentrations:

- Ecology and Evolutionary Biology (p. 975)
- Sustainability Sciences (p. 976)
- Geosciences (p. 976)
- Marine Sciences (p. 977)

ECOLOGY AND EVOLUTIONARY BIOLOGY

Code	Title	Hours
Seminars		
EEMB 7102	Seminar in Ecology and Evolutionary Biology	2
Complete one of the following:		2

EEMB 7101	Seminar in Marine Sciences	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8102	Readings in Ecology and Evolutionary Biology	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5130	Population Dynamics	
EEMB 5504	Biology of Corals	
EEMB 5506	Biology and Ecology of Fishes	
EEMB 5508	Marine Birds and Mammals	
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516	
EEMB 5518	Ocean and Coastal Processes	
EEMB 5520	Tropical Marine Ecology	
ENVR 5210	Environmental Planning	
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242	
ENVR 5260	Geographical Information Systems	

Substitutions may be made with approval of graduate committee.

SUSTAINABILITY SCIENCES

Code	Title	Hours
Seminars		
EEMB 7103	Seminar in Sustainability Sciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8103	Readings in Sustainability Sciences	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5130	Population Dynamics	
EEMB 5506	Biology and Ecology of Fishes	
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516	
EEMB 5518	Ocean and Coastal Processes	
ENVR 5115	Advanced Topics in Environmental Geology	
ENVR 5260	Geographical Information Systems	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
INSH 6406	Analyzing Complex Digitized Data	
POLS 7334	Social Networks	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 7346	Resilient Cities	

Substitutions may be made with approval of graduate committee.

GEOSCIENCES

Code	Title	Hours
Seminars		
EEMB 7104	Seminar in Geosciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	

EEMB 7103	Seminar in Sustainability Sciences	
Readings		
EEMB 8104	Readings in Geosciences	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5518	Ocean and Coastal Processes	
ENVR 5115	Advanced Topics in Environmental Geology	
ENVR 5190	Soil Science	
ENVR 5210	Environmental Planning	
ENVR 5240 and ENVR 5241	Sedimentary Basin Analysis and Lab for ENVR 5240	
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242	
ENVR 5260	Geographical Information Systems	
Substitutions may be made with approval of graduate committee.		

MARINE SCIENCES

Code	Title	Hours
Seminars		
EEMB 7101	Seminar in Marine Sciences	2
Complete one of the following:		2
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8101	Readings in Marine Sciences	2
Concentration-Specific Electives		
Complete 12 semester hours from the following:		12
EEMB 5130	Population Dynamics	
EEMB 5504	Biology of Corals	
EEMB 5506	Biology and Ecology of Fishes	
EEMB 5508	Marine Birds and Mammals	
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516	
EEMB 5518	Ocean and Coastal Processes	
EEMB 5520	Tropical Marine Ecology	
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242	
ENVR 5260	Geographical Information Systems	
Substitutions may be made with approval of graduate committee.		

Dissertation

Code	Title	Hours
EEMB 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	

Program Credit/GPA Requirements

30 total semester hours required
Minimum 3.000 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying examination

Dissertation proposal
Candidacy
First-author publication
Dissertation defense

Core Requirements

Code	Title	Hours
Statistics		
Complete one of the following:		4-5
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500	
EEMB 5522	Experimental Design Marine Ecology	

Alternative statistics course as approved by graduate committee

Concentration

Complete one of the following concentrations:

- Ecology and Evolutionary Biology (p. 975)
- Sustainability Sciences (p. 976)
- Geosciences (p. 976)
- Marine Sciences (p. 977)

ECOLOGY AND EVOLUTIONARY BIOLOGY

Code	Title	Hours
Seminars		
EEMB 7102	Seminar in Ecology and Evolutionary Biology	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8102	Readings in Ecology and Evolutionary Biology	2

SUSTAINABILITY SCIENCES

Code	Title	Hours
Seminars		
EEMB 7103	Seminar in Sustainability Sciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8103	Readings in Sustainability Sciences	2

GEOSCIENCES

Code	Title	Hours
Seminars		
EEMB 7104	Seminar in Geosciences	2
Complete one of the following:		2
EEMB 7101	Seminar in Marine Sciences	
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7103	Seminar in Sustainability Sciences	
Readings		
EEMB 8104	Readings in Geosciences	2

MARINE SCIENCES

Code	Title	Hours
Seminars		
EEMB 7101	Seminar in Marine Sciences	2
Complete one of the following:		2
EEMB 7102	Seminar in Ecology and Evolutionary Biology	
EEMB 7103	Seminar in Sustainability Sciences	
EEMB 7104	Seminar in Geosciences	
Readings		
EEMB 8101	Readings in Marine Sciences	2

Dissertation

Code	Title	Hours
EEMB 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

Human Behavior and Sustainability Sciences, PhD

Overview

Admissions to this program begin Fall 2024.

The persistent failure to integrate the social, behavioral, and cognitive sciences with ecological and geophysical sciences is a critical friction point reducing the viability and effectiveness of sustainability solutions. Therefore, a degree program that combines training in psychology with the ecological and geophysical sciences will produce boundary-breaking scholars who can accelerate sustainability solutions that are robustly informed by the results of scientific research. The proposed curriculum integrates degree requirements from existing PhD programs in psychology and marine and environmental sciences (sustainability sciences concentration), with the addition of a set of specialized core courses and integrated cross-disciplinary research training. It also allows students broad latitude in designing their specialty within the parameters of the program.

The PhD in Human Behavior and Sustainability Sciences program provides students with the following advanced coursework and training. Students must pass two examinations during the course of their graduate studies to achieve candidacy:

1. A qualifying paper that the student will write and present to their dissertation committee.
2. A proposal defense presented to the student's dissertation committee that explains the research areas that the student proposes to work in.

At the end of the program, students will defend their written dissertation, which consists of a public seminar, public question-and-answer period, and private defense of their work to their dissertation committee. Dissertation committees consist of at least four Northeastern University faculty and one external faculty member.

A cumulative grade-point average of 3.000 is required for graduation. The PhD will be awarded following submission of a dissertation, approved by the candidate's dissertation committee, to the College of Science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying paper and presentation
Dissertation proposal and presentation
Candidacy
Dissertation/dissertation defense
Teaching experience

Core Requirements

Code	Title	Hours
EEMB 7103	Seminar in Sustainability Sciences	2
EEMB 8103	Readings in Sustainability Sciences	2
ENVR 5450	Applied Social-Ecological Systems Modeling	4
PSYC 5180	Quantitative Methods 1	3
PSYC 5181	Quantitative Methods 2	3
PSYC 7210	Seminar in Cognition	3

Research

Code	Title	Hours
Complete two semesters from the following:		6
PSYC 8401	Research Project	
or EEMB 8984	Research	

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
Psychology Breadth Courses		
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	

PSYC 5140	Proseminar in Biology of Behavior
PSYC 5150	Proseminar in Clinical Neuroscience
PSYC 5160	Proseminar in Personality
PSYC 5170	Proseminar in Social Psychology
Sustainability Breadth Courses	
EEMB 5130	Population Dynamics
EEMB 5506	Biology and Ecology of Fishes
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516
EEMB 5518	Ocean and Coastal Processes
EEMB 5522	Experimental Design Marine Ecology
ENVR 5115	Advanced Topics in Environmental Geology
ENVR 5150	Climate and Atmospheric Change
ENVR 5260	Geographical Information Systems
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5600	Coastal Processes, Adaptation, and Resilience
ENVR 5700	Streams and Watershed Ecology
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
ENVR 6150	Food Security and Sustainability
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
INSH 6300	Research Methods in the Social Sciences
INSH 6406	Analyzing Complex Digitized Data
INTL 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5246	Participatory Modeling for Collaborative Decision Making
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5267	Climate Policy and Justice
PPUA 5268	International Environmental Policy
Psychology Depth Courses	
PSYC 7210	Seminar in Cognition
PSYC 7240	Seminar in Biology of Behavior
PSYC 7250	Seminar in Clinical Neuroscience
PSYC 7270	Seminar in Social Psychology
PSYC 7300	Advanced Quantitative Analysis
Sustainability Depth Courses	
EEMB 7101	Seminar in Marine Sciences
EEMB 7102	Seminar in Ecology and Evolutionary Biology
EEMB 7103	Seminar in Sustainability Sciences
EEMB 7104	Seminar in Geosciences
ENVR 6102	Environmental Science and Policy Seminar 2
LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7334	Social Networks
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 7346	Resilient Cities
SOCL 7267	Environment, Health, and Society

Dissertation

Code	Title	Hours
Please enroll in either EEMB 9990 or PSYC 9990 for one semester after achieving candidacy. In the following semester, please enroll in either EEMB 9991 or PSYC 9991.		
EEMB 9990	Dissertation Term 1	
or PSYC 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	
or PSYC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Climate Science and Engineering, MS

Overview

The Master of Science in Climate Science and Engineering is offered jointly by the College of Engineering and the College of Science. The program provides training in the fundamental scientific processes that underpin the structure and dynamics of the climate, as well as the engineering strategies and technologies required for decarbonization and adaptation to climate change.

Incoming students will typically hold a bachelor's degree in a science, engineering, or related field. The program is designed to prepare students for climate-facing positions in the public or private sectors and can serve as a springboard for students interested in pursuing doctoral-level research. Students must take at least 12 semester hours of College of Science courses and at least 12 semester hours of College of Engineering courses and includes a report, thesis, or coursework option.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. In order to ensure a balance of training across science and engineering, students must take at least 12 semester hours of College of Science courses (starting with EEMB, ENVR) and at least 12 semester hours of College of Engineering courses (starting with CIVE, EECE, ENSY, MATL, ME, SBSY) from the core requirements and restricted elective course options.

Core Requirements

Code	Title	Hours
Select from the core requirements listed below; any core course not used to meet this core course requirement can be taken as a restricted elective:		20
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
CIVE 5150	Climate and Atmospheric Change	
or ENVR 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5670	Global Biogeochemistry	
or ENVR 5670	Global Biogeochemistry	
CIVE 7110	Critical Infrastructure Resilience	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives course list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
or EEMB 8984	Research	
Complete 8 semester hours from the restricted electives course list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
or EEMB 8984	Research	
Complete 4 semester hours from the restricted electives course list below.		4

Restricted Electives

Code	Title	Hours
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7282	Coastal and Hydraulic Modeling	
CIVE 7385	Public Transportation	
CIVE 7392	Special Topics in Environmental Engineering	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5563	Advanced Spatial Analysis	
INTL 5100	Climate and Development	
LAW 7634	Energy Law and Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Environmental Science and Policy, MS

The Master of Science in Environmental Science and Policy program emphasizes a broadly interdisciplinary and synthetic approach that integrates knowledge in the environmental sciences (conservation biology, climate change, fisheries science, ecosystem function, biodiversity, restoration ecology) with the social sciences (policy, economics, sociology, political science, and development) and humanities (environmental history, philosophy, and ethics). The goal of the program is to equip professionals with substantive breadth in knowledge and skills at the intersection of environmental science and policy. The program focuses on training students to think critically about the underlying causes of environmental problems and understanding the reciprocal relationships between coupled human-natural ecosystems and the interconnections between social and technological innovations. The program explores practical approaches and potential solutions that decision makers need to evaluate in policy debates related to promoting environmental sustainability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminars		
PPUA 6101	Environmental Science and Policy Seminar 1	4
ENVR 6102	Environmental Science and Policy Seminar 2	4
Skills Courses		
Complete 2 courses from the following. At least one course needs to be taken from the College of Science Skills Course List and one course from the College of Social Sciences and Humanities Skills Course List.		8
College of Science Skills Course List		
EEMB 5130	Population Dynamics	
EEMB 5522	Experimental Design Marine Ecology	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5210	Environmental Planning	
ENVR 5240	Sedimentary Basin Analysis	
ENVR 5260	Geographical Information Systems	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 6500	Biostatistics	
College of Social Sciences and Humanities Skills Course List		
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Electives

Complete five courses from the following list. At least one course must be taken from the College of Science Elective Course List and one course from the College of Social Sciences and Humanities Elective Course List. Any skills course not taken to fulfill the skills courses requirement can be taken as an elective. Students may petition to enroll in other relevant graduate courses offered by other schools at Northeastern University.

COLLEGE OF SCIENCE ELECTIVE LIST

Code	Title	Hours
EEMB 5130 - EEMB 8984		
ENVR 5115 - ENVR 6900		

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES ELECTIVE LIST

Code	Title	Hours
INSH 5302	Information Design and Visual Analytics	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PHTH 5214	Environmental Health	
PHTH 5230	Global Health	
PPUA 5100 - PPUA 7346		
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Marine Biology, MS

The MS in Marine Biology provides students the opportunity to study marine biology in three distinct environments at three world-renowned research facilities in New England, the Caribbean, and the Pacific Northwest. An internship in the field and independent research project provide the capstone to the fifteen-month graduate program.

Much more than course work in a classroom, the MS in Marine Biology delivers inquiry-based curriculum in marine science during which our students formulate research questions, design and conduct critical experiments, and interpret and present results. You will have an opportunity not only learn science, you have an opportunity to learn how to do science and become a marine scientist.

This program is for students eager to broaden their knowledge of marine biology or who want to further refine their interests.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Students register for International Study—Three Seas Program (ABRS 5120) for the fall and spring terms of year 1.

Code	Title	Hours
Seminar		
EEMB 5303	Marine Biology Careers Seminar	1-2
or EEMB 5305	Professional Development for Ocean Sciences	
Biology		
EEMB 5504 and EEMB 5505	Biology of Corals and Lab for EEMB 5504	3
EEMB 5506 and EEMB 5507	Biology and Ecology of Fishes and Lab for EEMB 5506	3
EEMB 5508	Marine Birds and Mammals	3
EEMB 5518 and EEMB 5519	Ocean and Coastal Processes and Lab for EEMB 5518	3
EEMB 5533 and EEMB 5535	Marine Invertebrate Zoology and Botany and Lab for EEMB 5533	3
Sustainability		
EEMB 5538	Conservation and Restoration of Marine Systems	3
EEMB 5542	Marine Spatial Planning	4
EEMB 5546	Sustainability of the Land-Sea Interface	3
Ecology		
EEMB 5520	Tropical Marine Ecology	2
EEMB 5522	Experimental Design Marine Ecology	3-4
or EEMB 5525	Advanced Field Methods in Marine Ecology	
EEMB 5540 and EEMB 5541	Changing Global Oceans and Lab for EEMB 5540	3
Research		
EEMB 5589	Diving Research Methods	2
Take the following (repeatable) course twice:		2
EEMB 7674	Marine Biology Research Project	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Fall Start

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
EEMB 5305	2	EEMB 5504 and EEMB 5505	3	EEMB 7674	1

EEMB 5522	4	EEMB 5506 and EEMB 5507	3	
EEMB 5589	2	EEMB 5508	3	
EEMB 5546	3	EEMB 5518 and EEMB 5519	3	
EEMB 5542	4	EEMB 5520	2	
EEMB 5533 and EEMB 5535	3	EEMB 5538	3	
		EEMB 5540 and EEMB 5541	3	
	18		**20**	**1**

Year 2

Fall	Hours
EEMB 7674	1
	1

Total Hours: 40

Summer II Start

Year 1

		Summer 2	Hours
		EEMB 5546	3
		EEMB 5589	2
		EEMB 5525	3
			8

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
EEMB 5508	3	EEMB 5542	4	EEMB 7674	1
EEMB 5538	3	EEMB 5305	2		
EEMB 5504 and EEMB 5505	3	MES Elective 5000+	4		
EEMB 5533 and EEMB 5535	3				
EEMB 5506 and EEMB 5507	3				
EEMB 5518 and EEMB 5519	3				
EEMB 5520	2				
	20		**10**		**1**

Year 3

Fall	Hours
EEMB 7674	1
	1

Total Hours: 40

Sustainability Sciences, Graduate Certificate

Overview

Environmental sustainability challenges are inherently complex and multidisciplinary and will require a workforce capable of collaborating across interdisciplinary teams. Thus, it is critical that the next generation of sustainability scientists and engineers receive broad, interdisciplinary training so that they are better prepared to address these complex challenges. This certificate will provide social science and engineering students with fundamental training in sustainability science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Courses		
Introduction to Sustainability Science		
ENVR 6102	Environmental Science and Policy Seminar 2	4
Physical and Environmental Processes and Systems		
Complete one of the following:		4
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
ENVR 5700	Streams and Watershed Ecology	
Environmental Planning, Management, and Sustainability		
Complete one of the following:		4
EEMB 6475	Advanced Wildlife Ecology	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
ENVR 6150	Food Security and Sustainability	
Research and Analytical Skills Development		
Complete one of the following:		4
EEMB 5130	Population Dynamics	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5500	Advanced Biostatistics	
ENVR 5984	Research	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Mathematics

Website (https://cos.northeastern.edu/mathematics/)

Egon Schulte, PhD
Professor and Chair

617.373.2450

Mathematics is of ever-increasing importance to our society and everyday life. It has long been the language of science and technology and provides a rich source of methods for analyzing and solving problems encountered in the physical world. Today, mathematics is essential in virtually all fields of human endeavor, including business, the arts, and the social sciences.

PhD students work with internationally recognized faculty in research programs in both pure and applied mathematics. The program is designed to provide students with a broad overview of current mathematics and a strong command of areas of specialization.

The Department of Mathematics also offers Master of Science degrees in mathematics, applied mathematics, and operations research, as well as a graduate certificate in applied mathematics. These programs prepare students for careers in business, industry, or government. Students pursuing degrees in applied math and operations research take part in Northeastern's signature co-op program.

In addition to the numerous seminars and colloquia at Northeastern, there are ample opportunities for students in the Boston area to learn about important recent advances in the field.

Programs

Doctor of Philosophy (PhD)

- Mathematics (p. 991)

Master of Science (MS)

- Applied Mathematics (p. 998)
- Mathematics (p. 1000)

Master of Science in Operations Research (MSOR)

- Operations Research (p. 1001)

Graduate Certificate

- Applied Mathematics (p. 1003)

Mathematics, PhD

Course Requirements

Students entering with a bachelor's degree are required to take 48 semester hours of coursework divided between foundational and advanced offerings. Students entering the program will be allowed to place out of some (possibly all) of the six basic-level courses; the graduate coordinator together with the first-year graduate advisor will determine the allowable course substitutions and will advise the student which foundational courses to take. Students may satisfy requirements for Algebra 1 (MATH 5111) and Analysis 1: Functions of One Variable (MATH 5101) by taking qualifying exams in algebra 1 and in analysis 1 at the start of the program. Students may satisfy foundational course requirements if they demonstrate proficiency by passing an assessment exam in the course at the beginning of the semester or by demonstrating that they have taken a similar course and have adequate knowledge of the course material (syllabus and transcript are required; a brief oral examination is also required in that case). Academic advising will happen just before the start of each term and during the add/drop period in order to plan a student's course registration for the term. A complete listing of foundational and advanced courses is available from the Department of Mathematics and the graduate dean's office. Students are not permitted to register for more than two "readings" courses and three "topics" courses for credit toward the degree without explicit permission from the graduate dean. A minimum GPA of 3.000 is required for degree conferral.

Teaching Requirement

Some teaching experience is required while in the program. Students must attend university-led TA training at the start of the program; attend a one-semester TA training course conducted by faculty from the Department of Mathematics teaching committee; spend one semester shadowing faculty in the undergraduate classroom; and perform recitations and grading for the undergraduate course they are shadowing.

Qualifying Exams

Qualifying exam sessions are given once in spring and once in fall. Students will be required to pass four qualifying exams: algebra 1, analysis 1, and two other exams. The possible additional topics for qualifying exams are algebra 2, analysis 2, combinatorics, geometry, ordinary differential equations, partial differential equations, probability, statistics, topology, and algebraic geometry. A qualifying exam may be taken twice by any student. Additional attempts may be allowed at the discretion of the graduate committee with permission from the graduate dean in the College of Science. Two qualifying exams should be passed no later than the end of the second year and all four by the end of the third year.

Doctoral Candidacy

PhD candidacy is reached when all of the following conditions are met:

- Completion of eight advanced courses
- Identification of an unsolved research problem
- Successful passing of four qualifying exams
- Assignment of PhD supervisor and creation of a 1-page initial plan
- Completion of a 3-page plan of research
- Completion of a 10-page progress report and a one-hour defense of proposal, presented to supervisor and three faculty members of graduate committee

Dissertation Requirement

Each candidate must complete a dissertation that embodies the results of extended research and makes an original contribution to the field. This work should give evidence of the candidate's ability to carry out independent investigation and interpret, in a logical manner, the results of the research. There are two stages to this process:

- **Stage 1:** Students in the PhD program must have a dissertation supervisor within two years after joining the PhD program. The department views the failure of a student to find a supervisor within two years of joining the PhD program with concern and considers this sufficient cause to review the student's status in the PhD program. The process of obtaining a dissertation supervisor always involves two choices—the student chooses the supervisor, and the supervisor chooses the student. For this reason, the department does not guarantee a dissertation supervisor for every student, but the department recognizes its responsibility to help the student find a satisfactory match. This aid is usually provided by the student's graduate advisor, who should be familiar with the student's progress in finding a dissertation supervisor. The dissertation supervisor guides the student's further education as well as directs the student's dissertation. The dissertation itself must represent an original solution of a problem in the chosen area of mathematics that makes a significant contribution to the mathematical knowledge in that area. Students must enroll in Dissertation or Dissertation Continuation while fulfilling the dissertation requirements.
- **Stage 2 (dissertation defense):** The final oral examination on the dissertation is held in accordance with university regulations and given by a dissertation committee of four faculty members (three from the university, including the supervisor, and one from outside Northeastern University). The dissertation supervisor should propose this dissertation committee to the graduate committee for its approval at least one month before the PhD dissertation defense.

Program Requirements

Bachelor's Degree Entry

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Four qualifying examinations
Annual review
Teaching requirement
Doctoral candidacy
Dissertation committee
Dissertation proposal
Progress report and presentation
Dissertation defense

Prerequisites

Code	Title	Hours
Algebra and Analysis		
Complete 0–8 semester hours from the following:		0-8
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5111	Algebra 1	

Advanced Coursework

Code	Title	Hours
Complete 32 semester hours from the advanced coursework list. Only two readings and three topics courses are allowed. (p. 993)		32

Tracks

Complete one of the following three tracks:

- Pure Track (p. 992)
- Discrete Track (p. 992)
- Probability and Statistics Track (p. 993)

Dissertation

Code	Title	Hours
MATH 9990	Dissertation Term 1	
MATH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

48–56 total semester hours required
Minimum 3.000 GPA required

PURE TRACK

Code	Title	Hours
Analysis		
MATH 5102	Analysis 2: Functions of Several Variables	4
Algebra		
MATH 5112	Algebra 2	4
Foundational Courses		
Complete up to 8 semester hours from the following:		0-8
MATH 5121	Topology 1	
MATH 5122	Geometry 1	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	

DISCRETE TRACK

Code	Title	Hours
Algebra		
MATH 5112	Algebra 2	4

Probability		
MATH 7241	Probability 1	4
Foundational Courses		
Complete up to 8 semester hours from the following:		0-8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5111	Algebra 1	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7342	Mathematical Statistics	

PROBABILITY AND STATISTICS TRACK

Code	Title	Hours
Analysis		
Complete 4 semester hours from the following:		4
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 7203	Numerical Analysis 1	
Probability		
MATH 7241	Probability 1	4
or MATH 7342	Mathematical Statistics	
Foundational Courses		
Complete up to 8 semester hours from the following:		8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	

Advanced Coursework List

Code	Title	Hours
MATH 7205	Numerical Analysis 2	
MATH 7221	Topology 2	
MATH 7223	Riemannian Optimization	
MATH 7233	Graph Theory	
MATH 7234	Optimization and Complexity	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7301	Functional Analysis	
MATH 7302	Partial Differential Equations 2	
MATH 7303	Complex Manifolds	
MATH 7311	Commutative Algebra	
MATH 7315	Algebraic Number Theory	
MATH 7316	Lie Algebras	
MATH 7317	Modern Representation Theory	
MATH 7320	Modern Algebraic Geometry	
MATH 7321	Topology 3	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	
MATH 7346 to MATH 7361		
MATH 7371	Morse Theory	

MATH 7374	Riemannian Geometry and General Relativity
MATH 7976 to MATH 8986	
MATH 9984	Research
Topics	
Only three topics courses are allowed.	
MATH 7362	Topics in Algebra
MATH 7363	Topics in Algebraic Geometry
MATH 7364	Topics in Representation Theory
MATH 7375	Topics in Topology
MATH 7381	Topics in Combinatorics
MATH 7382	Topics in Probability
Readings	
Only two readings courses are allowed.	
MATH 7721	Readings in Topology
MATH 7733	Readings in Graph Theory
MATH 7734	Readings in Algebra
MATH 7735	Readings in Algebraic Geometry
MATH 7736	Readings in Discrete Geometry
MATH 7741	Readings in Probability and Statistics
MATH 7771	Readings in Geometry

Advanced Entry Program Requirements

Course Requirements

Advanced students who enter the PhD program with a master's degree (or equivalent) will be allowed to place out of some (possibly all) of the six basic-level courses; the graduate coordinator together with the first-year graduate advisor will determine the allowable course substitutions and will advise the student which foundational courses to take. Students may satisfy requirements for Algebra 1 (MATH 5111) and Analysis 1: Functions of One Variable (MATH 5101) by taking qualifying exams in algebra 1 and in analysis 1 at the start of the program. Students may satisfy foundational course requirements if they demonstrate proficiency by passing an assessment exam in the course at the beginning of the semester or by demonstrating that they have taken a similar course and have adequate knowledge of the course material (syllabus and transcript are required; a brief oral examination is also required in that case). Academic advising will happen just before the start of each term and during the add/drop period in order to plan a student's course registration for the term. A complete listing of foundational and advanced courses is available from the Department of Mathematics and the graduate dean's office. Students are not permitted to register for more than two "readings" courses and three "topics" courses for credit toward the degree without explicit permission from the graduate dean. A minimum grade-point average (GPA) of 3.000 is required for degree conferral.

Teaching Requirement

Some teaching experience is required while in the program. Students must attend university-led TA training at the start of the program; attend a one-semester TA training course conducted by faculty from the Department of Mathematics teaching committee; spend one semester shadowing faculty in the undergraduate classroom; and perform recitations and grading for the undergraduate course they are shadowing.

Qualifying Exams

Qualifying exam sessions are given once in spring and once in fall. Students will be required to pass four qualifying exams: algebra 1, analysis 1, and two other exams. The possible additional topics for qualifying exams are algebra 2, analysis 2, combinatorics, geometry, ordinary differential equations, partial differential equations, probability, statistics, topology, and algebraic geometry. A qualifying exam may be taken twice by any student. Additional attempts may be allowed at the discretion of the graduate committee with permission from the graduate dean in the College of Science. Two qualifying exams should be passed no later than the end of the second year and all four by the end of the third year.

Doctoral Candidacy

PhD candidacy is reached when all of the following conditions are met:

- Completion of eight advanced courses
- Identification of an unsolved research problem
- Successful passing of four qualifying exams
- Assignment of PhD supervisor and creation of a 1-page initial plan
- Completion of a 3-page plan of research
- Completion of a 10-page progress report and a one-hour defense of proposal, presented to supervisor and three faculty members of graduate committee

Dissertation Requirement

Each candidate must complete a dissertation that embodies the results of extended research and makes an original contribution to the field. This work should give evidence of the candidate's ability to carry out independent investigation and interpret, in a logical manner, the results of the research. There are two stages to this process:

- **Stage 1:** Students in the PhD program must have a dissertation supervisor within two years after joining the PhD program. The department views the failure of a student to find a supervisor within two years of joining the PhD program with concern and considers this sufficient cause to review the student's status in the PhD program. The process of obtaining a dissertation supervisor always involves two choices—the student chooses the supervisor, and the supervisor chooses the student. For this reason, the department does not guarantee a dissertation supervisor for every student, but the department recognizes its responsibility to help the student find a satisfactory match. This aid is usually provided by the student's graduate advisor, who should be familiar with the student's progress in finding a dissertation supervisor. The dissertation supervisor guides the student's further education as well as directs the student's dissertation. The dissertation itself must represent an original solution of a problem in the chosen area of mathematics that makes a significant contribution to the mathematical knowledge in that area. Students must enroll in Dissertation or Dissertation Continuation while fulfilling the dissertation requirements.
- **Stage 2 (dissertation defense):** The final oral examination on the dissertation is held in accordance with university regulations and given by a dissertation committee of four faculty members (three from the university, including the supervisor, and one from outside Northeastern University). The dissertation supervisor should propose this dissertation committee to the graduate committee for its approval at least one month before the PhD dissertation defense.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Four qualifying examinations
Annual review
Teaching requirement
Doctoral candidacy
Dissertation committee
Dissertation proposal
Progress report and presentation
Dissertation defense

Code	Title	Hours
Complete 0–16 semester hours of the following courses:		0-16
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5111	Algebra 1	
MATH 5112	Algebra 2	

Advanced Coursework

Code	Title	Hours
Complete 32 semester hours from the advanced coursework list. Only two readings and three topics courses are allowed. (p. 993)		32

Tracks

Complete one of the following three tracks:

- Pure Track (p. 992)
- Discrete Track (p. 992)
- Probability and Statistics Track (p. 993)

Dissertation

Code	Title	Hours
MATH 9990	Dissertation Term 1	
MATH 9991	Dissertation Term 2	

Program Credit/GPA Requirements

32–56 total semester hours required
Minimum 3.000 GPA required

PURE TRACK

Code	Title	Hours
Foundational Courses		
Complete 0–8 semester hours from the following:		0-8
MATH 5121	Topology 1	
MATH 5122	Geometry 1	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	

DISCRETE TRACK

Code	Title	Hours
Foundational Courses		
Complete 0–8 semester hours from the following:		0 - 8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5111	Algebra 1	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	

PROBABILITY AND STATISTICS TRACK

Code	Title	Hours
Foundational Courses		
Complete 0–8 semester hours from the following:		0 - 8
MATH 5102	Analysis 2: Functions of Several Variables	
MATH 5112	Algebra 2	
MATH 5352	Quantum Computation and Information	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7241	Probability 1	
MATH 7342	Mathematical Statistics	

ADVANCED COURSEWORK LIST

Code	Title	Hours
MATH 7205	Numerical Analysis 2	
MATH 7221	Topology 2	
MATH 7223	Riemannian Optimization	
MATH 7233	Graph Theory	
MATH 7234	Optimization and Complexity	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7301	Functional Analysis	
MATH 7302	Partial Differential Equations 2	
MATH 7303	Complex Manifolds	
MATH 7311	Commutative Algebra	
MATH 7315	Algebraic Number Theory	
MATH 7316	Lie Algebras	
MATH 7317	Modern Representation Theory	
MATH 7320	Modern Algebraic Geometry	
MATH 7321	Topology 3	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7343	Applied Statistics	

MATH 7344	Regression, ANOVA, and Design
MATH 7346 to MATH 7361	
MATH 7371	Morse Theory
MATH 7374	Riemannian Geometry and General Relativity
MATH 7976 to MATH 8986	
MATH 9984	Research
Topics	
Only three topics courses are allowed.	
MATH 7362	Topics in Algebra
MATH 7363	Topics in Algebraic Geometry
MATH 7364	Topics in Representation Theory
MATH 7375	Topics in Topology
MATH 7381	Topics in Combinatorics
MATH 7382	Topics in Probability
Readings	
Only two readings courses are allowed.	
MATH 7721	Readings in Topology
MATH 7733	Readings in Graph Theory
MATH 7734	Readings in Algebra
MATH 7735	Readings in Algebraic Geometry
MATH 7736	Readings in Discrete Geometry
MATH 7741	Readings in Probability and Statistics
MATH 7771	Readings in Geometry

Applied Mathematics, MS

New applications of mathematics are constantly being discovered, and established techniques are being applied in new ways and in emerging fields. Students have the option to participate in one of two tracks offered: data science or coursework. The track option allows students to be able to personalize their education with more in-depth knowledge of data science or other areas of interest. Northeastern's Master of Science in Applied Mathematics caters to students who are looking to enter or who are currently working in a variety of applied math careers, such as financial service and investment firms, data science and high-tech firms, computer information and software firms, and academic institutions and research institutes.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Methods and Modeling		
MATH 5131	Introduction to Mathematical Methods and Modeling	4
Algebra and Analysis		
Complete one of the following:		4
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5110	Applied Linear Algebra and Matrix Analysis	
MATH 5111	Algebra 1	
MATH 7241	Probability 1	
Statistics		
Complete one of the following:		4
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	

Tracks

Complete one of the following two tracks:

- Data Science Track (p.)
- Coursework Track (p.)

DATA SCIENCE TRACK

Code	Title	Hours
Data Science Courses		
Complete two of the following:		8
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
Students may take other courses not on the list above from the Khoury College of Computer Sciences in consultation with their faculty advisor.		

COURSEWORK TRACK

Code	Title	Hours
Coursework		
Complete 8 semester hours from any subject area. Courses outside of MATH may be chosen with faculty approval.		8

Electives

Code	Title	Hours
Complete 12 semester hours in the following subject area:		12
MATH		

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Mathematics, MS

This program offers students with a bachelor's degree in mathematics or a related field an opportunity to broaden their knowledge in the several fields of mathematics and its applications. The program is designed to prepare graduates for careers in business, industry, or government.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Algebra 1 and Analysis 1		
MATH 5101	Analysis 1: Functions of One Variable	4
MATH 5111	Algebra 1	4
Algebra 2 and Analysis 2		
MATH 5102	Analysis 2: Functions of Several Variables	4
MATH 5112	Algebra 2	4

Electives

Code	Title	Hours
Complete 16 semester hours from the following; no course can be used to satisfy both a requirement and an elective:		16
MATH 5121	Topology 1	
MATH 5122	Geometry 1	
MATH 7202	Partial Differential Equations 1	
MATH 7203	Numerical Analysis 1	
MATH 7205	Numerical Analysis 2	
MATH 7221	Topology 2	
MATH 7223	Riemannian Optimization	
MATH 7233	Graph Theory	
MATH 7234	Optimization and Complexity	
MATH 7241	Probability 1	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7311	Commutative Algebra	
MATH 7321	Topology 3	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	
MATH 7349	Stochastic Calculus and Introduction to No-Arbitrage Finance	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Operations Research, MSOR

This program seeks to train students in the basic techniques and theory of operations research and their applications to real-world problems. Graduates should have developed their analytical skills to attack complex, large-scale optimization problems of both a deterministic and stochastic nature. Eight 4-semester-hour graduate courses are required for this degree. Previous course work will be evaluated to determine proficiency in certain content areas and degree plan may be tailored accordingly. In some cases, a student may be required to take an assessment exam to determine content and knowledge proficiency. No course can be used to satisfy both a requirement and an elective. To qualify for degree conferral, a minimum cumulative grade-point average of 3.000, equivalent to a grade of B, must be obtained. Some courses listed for this program are offered in the College of Engineering or the Khoury College of Computer Sciences.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Probability		
Complete 4 semester hours from the following:		4
MATH 7241	Probability 1	
MATH 7341	Probability 2	
OR 7230	Probabilistic Operation Research	
Statistics		
MATH 7342	Mathematical Statistics	4
or MATH 7343	Applied Statistics	
Operations Research		
OR 6205	Deterministic Operations Research	4
Optimization and Complexity		
MATH 7234	Optimization and Complexity	4

Electives

Code	Title	Hours
Complete 16 semester hours from the following:		16
CS 5800	Algorithms	
CS 6140	Machine Learning	
CS 7805	Complexity Theory	
CSYE 6200	Concepts of Object-Oriented Design	
CSYE 6205	Concepts of Object-Oriented Design with C++	
EMGT 5220	Engineering Project Management	
EMGT 6225	Economic Decision Making	
EMGT 6305	Financial Management for Engineers	
GE 5010	Customer-Driven Technical Innovation for Engineers	
GE 5100	Product Development for Engineers	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5500	Systems Engineering in Public Programs	
IE 5617	Lean Concepts and Applications	
IE 5630	Biosensor and Human Behavior Measurement	
IE 6300	Manufacturing Methods and Processes	
IE 7200	Supply Chain Engineering	
IE 7215	Simulation Analysis	
IE 7275	Data Mining in Engineering	
IE 7280	Statistical Methods in Engineering	
IE 7285	Statistical Quality Control	
IE 7290	Reliability Analysis and Risk Assessment	
IE 7315	Human Factors Engineering	
MATH 7203	Numerical Analysis 1	
MATH 7205	Numerical Analysis 2	

MATH 7223	Riemannian Optimization
MATH 7233	Graph Theory
MATH 7243	Machine Learning and Statistical Learning Theory 1
MATH 7339	Machine Learning and Statistical Learning Theory 2
MATH 7344	Regression, ANOVA, and Design
OR 7240	Integer and Nonlinear Optimization
OR 7310	Logistics, Warehousing, and Scheduling

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Applied Mathematics, Graduate Certificate

Large streams of data have brought mathematical modeling to nearly every field and industry. More than ever, a deep understanding of the fundamentals and applications of these models is the differentiator between the success and failure of projects in statistics, machine learning, probabilistic modeling, and optimization. From constructing financial tools and optimizing supply chains, to computer-guided brain surgery and to quantum computing, a foundational understanding of advanced mathematics can give you the tools to create the ideas and technology that will drive the 21st century.

A graduate certificate in applied mathematics gives you the opportunity to study the fundamentals of statistical reasoning, mathematical modeling, and modern mathematical methods in a Tier 1 research department. Shorter than the full master's, the graduate certificate allows you to take up to four courses from the Department of Mathematics. Our courses cover a wide range of topics, from theory courses about the fundamental structures of mathematical objects, to project-based applied courses where students use modeling to solve research-level problems from academic and industry partners.

All applied mathematics courses are taught in the evening to accommodate working students. Mathematics and pure math courses also count toward this certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Modeling		
Complete 4 semester hours from the following:		
MATH 5110	Applied Linear Algebra and Matrix Analysis	
MATH 5131	Introduction to Mathematical Methods and Modeling	
MATH 7203	Numerical Analysis 1	
MATH 7233	Graph Theory	
MATH 7241	Probability 1	
Statistics		
Complete 4 semester hours from the following:		
MATH 7243	Machine Learning and Statistical Learning Theory 1	
MATH 7343	Applied Statistics	

Electives

Code	Title	Hours
Complete 8 semester hours from subject area MATH, including but not limited to the following:		
MATH 5101	Analysis 1: Functions of One Variable	
MATH 5111	Algebra 1	
MATH 5121	Topology 1	
MATH 7202	Partial Differential Equations 1	
MATH 7205	Numerical Analysis 2	
MATH 7223	Riemannian Optimization	
MATH 7234	Optimization and Complexity	
MATH 7339	Machine Learning and Statistical Learning Theory 2	
MATH 7341	Probability 2	
MATH 7342	Mathematical Statistics	
MATH 7343	Applied Statistics	
MATH 7344	Regression, ANOVA, and Design	
MATH 7349	Stochastic Calculus and Introduction to No-Arbitrage Finance	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Physics

Website (https://cos.northeastern.edu/physics/)

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Professor and Chair

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Physics PhD and Master of Science students at Northeastern University have the opportunity to explore, discover, and apply the fundamental principles that guide the universe. The program specializes in several subfields that reflect the forefront research activities of the department. These specializations include biological physics, condensed matter physics, elementary particle physics, astrophysics, nanomedicine, nanophysics, quantum science, and network science.

The Department of Physics also offers a Graduate Certificate in Nanomedicine. The certificate is designed for students, engineers, and physicians to develop competency and practical skills in the application of nanotechnology to problems in medicine. This program is appropriate for those working in or seeking careers in biotechnology, pharmaceutical, biomedical, or clinical fields.

Programs

Doctor of Philosophy (PhD)

- Physics (p. 1005)

Master of Science (MS)

- Nanomedicine (p. 1012)
- Physics (p. 1016)

Graduate Certificate

- Nanomedicine (p. 1019)

Physics, PhD

The Department of Physics offers a Doctor of Philosophy in Physics with specializations in different subfields that reflect the forefront research activities of the department, including biological physics, condensed matter physics, elementary particle physics, astrophysics, nanomedicine, and network science. The program for the PhD degree consists of the required course work, a qualifying examination, a preliminary research seminar, the completion of a dissertation based upon original research performed by the student, and a dissertation defense upon completion of the dissertation. Based on these measures, students are expected to obtain a graduate-level understanding of basic physics concepts and demonstrate the ability to formulate a research plan, communicate orally a research plan, and conduct and present independent research.

Coursework

The required courses are grouped into two sets, Part 1 and Part 2, having a total of 42 semester hours as a minimum. Part 1 courses (first-year courses) are typically taken prior to the qualifying exam. Students without a master's degree must complete all Part 1 courses in the first year to remain in good academic standing in the graduate program. Part 2 courses (second-year courses) may be taken before or after passing the qualifying exam.

Grade Requirements

The minimum grade required for the successful completion of the Part 1 courses is a B (3.000) average. Students will only be allowed to take the qualifying exam if they fulfill this requirement. The minimum grade required for the successful completion of Part 2 (excluding advanced research) is at least a B (3.000) average for the Part 2 courses. The Part 2 courses, including any makeup of grade-point-average deficiencies (see following), must be completed within two calendar years of passing the qualifying exam. The department expects students to complete the bulk of these courses in the first year after the qualifying exam. The cumulative average will be calculated each semester. No more than two courses or 8 semester hours of credit, whichever is greater, may be repeated in order to satisfy the requirement for the PhD degree. A student who does not maintain a 3.000 cumulative average for two consecutive semesters, or is otherwise not making satisfactory progress toward the PhD degree requirements, may be recommended for termination at the discretion of the graduate committee. Within the above limitations, a required course for which a grade of F is received must be repeated with a grade of C or better and may be repeated only once. In calculating the overall cumulative average, all graduate-level course work completed at the time of clearance for graduation will be counted.

Qualifying Exam Requirement

A student who fails to achieve the required B average for the Part 1 courses must petition the graduate committee in order to remain in the graduate program and be eligible to take the qualifying exam. A student who fails to achieve the required B average for the Part 2 courses must petition the graduate committee in order to remain in the graduate program. All students registered in the PhD program are required to pass a qualifying exam unless they are granted an exemption (see below). The qualifying exam may include both written and oral parts.

The qualifying exam consists of two parts:

- **Part 1:** Classical physics (based on classical mechanics and mathematical methods), electromagnetic theory, and statistical physics.
- **Part 2:** Quantum physics (based on quantum mechanics and its applications) and statistical physics. The content of the qualifying exam will be based on the content of the first-year courses, excluding Principles of Experimental Physics (PHYS 5318). A syllabus is available and on request will be distributed by the graduate coordinator to any student prior to the exam.

The qualifying exam is given twice yearly: once prior to the start of the fall semester and again within the first two weeks of the start of the spring semester. The exam will consist of one day each on Part 1 (classical physics/mathematical methods, electromagnetism, and statistical physics) and Part 2 (quantum physics and statistical physics).

All students enrolled in the PhD program must take the fall qualifying exam after completing their first-year course of study with the required grade-point average unless they are granted an exemption. Students taking the exam for the first time must take both Part 1 and Part 2. A student who does not pass the exam on his or her first attempt must pass the exam the next time it is given in order to continue in the PhD program. However, a student who passes one part of the first attempt is not required to repeat that part.

Any PhD student will be exempt from taking the quantum part of the qualifying exam if they receive both a grade of B+ or higher inQuantum Theory 1 (PHYS 7315), Quantum Theory 2 (PHYS 7316), and Statistical Physics (PHYS 7305) and have a GPA of 3.670 or higher in those three courses. To meet this standard, they must take all the above courses. Any PhD student will be exempt from taking the classical part of the qualifying exam if they receive both a grade of B+ or higher in Classical Mechanics/Math Methods (PHYS 7301), Electromagnetic Theory (PHYS 7302), and Statistical Physics (PHYS 7305) and have a GPA of 3.670 or higher in these three courses. To meet this standard, they must take all three of these courses.

A student who fails the written exam by less than 5 percent of the total possible score on the second attempt for that part will be automatically given an oral exam. A student who fails the written exam by more than 10 percent is excluded from taking an oral exam. These provisions apply separately to Parts 1 and 2 of the exam.

PhD Candidacy

Degree candidacy is established when the student has passed the qualifying examination and completed both the Part 1 and Part 2 course requirements. PhD candidacy may be achieved before completion of the advanced elective if the elective in the student's specialization is not offered

in a given year. The elective must be taken at the next opportunity. PhD degree candidacy is certified by the college. A maximum of five years after the establishment of doctoral degree candidacy is allowed for the completion of degree requirements.

PhD Dissertation Requirement

All PhD students are required to complete a dissertation based upon new and original research in one of the three following options:

- In one of the current theoretical or experimental research programs in the department, under direct supervision of an advisor from the Department of Physics. A dissertation committee will be formed consisting of the advisor, two full-time members of the department, and an additional member, either from within the department or from an outside department or institution.
- In a recognized interdisciplinary field involving another research area of the university, under the direct supervision of a faculty member in that field. In this case, an interdisciplinary committee is formed under the approval of the graduate committee, consisting of the direct supervisor, a departmental advisor, one other member of the department, and an additional member of either the department or the external department.
- In an area of applied research in one of the industrial or high-technology laboratories associated with the department's industrial PhD program. The direct supervisor is associated with the institution where the research is performed. In this case, a dissertation advisory committee is established by the graduate committee, consisting of the direct supervisor, the departmental advisor, and two other members of the department.

PhD students must select their departmental advisor no later than the end of the spring semester of their second year or their second semester after having passed the qualifying examination, whichever comes first. This process should start as soon as the student has identified a field of research or has passed the qualifying exam.

PhD Dissertation Committee, Preliminary Thesis Proposal, and Preliminary Research Seminar

By the end of the spring semester of the third year or the second semester in which the student is enrolled for PhD dissertation, whichever comes first, each PhD student must have an approved dissertation committee and thesis proposal.

The student (with the aid and approval of his or her thesis advisor) will submit a PhD thesis proposal to the graduate committee clearly outlining a plan to carry out new and original research in the context of previously published research in the scientific literature and also describe the methodologies to be employed. The thesis proposal is limited to 15 pages or less, including references. A proposed makeup of the dissertation committee will be submitted at the same time.

The graduate committee will evaluate the merit of the proposal and make recommendations for improvements when necessary, including any changes to the composition of the dissertation committee. No more than two submissions for a particular proposal may be made. In the case where a revised proposal does not meet a minimum academic standard that provides a basis for making such improvements, the graduate committee may instruct the student to select a different thesis topic or advisor.

After approval by the graduate committee, the proposal is circulated to the general faculty for comments. If the graduate coordinator receives any objections, the proposal will be referred back to the graduate committee for final resolution.

After the proposal and dissertation committee have been approved, the student will make a public presentation of the material in the preliminary research seminar before the dissertation committee in a format open to the full department and advertised one week in advance. The dissertation committee will then meet in closed session to evaluate the seminar. The preliminary research seminar must take place no later than the semester after the thesis proposal is approved and, normally, in the same semester.

In the event that the dissertation advisor is changed, a new committee must be formed, with the approval of the graduate committee, and a new preliminary research seminar given.

PhD Dissertation Defense

The dissertation defense consists of a public presentation, followed by a question period conducted by the dissertation committee and limited to them and the department faculty. The date of the dissertation presentation must be publicized and a copy of the thesis deposited with the graduate program coordinator at least one week prior to the defense. If during this posting period or in the two business days following the defense a written objection to the thesis is lodged with the department chair by a member of the faculty, the chair may appoint an ad hoc postdefense review committee to provide advice on the scientific issues raised by the objection. Students should note that they must be registered for Dissertation or Dissertation Continuation during the semester in which they defend their dissertation and that they should schedule their defenses well in advance of the end of the semester in order to accommodate the review/waiting period and the time required to deposit the thesis.

The final dissertation defense is held in accordance with the College of Science regulations.

PhD Specialization Options

Students choose a specialization in biological physics; particle physics; condensed matter physics; or, with preapproval of a faculty member, in the following areas: nanomedicine or network science.

Multiple specializations are allowed if the individual requirements for each specialization are met.

Note that the specialization will not appear on the degree diploma or on the official transcript but can be listed as the field of study on CVs and grant proposals.

Transfer Credit

Students must petition in writing through the graduate committee to the director of graduate student services for all transfer credit. A copy of an official transcript must be attached to the Request for Transfer Credit form. A maximum of 9 semester hours of credit obtained at another institution may be accepted toward the PhD degree provided that the credits transferred consist of a grade of B or better; are graduate-level courses; have been earned at an accredited institution; and have not been used toward any other degree. Grades are not transferred.

Course Waivers

Course waivers may be accepted toward the PhD degree course requirements, though they will not change the numbers of credits required for the program. The student must have received a B grade or better in equivalent graduate-level core courses that have been earned at an accredited institution. Students must petition in writing to the graduate committee for all course waivers and provide documentation in the form of official transcripts to support their petition.

Residence Requirement

The residence requirement is satisfied by at least one year of full-time graduate work (i.e., enrollment in PhD Dissertation, for two consecutive semesters). Students must be continually enrolled throughout the pursuit of the dissertation.

Internship Option

A PhD candidate may spend one year in a participating high-technology, industrial, or government laboratory immediately after passing the PhD qualifying examination. In this program, the student is expected to remain in touch with the university by taking one course per semester at the university and by frequent contact with a faculty advisor. After the one-year paid internship, the student returns to the university to do the dissertation. Eligibility for this program is contingent on acceptance both by the department and by the external laboratory.

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Two qualifying examinations
Annual review
Candidacy
Preliminary research seminar proposal with proposed dissertation committee
Preliminary research seminar talk
Dissertation defense

Core Requirements [1]

Code	Title	Hours
Principles		
PHYS 5318	Principles of Experimental Physics	4
Computational		
PHYS 7301	Classical Mechanics/Math Methods	4
PHYS 7305	Statistical Physics	4
PHYS 7321	Computational Physics	4
Theory		
PHYS 7302	Electromagnetic Theory	4
PHYS 7315	Quantum Theory 1	4
PHYS 7316	Quantum Theory 2	4
Research		
PHYS 7210	Introduction to Research in Physics (Take this repeatable course twice)	0
PHYS 9984	Advanced Research	1-8

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
If preapproved to specialize in nanomedicine or network science, consult program director.		
PHYS 7322	Nonequilibrium Physics	
PHYS 7323	Elementary Particle Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7325	Quantum Field Theory 1	
PHYS 7731	Biological Physics 1	

Specialization Elective	
Choose 4 semester hours from your specialization below:	4

PhD Specialization Options

A specialization is required.[2]
Note: Specialization in nanomedicine or network science requires prior approval.

Code	Title	Hours
Biological Physics [3]		
PHYS 7731	Biological Physics 1	4
PHYS 7741	Biological Physics 2	4
Particle Physics [4]		
PHYS 7323	Elementary Particle Physics	4
PHYS 7733	Topics: Elementary Particle Physics and Cosmology	4
Condensed Matter Physics		
PHYS 7324	Condensed Matter Physics	4
PHYS 7734	Topics: Condensed Matter Physics	4
Nanomedicine		
NNMD 5270	Foundations in Nanomedicine: Therapeutics	3
NNMD 5370	Nanomedicine Research Techniques	4
Network Science		
PHYS 5116	Network Science 1	4
PHYS 7335	Dynamical Processes in Complex Networks	4

Dissertation

Code	Title	Hours
Taken third year and beyond.		
PHYS 9990	Dissertation Term 1	
PHYS 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PHYS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

42 total semester hours required
Minimum 3.000 GPA required

1 Methods for Teaching in the Introductory Physics Laboratory 1 (PHYS 7220) and Methods for Teaching Introductory Physics Laboratory 2 (PHYS 7230) are required for students awarded a Teaching Assistantship.

2 Note that the specialization will not appear on the degree diploma or on the official transcript but can be listed as the field of study on CVs and grant proposals.

3 By approval of the graduate committee, biological physics students may substitute graduate courses in biology, physics, or chemistry from the following list instead of Biological Physics 2 (PHYS 7741):
Biochemistry (BIOL 6300), Molecular Cell Biology (BIOL 6301), Optical Methods of Analysis (CHEM 5613), Molecular Modeling (CHEM 5638), .
Additional appropriate courses may also be substituted by approval of the physics graduate committee.

4 Elementary Particle Physics (PHYS 7323) is required for a specialization in particle physics. The advanced elective may be Topics: Elementary Particle Physics and Cosmology (PHYS 7733).

Plan of Study

Year 1			
Fall	**Hours**	**Spring**	**Hours**
PHYS 7210	0	PHYS 5318	4
PHYS 7301	4	PHYS 7210	0
PHYS 7302	4	PHYS 7305	4
PHYS 7315	4	PHYS 7316	4
	12		**12**

Year 2				
Fall	**Hours**		**Spring**	**Hours**
PHYS 7321		4	PHYS 9984	2-8
Electives		8	Advanced elective	4
		12		**6-12**

Year 3				
Fall	**Hours**		**Spring**	**Hours**
PHYS 9990		0	PHYS 9991	0
		0		**0**

Total Hours: 42-48

Advanced Entry Program Requirements

The Department of Physics offers a Doctor of Philosophy in Physics with specializations in different subfields that reflect the forefront of research activities of the department, including biological physics, condensed matter physics, elementary particle physics, nanomedicine, and network science. The program for the PhD degree consists of the required coursework, a qualifying examination, a preliminary research seminar, the completion of a dissertation based upon original research performed by the student, and a dissertation defense upon completion of the dissertation. Based on these measures, students are expected to obtain a graduate-level understanding of basic physics concepts and demonstrate the ability to formulate a research plan, communicate orally a research plan, and conduct and present independent research.

Coursework

Students entering with a master's degree from a U.S. institution in physics or a related area approved by the department will be required to take 10 semester hours of courses. The courses will be determined by the graduate director based on the student's transcripts. Students entering with a MS degree awarded by an institution outside the United States will need to consult the graduate director for a transcript evaluation to determine required coursework and course waivers.

Grade Requirements

The minimum grade required is a B (3.000) average. A student who does not maintain a 3.000 cumulative average for two consecutive semesters, or is otherwise not making satisfactory progress toward the PhD degree requirements, may be recommended for termination at the discretion of the graduate committee.

Qualifying Exam Requirement

All students registered in the PhD program are required to pass a qualifying exam unless they are granted an exemption. The qualifying exam may include both written and oral parts. Students who enter with a master's degree from a U.S. institution may take either the classical or the quantum exam, or both, at the first opportunity upon entering the program in the fall. In this case, the exam will count as a first attempt only if the student submits the exam to the examiner.

The qualifying exam consists of two parts:

- **Part 1:** Classical physics (based on classical mechanics and mathematical methods), electromagnetic theory, and statistical physics.
- **Part 2:** Quantum physics (based on quantum mechanics and its applications) and statistical physics. A syllabus is available and on request will be distributed by the graduate coordinator to any student prior to the exam.

The qualifying exam is given twice yearly: once prior to the start of the fall semester and again within the first two weeks of the start of the spring semester. The exam will consist of one day each on Part 1 (classical physics/mathematical methods, electromagnetism, and statistical physics) and Part 2 (quantum physics and statistical physics).

All students enrolled in the PhD program must take the fall qualifying exam after completing their first-year course of study with the required grade-point average. Students taking the exam for the first time must take both Part 1 and Part 2. A student who does not pass the exam on their first attempt must pass the exam the next time it is given in order to continue in the PhD program. However, a student who passes one part of the first attempt is not required to repeat that part.

A student who fails the written exam by less than 5% of the total possible score on the second attempt for that part will be automatically given an oral exam. A student who fails the written exam by more than 10% is excluded from taking an oral exam. These provisions apply separately to Parts 1 and 2 of the exam.

PhD Candidacy

Degree candidacy is established when the student has passed the qualifying examination and completed 10 semester hours of courses. PhD degree candidacy is certified by the college. A maximum of five years after the establishment of doctoral degree candidacy is allowed for the completion of degree requirements.

PhD Dissertation Requirement

All PhD students are required to complete a dissertation based upon new and original research in one of the three following options:

- In one of the current theoretical or experimental research programs in the department, under direct supervision of an advisor from the Department of Physics. A dissertation committee will be formed consisting of the advisor, two full-time members of the department, and an additional member, either from within the department or from an outside department or institution.
- In a recognized interdisciplinary field involving another research area of the university, under the direct supervision of a faculty member in that field. In this case, an interdisciplinary committee is formed under the approval of the graduate committee, consisting of the direct supervisor, a departmental advisor, one other member of the department, and an additional member of either the department or the external department.
- In an area of applied research in one of the industrial or high-technology laboratories associated with the department's industrial PhD program. The direct supervisor is associated with the institution where the research is performed. In this case, a dissertation advisory committee is established by the graduate committee, consisting of the direct supervisor, the departmental advisor, and two other members of the department.

PhD students must select their departmental advisor no later than the end of the spring semester of their second year or their second semester after having passed the qualifying examination, whichever comes first. This process should start as soon as the student has identified a field of research or has passed the qualifying exam.

PhD Dissertation Committee, Preliminary Thesis Proposal, and Preliminary Research Seminar

By the end of the spring semester of the third year or the second semester in which the student is enrolled for PhD dissertation, whichever comes first, each PhD student must have an approved dissertation committee and thesis proposal.

The student (with the aid and approval of their thesis advisor) will submit a PhD thesis proposal to the graduate committee clearly outlining a plan to carry out new and original research in the context of previously published research in the scientific literature and also describe the methodologies to be employed. The thesis proposal is limited to 15 pages or less, including references. A proposed makeup of the dissertation committee will be submitted at the same time.

The graduate committee will evaluate the merit of the proposal and make recommendations for improvements when necessary, including any changes to the composition of the dissertation committee. No more than two submissions for a particular proposal may be made. In the case where a revised proposal does not meet a minimum academic standard that provides a basis for making such improvements, the graduate committee may instruct the student to select a different thesis topic or advisor.

After approval by the graduate committee, the proposal is circulated to the general faculty for comments. If the graduate coordinator receives any objections, the proposal will be referred back to the graduate committee for final resolution.

After the proposal and dissertation committee have been approved, the student will make a public presentation of the material in the preliminary research seminar before the dissertation committee in a format open to the full department and advertised one week in advance. The dissertation committee will then meet in closed session to evaluate the seminar. The preliminary research seminar must take place no later than the semester after the thesis proposal is approved and, normally, in the same semester.

In the event that the dissertation advisor is changed, a new committee must be formed, with the approval of the graduate committee, and a new preliminary research seminar given.

PhD Dissertation Defense

The dissertation defense consists of a public presentation, followed by a question period conducted by the dissertation committee and limited to them and the department faculty. The date of the dissertation presentation must be publicized and a copy of the thesis deposited with the graduate program coordinator at least one week prior to the defense. If during this posting period or in the two business days following the defense a written objection to the thesis is lodged with the department chair by a member of the faculty, the chair may appoint an ad hoc postdefense review committee to provide advice on the scientific issues raised by the objection. Students should note that they must be registered for Dissertation or Dissertation Continuation during the semester in which they defend their dissertation and that they should schedule their defenses well in advance of the end of the semester in order to accommodate the review/waiting period and the time required to deposit the thesis.

The final dissertation defense is held in accordance with the College of Science regulations.

Residence Requirement

The residence requirement is satisfied by at least one year of full-time graduate work (i.e., enrollment in PhD Dissertation, for two consecutive semesters). Students must be continually enrolled throughout the pursuit of the dissertation.

Internship Option

A PhD candidate may spend one year in a participating high-technology, industrial, or government laboratory immediately after passing the PhD qualifying examination. In this program, the student is expected to remain in touch with the university by taking one course per semester at the university and by frequent contact with a faculty advisor. After the one-year paid internship, the student returns to the university to do the dissertation. Eligibility for this program is contingent on acceptance both by the department and by the external laboratory.

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Two qualifying examinations
Annual review
Candidacy
Preliminary research seminar proposal with proposed dissertation committee
Preliminary research seminar talk
Dissertation defense

Core Requirements

Code	Title	Hours
Complete 10 semester hours of coursework. The courses required will be determined by the graduate program director based on the student's transcripts. [1]		10

Dissertation

Code	Title	Hours
PHYS 9990	Dissertation Term 1	
PHYS 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PHYS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

10 total semester hours required
Minimum 3.000 GPA required

[1] Methods for Teaching in the Introductory Physics Laboratory 1 (PHYS 7220) is required for students awarded a teaching assistantship.

Nanomedicine, MS

Overview

Northeastern University's Master of Science in Nanomedicine is a flexible, interdisciplinary, industry-aligned professional master's degree program. It is designed for scientists, engineers, and clinicians who want to develop competencies and skills in nanomedicine research, innovation, and commercialization. Our students receive hands-on training in nanomedicine challenges and opportunities, research tools and techniques, and translation from bench to bedside. The curriculum integrates immersive experiential learning with industry co-ops to prepare graduates for high-demand research and entrepreneurship roles in biotechnology, pharmaceutical, biomedical, and healthcare industries.

This two-year, full-time master's program consists of six core courses, year-round professional seminars, and a full-time co-op experience. In year two, students tailor their curriculum by selecting one of the following concentrations (or selecting 18 semester hours of electives).

Nanoformulation Research Concentration

The nanoformulation research concentration integrates nanoparticle design, formulation, characterization, and translation. Students gain experience in nanomedicine theory, materials and methods, advanced laboratory techniques, and state-of-the-art instrumentation through a combination of expert-led lectures, instrument demonstrations, and collaborative interdisciplinary project-based laboratory experiences. Students have an opportunity to acquire research and project management skills for roles in research, development, and manufacturing.

Translation and Commercialization Concentration

The translation and commercialization concentration studies scientific discovery, business, and management from the perspective of delivering nanomedicine products to patients. Students build real-world knowledge and skills in innovation, business development, and regulatory affairs—from initial discovery and R&D to FDA approval and launch—through a combination of case studies, industry-mentored projects, and creation of a virtual startup company.

Vaccine Development Concentration

Innovations in nanoparticle-based vaccine delivery during the SARS-CoV-2 pandemic have fundamentally changed the way we develop and test vaccines. The vaccine development concentration provides training in scientific, business, and regulatory principals of vaccine R&D. Students integrate molecular tools for vaccine design, knowledge of vaccine-tissue interactions, and best practices for biopharmaceutical cell culture and manufacturing to develop the industry-aligned skills needed at the forefront of vaccine development.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
BIOL 6381	Ethics in Biological Research	2
NNMD 5270	Foundations in Nanomedicine: Therapeutics	3
NNMD 5271	Foundations in Nanomedicine: Diagnostics	3
NNMD 5570	Preclinical and Clinical Study Design	3
NNMD 6272	Professional Nanomedicine Seminar	0
PHSC 5560	Nanotoxicity	3
PHSC 6214	Experimental Design and Biostatistics	2
Co-op		
Co-op may be started in the summer of Year 1, Year 2, or both.		
NNMD 6500	Professional Development for Co-op	0
NNMD 6964	Co-op Work Experience	0

Concentrations or Electives Option

A concentration is not required. Students may complete electives (from the electives list below) in lieu of a concentration.

- Nanoformulation Research (p. 1013)
- Translation and Commercialization (p. 1014)
- Vaccine Development (p. 1014)
- Electives Option (p. 1014)

Electives List

Code	Title	Hours
Complete electives from the following (electives not on this list may be chosen with faculty advisor approval):		
Laboratory Research		
BIOT 5145	Basic Biotechnology Lab Skills	
BIOT 7245	Biotechnology Applications Laboratory	
NNMD 5370	Nanomedicine Research Techniques	
NNMD 6370	Nanomedicine Experiential Capstone (Nanomedicine Experiential Capstone)	
NNMD 6984	Research	
PHSC 5212	Research Skills and Ethics	
Nanomaterials Design and Application		
BIOE 5820	Biomaterials	
BIOE 6100	Medical Physiology	
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 5910	Vaccines and Immunization	
BIOT 5930	Molecular Tools for Vaccine Design	
CHEM 5610	Polymer Chemistry	
CHME 5630	Biochemical Engineering	
CHME 5631	Biomaterials Principles and Applications	
CHEM 5640	Biopolymeric Materials	
CHME 5683	Introduction to Polymer Science	
PHSC 6216	Human Physiology and Pathophysiology	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
PHYS 7731	Biological Physics 1	
Drug Delivery		
CHEM 5648	Chemical Principles and Application of Drug Metabolism and Pharmacokinetics	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 7350	Transport Phenomena	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	
Commercialization and Regulatory Affairs		
BIOT 5219	The Biotechnology Enterprise	
BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	
BIOT 5920	Foundations in Vaccine Regulatory Science	
BIOT 6290	Foundation in Quality for Biotechnology	
BIOT 6310	CGMP Statutes and Regulation	
BIOT 6320	Quality Management Systems and Validation	
BIOT 6340	Sterile Manufacturing Operations	
CHME 5631	Biomaterials Principles and Applications	
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	

Program Credit/GPA Requirements

34 total semester hours required
Minimum 3.000 GPA required

NANOFORMULATION RESEARCH CONCENTRATION

Code	Title	Hours
BIOE 5820	Biomaterials	4
or CHME 5631	Biomaterials Principles and Applications	
CHEM 5648	Chemical Principles and Application of Drug Metabolism and Pharmacokinetics	3

or PMST 6252	Pharmacokinetics and Drug Metabolism	
NNMD 5370	Nanomedicine Research Techniques	4
NNMD 6370	Nanomedicine Experiential Capstone (Nanomedicine Experiential Capstone)	4
Electives (see electives course list)		3

TRANSLATION AND COMMERCIALIZATION CONCENTRATION

Code	Title	Hours
BIOT 5145	Basic Biotechnology Lab Skills	1
or BIOT 5220	The Role of Patents in the Biotechnology Industry, Past and Future	
BIOT 5219	The Biotechnology Enterprise	2
BIOT 5225	Managing and Leading a Biotechnology Company	3
BIOT 6290	Foundation in Quality for Biotechnology	3
BIOT 6310	CGMP Statutes and Regulation	3
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	3
Electives (see electives course list)		3

VACCINE DEVELOPMENT CONCENTRATION

Code	Title	Hours
BIOT 5631	Cell Culture Processes for Biopharmaceutical Production	3
BIOT 5910	Vaccines and Immunization	3
BIOT 5920	Foundations in Vaccine Regulatory Science	3
BIOT 5930	Molecular Tools for Vaccine Design	3
BIOT 6310	CGMP Statutes and Regulation	3
Electives (see electives course list)		3

ELECTIVES OPTION

Code	Title	Hours
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	3-4
or NNMD 5370	Nanomedicine Research Techniques	
Electives (see electives course list)		15

Plan of Study

Sample Plans of Study

YEAR 1

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOL 6381	2	NNMD 5570	3	NNMD 6964	0
NNMD 5270	3	NNMD 5271	3	(Co-op option 1: May–Aug.)	
NNMD 6500	0	NNMD 6272	0		
PHSC 5560	3	PHSC 6214	2		
	8		**8**		**0**

Total Hours: 16

YEAR 2

NANOFORMULATION RESEARCH CONCENTRATION

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOE 5820 or CHME 5631	4	CHEM 5648 or PMST 6252	3	NNMD 6964	0
NNMD 5370	4	NNMD 6272	0	(Co-op option 2: May–Aug.)	
NNMD 6272	0	NNMD 6370	4	(Co-op option 3: July-Dec.)	
		Elective	3		
	8		**10**		**0**

Total Hours: 18

TRANSLATION AND COMMERCIALIZATION CONCENTRATION

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOT 5145 or 5220	1	BIOT 5120	3	NNMD 6964	0
BIOT 5219	2	BIOT 5225	3	(Co-op option 2: May–Aug.)	
BIOT 6310	3	NNMD 6272	0	(Co-op option 3: July–Dec.)	
NNMD 5470	3	Elective	3		
NNMD 6272	0				
	9		**9**		**0**

Total Hours: 18

VACCINE DEVELOPMENT CONCENTRATION

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
BIOT 5631	3	BIOT 5920	3	NNMD 6964	0
BIOT 5910	3	BIOT 5930	3	(Co-op option 2: May–Aug.)	
BIOT 6310	3	NNMD 6272	0	(Co-op option 3: July–Dec.)	
NNMD 6272	0	Elective	3		
	9		**9**		**0**

Total Hours: 18

Physics, MS

The Department of Physics offers a Master of Science degree with several options. The standard physics MS can be earned by taking a specified set of courses without an MS thesis. Alternatively, an MS thesis may substitute for 8 semester hours of coursework. Both of these options may be pursued either full time or part time. Upon completion of the MS degree in physics, students should be able to apply graduate-level knowledge and solve problems in the areas of electrodynamics, quantum mechanics, classical mechanics, statistical mechanics, and advanced mathematical methods.

Grade Requirements

To qualify for the MS degree, a cumulative average of 3.000, equivalent to a grade of B, must be obtained. No more than two courses or 6 semester hours of credit, whichever is greater, may be repeated in order to satisfy the requirements for the MS degree. A student who does not maintain a 3.000 cumulative average for two consecutive semesters, or is otherwise not making satisfactory progress toward the MS degree requirements, may be recommended for termination at the discretion of the graduate committee.

Within the above limitations, a required course for which a grade of F is received must be repeated with a grade of C or better and may be repeated only once. Elective courses in which an F has been received may be repeated once to obtain a C or better.

Transfer Credit

Students must petition, in writing, through the graduate committee to the director of graduate student services for all transfer credit. An official transcript must be attached to the Request for Transfer Credit form. A maximum of 9 semester hours of credit obtained at another institution may be accepted toward the MS degree provided that the credits transferred consist of a grade of B or better in graduate-level courses and have not been used toward any other degree. Grades are not transferred.

Current MS Students Interested in the PhD Program

Physics MS students interested in applying to the Physics, PhD (p. 1005) program must submit a complete application for admission.

Special Student Status

Special students are allowed to earn credit for a maximum of 12 semester hours. Students interested in taking more than 12 semester hours must make a formal application to the degree program online.

Coursework

The MS degree requires successful completion of a minimum of 32 semester hours of coursework. There are three options for the MS degree:

The first option is the standard physics MS without an MS thesis, requiring a minimum of 32 semester hours of coursework.

The second option is the standard physics MS with an MS thesis, requiring a minimum of 1 semester hour of thesis. Up to 8 semester hours of thesis can substitute for coursework.

The third option is the physics MS with thesis and specialization in applied physics, engineering physics, biophysics, chemical physics, material physics, mathematical physics, and computational physics.

Graduate students desiring the MS with thesis option should arrange a thesis with a faculty advisor. The thesis must demonstrate the individual's capacity to execute independent work based on original material. The thesis must be approved by the graduate committee. The thesis may be completed in one semester (e.g., summer semester) or in consecutive semesters. Students who have not completed their thesis after the required number of thesis credits must register for Thesis Continuation until the thesis is approved by the graduate school and submitted electronically to Proquest.

The degree requires a minimum of 32 semester hours of graduate credit. The 32 semester hours may include up to 9 semester hours of transfer credit, as approved by the department's graduate committee and the graduate school.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Computational Coursework		
PHYS 7301	Classical Mechanics/Math Methods	4
PHYS 7305	Statistical Physics	4
PHYS 7321	Computational Physics	4
Theory Coursework		
PHYS 7302	Electromagnetic Theory	4

PHYS 7315	Quantum Theory 1	4
PHYS 7316	Quantum Theory 2	4

Options

- Coursework (p.)
- Thesis (p. 1017)
- Thesis with specialization (p. 1017)[1]

COURSEWORK OPTION

Note: In consultation with your faculty advisor, you may choose an area of specialization from physics, engineering, chemistry, biology, mathematics, psychology, or computer science. Elective courses from the Physics, PhD (p. 1005) program may substitute for these electives with advisor approval.

Code	Title	Hours
Electives		
Complete 8 semester hours from the following:		8
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5117	Advanced Astrophysics Topics	
PHYS 5118	General Relativity and Cosmology	
PHYS 5125	Advanced Quantum Mechanics	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
PHYS 5318	Principles of Experimental Physics	
PHYS 7322	Nonequilibrium Physics	
PHYS 7323	Elementary Particle Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7325	Quantum Field Theory 1	
PHYS 7731	Biological Physics 1	

THESIS

Code	Title	Hours
Complete 8 semester hours from the following:		8
PHYS 7990	Thesis (In consultation with your faculty advisor, any remaining semester hours may be completed with electives.)	

In consultation with your faculty advisor, any remaining semester hours may be completed with electives.

THESIS WITH SPECIALIZATION[1]

Applied physics, engineering physics, biophysics, chemical physics, materials physics, mathematical physics, or computational physics.

Code	Title	Hours
Complete a minimum of 12 semester hours from the following:		12
PHYS 7990	Thesis (A minimum of 1 semester hour is required and up to 8 semester hours may be used toward the thesis option.)	

Complete a minimum of 8 semester hours of specialization coursework in consultation with your faculty advisor.

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

[1] Note that the specialization will not appear on the degree diploma or on the official transcript but can be listed as the field of study on CVs and grant proposals.

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 7301	4	PHYS 7305	4
PHYS 7302	4	PHYS 7316	4
PHYS 7315	4	Elective (optional)	4

PHYS 7321 (can be taken year 1 or year 2)	4	
	16	**12**

Year 2

Fall	**Hours**
Elective or thesis	4
Additonal elective	4
	8

Total Hours: 36

Nanomedicine, Graduate Certificate

The Graduate Certificate in Nanomedicine is designed for scientists, engineers, and physicians to develop competency and practical skills in the application of nanotechnology to problems in medicine. This program is appropriate for those working in or seeking careers in biotechnology, pharmaceutical, biomedical, or clinical fields. Program participants receive advanced training in the fundamental and applied aspects of nanomedicine, as well as nanomedicine commercialization from bench to bedside. The curriculum includes a variety of activities for scientific and professional development, including lectures, case studies, journal readings, term projects, and close interactions with distinguished faculty and experts drawn from academia, hospitals, industry, and government.

The certificate consists of five nanomedicine (NNMD) courses, totaling 12 semester-hour credits. This is a part-time, 12-credit graduate program that can be completed in as little as two semesters.

Program Requirements

Complete all requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
NNMD 5270	Foundations in Nanomedicine: Therapeutics	3
NNMD 5272	Nanomedicine Seminar	1
NNMD 5274	Nanomedicine Seminar 2	1
NNMD 5470	Nano/Biomedical Commercialization: Concept to Market	3

Electives

Code	Title	Hours
Complete NNMD 5370 or choose 4 semester hours of electives from the list.		4
Research Techniques		
NNMD 5370	Nanomedicine Research Techniques	
Or choose 4 semester hours of electives.		
BIOE 6100	Medical Physiology	
BIOL 6381	Ethics in Biological Research	
BIOT 5145	Basic Biotechnology Lab Skills	
BIOT 5225	Managing and Leading a Biotechnology Company	
BIOT 5227	Launching Your Science: Biotechnology Entrepreneurship	
BIOT 5700	Molecular Interactions of Proteins in Biopharmaceutical Formulations	
BIOT 7245	Biotechnology Applications Laboratory	
CHME 7350	Transport Phenomena	
PHSC 6216	Human Physiology and Pathophysiology	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
PHYS 7731	Biological Physics 1	
PMST 6252	Pharmacokinetics and Drug Metabolism	
PMST 6254	Advanced Drug Delivery Systems	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Psychology

Website (https://cos.northeastern.edu/psychology/)

Peter Bex, PhD
Professor and Chair

617.373.3076
617.373.8714 (fax)

The doctoral program in the Department of Psychology offers a research-intensive environment within a supportive community of faculty and students. Its areas of research specialization include behavioral neuroscience, cognition/cognitive neuroscience, perception, and social/personality—with crosscutting themes in health, affective science, and life span development.

During the program, students complete a series of topical seminars and courses in quantitative analysis while gaining research skills through working closely with their advisors. They are also expected to develop their own research program, beginning with their master's thesis and culminating in their dissertation. Students' professional development is supported by attending colloquia, serving as teaching assistants, and modest annual stipends for research/travel.

Programs

Doctor of Philosophy (PhD)

- Human Behavior and Sustainability Sciences (p. 980)
- Psychology (p. 1024)

Human Behavior and Sustainability Sciences, PhD

Overview

Admissions to this program begin Fall 2024.

The persistent failure to integrate the social, behavioral, and cognitive sciences with ecological and geophysical sciences is a critical friction point reducing the viability and effectiveness of sustainability solutions. Therefore, a degree program that combines training in psychology with the ecological and geophysical sciences will produce boundary-breaking scholars who can accelerate sustainability solutions that are robustly informed by the results of scientific research. The proposed curriculum integrates degree requirements from existing PhD programs in psychology and marine and environmental sciences (sustainability sciences concentration), with the addition of a set of specialized core courses and integrated cross-disciplinary research training. It also allows students broad latitude in designing their specialty within the parameters of the program.

The PhD in Human Behavior and Sustainability Sciences program provides students with the following advanced coursework and training. Students must pass two examinations during the course of their graduate studies to achieve candidacy:

1. A qualifying paper that the student will write and present to their dissertation committee.
2. A proposal defense presented to the student's dissertation committee that explains the research areas that the student proposes to work in.

At the end of the program, students will defend their written dissertation, which consists of a public seminar, public question-and-answer period, and private defense of their work to their dissertation committee. Dissertation committees consist of at least four Northeastern University faculty and one external faculty member.

A cumulative grade-point average of 3.000 is required for graduation. The PhD will be awarded following submission of a dissertation, approved by the candidate's dissertation committee, to the College of Science.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Dissertation committee
Qualifying paper and presentation
Dissertation proposal and presentation
Candidacy
Dissertation/dissertation defense
Teaching experience

Core Requirements

Code	Title	Hours
EEMB 7103	Seminar in Sustainability Sciences	2
EEMB 8103	Readings in Sustainability Sciences	2
ENVR 5450	Applied Social-Ecological Systems Modeling	4
PSYC 5180	Quantitative Methods 1	3
PSYC 5181	Quantitative Methods 2	3
PSYC 7210	Seminar in Cognition	3

Research

Code	Title	Hours
Complete two semesters from the following:		6
PSYC 8401	Research Project	
or EEMB 8984	Research	

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
Psychology Breadth Courses		
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	

PSYC 5140	Proseminar in Biology of Behavior
PSYC 5150	Proseminar in Clinical Neuroscience
PSYC 5160	Proseminar in Personality
PSYC 5170	Proseminar in Social Psychology
Sustainability Breadth Courses	
EEMB 5130	Population Dynamics
EEMB 5506	Biology and Ecology of Fishes
EEMB 5516 and EEMB 5517	Oceanography and Lab for EEMB 5516
EEMB 5518	Ocean and Coastal Processes
EEMB 5522	Experimental Design Marine Ecology
ENVR 5115	Advanced Topics in Environmental Geology
ENVR 5150	Climate and Atmospheric Change
ENVR 5260	Geographical Information Systems
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5600	Coastal Processes, Adaptation, and Resilience
ENVR 5700	Streams and Watershed Ecology
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
ENVR 6150	Food Security and Sustainability
ENVR 6500 and ENVR 6501	Biostatistics and Lab for ENVR 6500
INSH 5301	Introduction to Computational Statistics
INSH 5302	Information Design and Visual Analytics
INSH 6300	Research Methods in the Social Sciences
INSH 6406	Analyzing Complex Digitized Data
INTL 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5246	Participatory Modeling for Collaborative Decision Making
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5267	Climate Policy and Justice
PPUA 5268	International Environmental Policy
Psychology Depth Courses	
PSYC 7210	Seminar in Cognition
PSYC 7240	Seminar in Biology of Behavior
PSYC 7250	Seminar in Clinical Neuroscience
PSYC 7270	Seminar in Social Psychology
PSYC 7300	Advanced Quantitative Analysis
Sustainability Depth Courses	
EEMB 7101	Seminar in Marine Sciences
EEMB 7102	Seminar in Ecology and Evolutionary Biology
EEMB 7103	Seminar in Sustainability Sciences
EEMB 7104	Seminar in Geosciences
ENVR 6102	Environmental Science and Policy Seminar 2
LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7334	Social Networks
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 7346	Resilient Cities
SOCL 7267	Environment, Health, and Society

Dissertation

Code	Title	Hours
Please enroll in either EEMB 9990 or PSYC 9990 for one semester after achieving candidacy. In the following semester, please enroll in either EEMB 9991 or PSYC 9991.		
EEMB 9990	Dissertation Term 1	
or PSYC 9990	Dissertation Term 1	
EEMB 9991	Dissertation Term 2	
or PSYC 9991	Dissertation Term 2	

Program Credit/GPA Requirements

31 total semester hours required

Minimum 3.000 GPA required

Psychology, PhD

The PhD program in the Department of Psychology covers a wide spectrum of contemporary behavioral science within a close-knit community of faculty and students. The program offers four overlapping areas of experimental emphasis: behavioral neuroscience, cognition, perception, and social/personality. The program does not offer training in clinical or counseling psychology. The objective of the PhD program is to prepare students to become experts in research and teaching in psychology. To accomplish this goal, the department takes a mentoring approach whereby the graduate students are apprentices in faculty laboratories, working closely with their faculty mentors throughout their time in the program. The basic apprenticeship relationship is supplemented by other activities, such as required courses (concentrated in the first and second years), advanced seminars and/or course work in this as well as other departments or universities, a colloquium series, assignments as teaching assistants, the master's project, and the dissertation and its oral defense. After the first year, the structure of the doctoral program, including course work, is flexible and assumes that the process of learning and scientific discovery must be individualized. Graduate students also have an opportunity to develop their teaching and research skills through close mentoring of undergraduate research assistants. The PhD program is a five-year, twelve-months-per-year program.

The dissertation committee must include at least three tenured or tenure-track faculty members from within the psychology department—two from the student's interest area and one from another area. The oral defense committee consists of the dissertation committee plus additional tenured and tenure-track faculty members from the psychology department.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal MS Psychology *(*https://catalog.northeastern.edu/graduate/science/psychology/psychology-ms/*) degree. Note that no students will be admitted directly into the Psychology program to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

First-year paper
Master's proposal
Master's paper
Master's presentation
Annual review
Dissertation committee
Dissertation proposal
Dissertation
Dissertation defense
At least two assigned courses as teaching assistant

Core Requirements

All graduate courses within the Department of Psychology are graded S/U. A grade of S is required in each psychology department course.

Code	Title	Hours
Proseminar		
Complete 12 semester hours from the following:		12
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	
PSYC 5140	Proseminar in Biology of Behavior	
PSYC 5150	Proseminar in Clinical Neuroscience	
PSYC 5160	Proseminar in Personality	
PSYC 5170	Proseminar in Social Psychology	
Quantitative Methods		
PSYC 5180	Quantitative Methods 1	3
PSYC 5181	Quantitative Methods 2	3
Ethics		
PSYC 7302	Ethics and Professional Issues	3
Research		
PSYC 7301	Research Methodologies Psychology	3

Project		
Take the following (repeatable) course three times:		9
PSYC 8401	Research Project	
Thesis		
Take the following (repeatable) course twice:		6
PSYC 7990	Thesis	

Electives

Code	Title	Hours
Complete 11 semester hours from the following:		11
Note: Proseminars not taken to fulfill core requirements and courses outside the department may be taken if approved by faculty adviser and Director of Graduate Studies.		
PSYC 7200 to PSYC 7300		
PSYC 5100	Proseminar in Psycholinguistics	
PSYC 5110	Proseminar in Cognition	
PSYC 5120	Proseminar in Sensation	
PSYC 5130	Proseminar in Perception	
PSYC 5140	Proseminar in Biology of Behavior	
PSYC 5150	Proseminar in Clinical Neuroscience	
PSYC 5160	Proseminar in Personality	
PSYC 5170	Proseminar in Social Psychology	

Dissertation

Code	Title	Hours
PSYC 9990	Dissertation Term 1	
PSYC 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PSYC 9996	Dissertation Continuation	

Program Credit/GPA Requirements

50 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Complete 6 semester hours of the following:	6	Complete 6 semester hours of the following:	6	PSYC 8401	3
PSYC 5100		PSYC 5100		Elective	6
PSYC 5110		PSYC 5110			
PSYC 5120		PSYC 5120			
PSYC 5130		PSYC 5130			
PSYC 5140		PSYC 5140			
PSYC 5150		PSYC 5150			
PSYC 5160		PSYC 5160			
PSYC 5170		PSYC 5170			
Complete the following:	6	Complete the following:	6		
PSYC 5180		PSYC 5181			
PSYC 8401		PSYC 8401			
	12		**12**		**9**

Year 2

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
PSYC 7990	3	Complete one of the following:	3	PSYC 7996	0
Elective	5	PSYC 7301			

		PSYC 7302			
		Complete the following:	3		
		PSYC 7990			
	8		**6**		**0**
Year 3					
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**
PSYC 9990	0	Complete one of the following:	3	PSYC 9996	0
		PSYC 7301			
		PSYC 7302			
		Complete the following:	0		
		PSYC 9991			
	0		**3**		**0**
Year 4					
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**
PSYC 9996	0	PSYC 9996	0	PSYC 9996	0
	0		**0**		**0**
Year 5					
Fall	**Hours**	**Spring**	**Hours**	**Summer Full Semester**	**Hours**
PSYC 9996	0	PSYC 9996	0	PSYC 9996	0
	0		**0**		**0**

Total Hours: 50

Advanced Entry Program Requirements

The PhD program in the Department of Psychology covers a wide spectrum of contemporary behavioral science within a close-knit community of faculty and students. Advanced Entry is for students who enter possessing a master's degree in psychology or another acceptable field. The program offers four overlapping areas of experimental emphasis: behavioral neuroscience, cognition, perception, and social/personality. The program does not offer training in clinical or counseling psychology. The objective of the PhD program is to prepare students to become experts in research and teaching in psychology. To accomplish this goal, the department takes a mentoring approach whereby the graduate students are apprentices in faculty laboratories, working closely with their faculty mentors throughout their time in the program. The basic apprenticeship relationship is supplemented by other activities, such as required courses (concentrated in the first and second years), advanced seminars and/or course work in this as well as other departments or universities, a colloquium series, assignments as teaching assistants, the master's project, and the dissertation and its oral defense. After the first year, the structure of the doctoral program, including course work, is flexible and assumes that the process of learning and scientific discovery must be individualized. Graduate students also have an opportunity to develop their teaching and research skills through close mentoring of undergraduate research assistants. The PhD program is a five-year, 12-months-per-year program.

For students who enter the program with a suitable master's degree, degree candidacy is established through completion of a set of requirements determined on an individual basis. An additional 20 semester hours beyond the master's degree are required for the PhD degree. The dissertation committee must include at least three tenured or tenure-track faculty members from within the psychology department—two from the student's interest area and one from another area. The oral defense committee consists of the dissertation committee plus additional tenured and tenure-track faculty members from the psychology department.

Complete all courses and requirements listed below unless otherwise indicated. Individual programs of study will be tailored to acknowledge students' previous coursework.

Milestones

Master's presentation
Annual review
Dissertation committee
Dissertation proposal
Dissertation
Dissertation defense
At least two assigned courses as teaching assistant

Core Requirements

A grade of S is required in each psychology department course.

Code	Title	Hours
Consult your faculty adviser and director of graduate studies for acceptable coursework.		10

Electives

Code	Title	Hours
Consult your faculty adviser and graduate director for acceptable electives.		10

Dissertation

Code	Title	Hours
PSYC 9990	Dissertation Term 1	
PSYC 9991	Dissertation Term 2	
Complete the following (repeatable) course until graduation:		
PSYC 9996	Dissertation Continuation	

Program Credit/GPA Requirements

20 total semester hours required
Minimum 3.000 GPA required

Note: The number of semester hours to complete this program may be more than 20. The number of semester hours and the specific required courses will be determined by a review of previous coursework by the graduate director and faculty adviser.

Interdisciplinary Programs

Programs

Doctor of Philosophy

- Network Science (p. 273)

Master of Science

- Applied Physics and Engineering (p. 421)
- Climate Science and Engineering (p. 385)
- Environmental Science and Policy (p. 985)

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Applied Physics and Engineering, MS

The combined MS program in applied physics and engineering allows graduate students to receive training in one of three concentrations of the electrical and computer engineering department while also receiving fundamental graduate-level physics training that is relevant to that area.

Thesis Option

A student may complete an additional 8 semester hours of thesis. Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) (4 semester hours) or Thesis (PHYS 7990) (4 semester hours), depending on the affiliation of the thesis advisor. A thesis committee is composed of an advisor and two faculty members from physics or electrical engineering.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Concentrations

Complete one of the following concentrations:

- Microsystems, Materials, and Devices (p. 421)
- Electromagnetics, Plasma, and Optics (p. 421)
- Analysis, Modeling, and Computation (p. 422)

MICROSYSTEMS, MATERIALS, AND DEVICES

Code	Title	Hours
Core Courses		
EECE 7201	Solid State Devices	4
PHYS 7324	Condensed Matter Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5606	Micro- and Nanofabrication	
EECE 5680	Electric Drives	
EECE 7204	Applied Probability and Stochastic Processes	
EECE 7240	Analog Integrated Circuit Design	
EECE 7242	Integrated Circuits for Mixed Signals and Data Communication	
EECE 7244	Introduction to Microelectromechanical Systems (MEMS)	
EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7353	VLSI Design	
EECE 7398	Advanced Special Topics in Electrical and Computer Engineering	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7302	Electromagnetic Theory	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7734	Topics: Condensed Matter Physics	

ELECTROMAGNETICS, PLASMA, AND OPTICS

Code	Title	Hours
Core Courses		
EECE 7203	Complex Variable Theory and Differential Equations	4
PHYS 7302	Electromagnetic Theory	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5698	Special Topics in Electrical and Computer Engineering (Subsurface Imaging)	
EECE 7105	Optics for Engineers	
EECE 7202	Electromagnetic Theory 1	

EECE 7245	Microwave Circuit Design for Wireless Communication	
EECE 7270	Electromagnetic Theory 2	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7275	Antennas and Radiation	
EECE 7293	Modern Imaging	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5318	Principles of Experimental Physics	
PHYS 7305	Statistical Physics	
PHYS 7315	Quantum Theory 1	
PHYS 7316	Quantum Theory 2	
PHYS 7321	Computational Physics	
PHYS 7324	Condensed Matter Physics	
PHYS 7731	Biological Physics 1	

ANALYSIS, MODELING, AND COMPUTATION

Code	Title	Hours
Core Courses		
EECE 7205	Fundamentals of Computer Engineering	4
PHYS 7321	Computational Physics	4
Engineering Coursework		
Complete 12 semester hours from the following:		12
EECE 5639	Computer Vision	
EECE 5640	High-Performance Computing	
EECE 5642	Data Visualization	
EECE 5643	Simulation and Performance Evaluation	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 7205	Fundamentals of Computer Engineering	
EECE 7271	Computational Methods in Electromagnetics	
EECE 7352	Computer Architecture	
EECE 7353	VLSI Design	
EECE 7374	Fundamentals of Computer Networks	
Physics Coursework		
Complete 12 semester hours from the following:		12
PHYS 5116	Network Science 1	
PHYS 5318	Principles of Experimental Physics	
PHYS 7301	Classical Mechanics/Math Methods	
PHYS 7305	Statistical Physics	
PHYS 7335	Dynamical Processes in Complex Networks	

Thesis Option

Students may register for an additional two semesters of thesis work, Thesis (EECE 7990) or Thesis (PHYS 7990) , depending on the affiliation of the thesis advisor. Thesis credits cannot be substituted for any of the coursework listed above. This option requires a total of 40 semester hours for the master's degree.

Program Credit/GPA Requirements

32–40 total semester hours required
Minimum 3.000 GPA required

Environmental Science and Policy, MS

The Master of Science in Environmental Science and Policy program emphasizes a broadly interdisciplinary and synthetic approach that integrates knowledge in the environmental sciences (conservation biology, climate change, fisheries science, ecosystem function, biodiversity, restoration ecology) with the social sciences (policy, economics, sociology, political science, and development) and humanities (environmental history, philosophy, and ethics). The goal of the program is to equip professionals with substantive breadth in knowledge and skills at the intersection of environmental science and policy. The program focuses on training students to think critically about the underlying causes of environmental problems and understanding the reciprocal relationships between coupled human-natural ecosystems and the interconnections between social and technological innovations. The program explores practical approaches and potential solutions that decision makers need to evaluate in policy debates related to promoting environmental sustainability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminars		
PPUA 6101	Environmental Science and Policy Seminar 1	4
ENVR 6102	Environmental Science and Policy Seminar 2	4
Skills Courses		
Complete 2 courses from the following. At least one course needs to be taken from the College of Science Skills Course List and one course from the College of Social Sciences and Humanities Skills Course List.		8
College of Science Skills Course List		
EEMB 5130	Population Dynamics	
EEMB 5522	Experimental Design Marine Ecology	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5210	Environmental Planning	
ENVR 5240	Sedimentary Basin Analysis	
ENVR 5260	Geographical Information Systems	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 6500	Biostatistics	
College of Social Sciences and Humanities Skills Course List		
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Electives

Complete five courses from the following list. At least one course must be taken from the College of Science Elective Course List and one course from the College of Social Sciences and Humanities Elective Course List. Any skills course not taken to fulfill the skills courses requirement can be taken as an elective. Students may petition to enroll in other relevant graduate courses offered by other schools at Northeastern University.

COLLEGE OF SCIENCE ELECTIVE LIST

Code	Title	Hours
EEMB 5130 - EEMB 8984		
ENVR 5115 - ENVR 6900		

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES ELECTIVE LIST

Code	Title	Hours
INSH 5302	Information Design and Visual Analytics	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PHTH 5214	Environmental Health	
PHTH 5230	Global Health	
PPUA 5100 - PPUA 7346		
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Climate Science and Engineering, MS

Overview

The Master of Science in Climate Science and Engineering is offered jointly by the College of Engineering and the College of Science. The program provides training in the fundamental scientific processes that underpin the structure and dynamics of the climate, as well as the engineering strategies and technologies required for decarbonization and adaptation to climate change.

Incoming students will typically hold a bachelor's degree in a science, engineering, or related field. The program is designed to prepare students for climate-facing positions in the public or private sectors and can serve as a springboard for students interested in pursuing doctoral-level research. Students must take at least 12 semester hours of College of Science courses and at least 12 semester hours of College of Engineering courses and includes a report, thesis, or coursework option.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated. In order to ensure a balance of training across science and engineering, students must take at least 12 semester hours of College of Science courses (starting with EEMB, ENVR) and at least 12 semester hours of College of Engineering courses (starting with CIVE, EECE, ENSY, MATL, ME, SBSY) from the core requirements and restricted elective course options.

Core Requirements

Code	Title	Hours
Select from the core requirements listed below; any core course not used to meet this core course requirement can be taken as a restricted elective:		20
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
CIVE 5150	Climate and Atmospheric Change	
or ENVR 5150	Climate and Atmospheric Change	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5365	Climate Technologies for Decarbonization, Mitigation, and Adaptation	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5670	Global Biogeochemistry	
or ENVR 5670	Global Biogeochemistry	
CIVE 7110	Critical Infrastructure Resilience	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the restricted electives course list below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
or EEMB 8984	Research	
Complete 8 semester hours from the restricted electives course list below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
or EEMB 8984	Research	
Complete 4 semester hours from the restricted electives course list below.		4

Restricted Electives

Code	Title	Hours
CIVE 5280	Remote Sensing of the Environment	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7282	Coastal and Hydraulic Modeling	
CIVE 7385	Public Transportation	
CIVE 7392	Special Topics in Environmental Engineering	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
ENSY 5100	Hydropower	
ENSY 5200	Energy Storage Systems	
ENSY 5300	Electrochemical Energy Storage	
ENSY 5500	Smart Grid	
ENSY 5585	Wind Energy Systems	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5563	Advanced Spatial Analysis	
INTL 5100	Climate and Development	
LAW 7634	Energy Law and Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting	
ME 5685	Solar Thermal Engineering	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Graduate Certificate Programs

The College of Science is pleased to offer several graduate certificate programs for working professionals as well as postbaccalaureate students who want to build their knowledge in growing fields. Graduate certificates are offered in biotechnology, bioinformatics, applied mathematics, nanomedicine, and sustainability sciences. These programs are ideal for people already in the field who want to enhance their career or people who are looking to make a change.

Programs

Biology

- Bioinformatics (p. 948)
- Omics (p. 950)

Chemistry and Chemical Biology

- Biodefense and Biosecurity (p. 963)
- Biopharmaceutical Analytical Sciences (p. 964)
- Biotechnology (p. 965)
- Biotechnology Enterprise (p. 966)
- Biotechnology Regulatory Science (p. 967)
- Experimental Biotechnology (p. 968)
- Manufacturing and Quality Operations in Biotechnology (p. 969)
- Molecular Biotechnology (p. 970)
- Pharmaceutical Technologies (p. 971)
- Process Science (p. 972)
- Vaccine Development (p. 973)

Marine and Environmental Sciences

- Sustainability Sciences (p. 989)

Mathematics

- Applied Mathematics (p. 1003)

Physics

- Nanomedicine (p. 1019)

College of Social Sciences and Humanities

Website (http://www.northeastern.edu/cssh/)

Ronald Sandler, PhD, Interim Dean
Thomas J. Vicino, PhD, Associate Dean, Graduate Studies

CSSH Graduate Office
180 Renaissance Park
617.373.5990
gradcssh@northeastern.edu

CSSH Graduate Programs General Regulations (p. 1041)

Our Mission

The departments and programs of the College of Social Sciences and Humanities—with disciplines ranging from economics and history to English and international affairs, just to name a few—form an interdisciplinary collaborative of scholars with global perspectives. The CSSH mission is:

- To contribute to the experiential liberal arts education of all Northeastern University students
- To produce cutting-edge knowledge about and solutions to the political and social problems of our contemporary world
- To foster ethical reasoning and critical thought, with attention to the enduring significance of history, literature, and culture

This mission, along with a strong international focus, gives CSSH a central role in fulfilling Northeastern's ambition of educating global citizens.

CSSH Graduate Programs

Graduate education at Northeastern integrates the highest level of scholarship across disciplinary boundaries with significant research and experiential learning opportunities. This multidimensional learning environment offers students an opportunity to develop critical thinking and creative problem-solving skills while introducing them to new perspectives in their fields. CSSH supports 16 master's programs, eight doctoral programs, and 12 graduate certificate programs. Some courses and degree programs are offered in an online or hybrid format that provides additional flexibility for learners. Graduate programs in CSSH provide fertile ground and resources for advanced study and research. CSSH faculty members' cutting-edge interdisciplinary work inspires the development of new programs, research fellowship opportunities, and mentoring relationships.

All CSSH master's programs offer an optional cooperative education experience to eligible students. Cooperative education is central to both the Northeastern experience and to the CSSH experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with up to six months of work experiences in businesses, nonprofits, and government agencies in Boston, across the United States, and around the world. Through the co-op experience and integrative cocurricular coursework, graduate students apply what they have learned across contexts, bringing knowledge and skills gained in community learning spaces back to our campus learning spaces.

Our doctoral, master's, and professional degree programs produce graduates who are well prepared for the diverse demands of careers in academia, industry, and the professions. Please visit the College of Social Sciences and Humanities (http://www.northeastern.edu/cssh/) website for additional information, including latest news and upcoming events.

General Regulations

- General Information (p. 1042)
- Academic Appeals Procedures (p. 1043)
- Regulations for All Students (p. 1046)
- Doctor of Philosophy (PhD) (p. 1048)
- Master's Degrees (MA, MPA, MPP, MS) (p. 1050)

General Information

For information about other academic policies and procedures; student responsibilities; student academic and cocurricular life; faculty rights and responsibilities; or general personnel policies, benefits, and services, please refer to university policies (p. 44) and related procedural guides, as appropriate.

Student Classification

Regular student—Students who are admitted to a degree or certificate program.

Special student—Nonmatriculated students who are enrolled in College of Social Sciences and Humanities graduate courses on a part-time basis (fewer than 8 semester hours per semester). Special students may earn up to 12 semester hours over time. Special students who do not register for four consecutive semesters (excluding summer semester) may be subject to review and possible withdrawal by the college. Graduate certificates and degrees cannot be conferred upon students in special student status. In keeping with university regulations, international students cannot be admitted as special students.

Doctoral degree candidate—Doctoral students who have completed departmental, college, and university requirements except for dissertation.

Student Status

For academic purposes, a graduate student is considered a full-time student if enrolled in a minimum of 8 semester hours of credit for the semester, with the following exceptions:

- Students who hold Stipended Graduate Assistantships will be considered full time if enrolled for a minimum of 6 semester hours of credit. However, some departments may require more credits for maintaining departmental progression standards.
- Students enrolled in Doctoral Research or full-time co-op are considered full time.
- All graduate students who are formally registered in a continuation status—Dissertation, Dissertation Continuation, Doctoral Research, or Qualifying/Comprehensive Exam Preparation courses—may be considered full time. It is ordinarily assumed that such students will be in residence.
- Students in their last semester of coursework may be enrolled in fewer than 8 semester hours to complete degree requirements. *Note:* To be eligible for some types of financial aid, the minimum full-time load may be defined differently. For information, contact the Graduate Student Financial Services Office.

Continued registration in the CSSH is contingent upon receiving all official transcripts and test scores within 30 days of matriculation. Please note that you may be asked to provide us with these if you did not include official copies in your application.

Grading System

The student's performance in graduate courses will be graded according to the following numerical equivalents in the Academic Catalog (p. 55).

Grading Policies

Grading policies applying to all students may be found in the Academic Catalog (p. 44).

In the CSSH, not more than two courses or 6 semester hours of credit, whichever is greater, may be repeated to satisfy the requirements for the degree. Only such repeats will be counted in calculating the cumulative grade-point average. No grade changes are permitted after the end of the final examination period one calendar year from the semester in which the student registered for the course. This includes the clearance of incomplete grades (p. 61). In calculating the overall cumulative average, all graduate-level coursework completed at the time of clearance for graduation will be counted.

Students cannot elect a pass/fail grading scheme for CSSH courses unless the course grading scheme is designated pass/fail.

Class Credits

All credits are entered as semester hours. Graduate office policy states that in calculating the overall GPA, all graduate-level coursework completed at the time of clearance for graduation will be counted unless otherwise designated at the time of registration or unless counted toward a previous degree.

Academic Appeals Procedures

Northeastern University affirms that it is essential to provide an appeals mechanism to students who believe that they have been erroneously, capriciously, or otherwise unfairly treated. Information about the university appeals process and procedures can be found in the Academic Catalog. (p. 70)

If a student feels that they have been the victim of harassment or of discrimination prohibited by law or by university policy, and that this constitutes a substantive basis for the appeal, they should consult with the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/about/)as soon as they become aware of alleged prohibited harassment or discrimination, and they are not required to wait until a term grade or determination is received before seeking advice or redress. If the Office for University Equity and Compliance is advised of such alleged prohibited conduct as part of an academic appeal, the appeal shall first be pursued and investigated through the Office for University Equity and Compliance. Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures.

In cases that do not involve sexual harassment or discrimination, students may speak informally to their instructors or academic advisors about any determination or grade about which they have questions. If students choose to pursue an appeal, the College of Social Sciences and Humanities process is described in the appeals section that follows. The Graduate Academic Advisory Committee, which is comprised of an elected body of full-time CSSH faculty, serves as the Academic Appeals Committee for the CSSH.

Graduate Academic Advisory Committee

The GAAC shall be responsible for ensuring that the graduate curriculum of the college promotes the college's and university's evolving intellectual and pedagogical aims. The GAAC acts on all matters relating to the academic life of graduate students in the college in accordance with guidelines approved by the college and the GAAC. The responsibilities of the GAAC are:

a. Oversight over the quality and scope of the college's graduate curricula, including recommendations for changes to the general program of the college, approval of graduate degree and certificate programs, and review of proposed changes to those programs.

b. Review of student appeals on decisions concerning grades, academic dismissals, academic probation, change in requirements, permission to resume studies, academic warning, and repeating of courses. The GAAC shall adhere to all policies and procedures adopted by the faculty of the college and the Faculty Senate.

In addition, the GAAC shall adhere to policies and procedures issued by the Office of the Provost. Actions on graduate matters taken by the GAAC shall constitute the recommendations by the faculty on these matters. The GAAC shall make recommendations on behalf of the faculty directly to the dean (or the dean's designee). If the dean supports them, the recommendations shall, as needed, then be sent to the University Graduate Curriculum Committee for consideration. The GAAC's and dean's actions shall be reported periodically to the units involved and to the college council for informational purposes.

The GAAC is charged with review of student appeals on decisions concerning grades, academic probation, change in requirements, permission to resume studies, academic warning, and repeating of courses. Members of the GAAC from the student's own unit are recused from the appeal process. Graduate students may request permission to present their appeals in person. If a student believes that all pertinent information has not been presented, the student may request that the GAAC reconsider its decision. If the GAAC reaffirms its action, and the student is still not satisfied, an appeal for review may be made through the university's Academic Appeals Resolution Committee. The appeals procedure is described in the Academic Catalog (p. 70).

Grade Appeals

If a graduate student wishes to dispute a grade in a course taught by a member of the CSSH faculty, the first step is for the student to discuss their concerns with the faculty member who taught the course to see if it is possible to reach agreement on the issue(s). If the student is not able to resolve the issues with the faculty member who taught the course, the student should work with the department/program director to attempt a department-level resolution.

If these informal attempts to resolve the issue fail, the student can enter the formal procedure at the college level.

The student should meet with the associate dean for graduate studies who will attempt to resolve the issue by working with the instructor and the department/program. Contact the Graduate Office at gradcssh@northeastern.edu to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine whether or not there is just cause to convene the GAAC. In the event of an alleged violation of the Student Code of Conduct, the associate dean will first seek a determination of the violation from the Office of Student Conduct and Conflict Resolution (http://www.northeastern.edu/osccr/).

The decision to convene the GAAC will be based upon the following:

- The student attempted to resolve the complaint with the professor and the department/program.
- The complaint is substantive in nature (adjudication could affect a student's course grade and/or academic record).
- The complaint has been brought forward in a timely manner.

- The statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student.
- If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of the degree conferral date.

FORMAL COMPLAINT

If the associate dean determines the appeal should be brought to the GAAC, the student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean.

- The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint.
  - It is the student's responsibility to make their case. Students may submit any evidence such as emails, quizzes, examinations, etc.
- Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the faculty member and to the department/program director and convene a meeting of the GAAC.
- If the student fails to provide a well-reasoned written summary of the case, then the matter will be considered closed at the college level.
- The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

APPEALS MEETING

- The GAAC serves as the Academic Appeals Committee for the CSSH.
- The GAAC is convened in order to determine whether a fair and due process was used to determine the student's grade.
- The role of the committee is to conduct a review when a grade appeal is filed by a student regarding one of the following reasons:
  - Concern that the course grading policy was not applied consistently to all students within a class and/or section.
  - Concern that the instructor's method of assigning grades differed from the method outlined in the instructor's course syllabus.
  - Concern that the instructor failed to provide a clear policy on how grades would be assigned.

The student and the faculty member have the right to attend and present their case orally to the GAAC. The faculty member and the student aren't required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the GAAC may have. If the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. The complainant and the faculty member both have the right to testify privately and separately before the committee. Lawyers are not permitted in these proceedings. Generally, the faculty member and complainant are each given a 15-minute period to present their case.

The student usually presents their complaint to the committee first. This is followed by a brief Q&A of the student by the GAAC. The GAAC may ask the complainant any questions they have based upon either the written statement submitted by the complainant or the complainant's oral presentation. The faculty member then presents their case, which is followed by a brief Q&A of the faculty member. After both the complainant and faculty member have addressed the GAAC, the GAAC then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the GAAC believes it cannot resolve any issues without additional information, the GAAC may request any information needed from either the complainant, faculty member, or department/program. This information must be provided to the GAAC within one week of the meeting. If the requested information is not provided in the required time frame, then the GAAC may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the GAAC will be made based on a simple majority (51%) vote.
- Members of the GAAC from the student's own unit are recused from the appeal process.
- The associate dean is chair of the GAAC and only votes when there is a tie.
- The student bringing the complaint to the GAAC carries the burden of proof based on the weight of the evidence in demonstrating that the grade is incorrect or unjustified.
- If the GAAC decides that the grading process was unfair, the GAAC can request that the instructor changes the student's grade.
  - If an acceptable agreement involves a change of grade, the instructor is responsible for submitting a change of grade to the Office of the University Registrar in a timely manner following notification of the GAAC's decision.
- The student shall be notified within three business days of a decision being reached.

If the student is not satisfied with the GAAC's disposition of the matter, or if the grade appeal is not resolved within 35 calendar days after the written statement is submitted to the college, the student may further pursue the matter by requesting in writing that the university convene an Academic Appeals Resolution Committee to review the issue. This must be submitted within 10 calendar days of the notification from the college. This committee has been designated as the final authority on these matters. Students may obtain information on this process by contacting the Office of the Provost.

Academic Dismissal Appeal

If a student wishes to dispute an academic dismissal, the first step is to consult the graduate director about appealing to the department/program. If and when all departmental appeals are exhausted, the student can enter the formal procedure at the college level.

The student will meet with the associate dean for graduate studies who will attempt to resolve the issue by working with the department/program. Contact the Graduate Office at gradcssh@northeastern.edu to schedule the meeting. If it is not possible for the associate dean to resolve the issue with the department/program, the associate dean will determine if the complaint is substantive and there is just cause to convene the GAAC.

FORMAL COMPLAINT

The student must provide a formal written complaint to the associate dean within one week of the student's meeting with the associate dean. The statement must be submitted no later than 28 calendar days from the day when the academic determination is made available to the student. The written complaint should provide a detailed timeline as well as all available evidence supporting the student's complaint. Once the associate dean receives a formal written complaint, the associate dean will provide a copy of the complaint to the department/program director and convene a meeting of the GAAC. If the student fails to provide a thoughtful and well-reasoned written summary of the case, then the matter will be considered closed at the college level. In the event of an alleged violation of the Student Code of Conduct, the associate dean will first seek a determination of the violation from the Office of Student Conduct and Conflict Resolution (http://www.northeastern.edu/osccr/).

The associate dean will make a good faith effort to identify a date and time for the meeting within 35 calendar days of the student's original submission of their statement.

APPEALS MEETING

- The GAAC serves as the Academic Appeals Committee for the CSSH.
- The GAAC is convened in order to determine whether a fair and due process was used.

The student has the right to attend and present their case orally to the committee. The student isn't required to attend; however, it is usually quite helpful to make an oral presentation and answer any questions that the GAAC may have. If the complainant indicates that they will present their case in person and then fails to attend the scheduled hearing, the case will be dismissed. Lawyers are not permitted in these proceedings.

The student usually presents their complaint to the GAAC first. This is followed by a brief Q&A of the student by the GAAC. The GAAC may ask the complainant questions based upon either the written case submitted by the complainant or the complainant's oral presentation. The GAAC then reviews the evidence, summarizes the case, and makes a recommendation to the associate dean concerning the resolution of the complaint.

If the GAAC believes it cannot resolve any issues without additional information, the GAAC may request any information needed from either the complainant or department/program. This information must be provided to the GAAC within one week of the meeting. If the needed information is not provided in the time frame required, then the GAAC may weigh this failure in making its final determination regarding the original complaint.

COMMITTEE PROCESS

- All decisions of the GAAC will be made based on a simple majority (51%) vote.
- Members of the GAAC from the student's own unit are recused from the appeal process.
- The associate dean is chair of the GAAC and only votes when there is a tie.
- The student bringing the complaint to the GAAC carries the burden of proof based on the weight of the evidence in demonstrating that the dismissal is incorrect or unjustified.
- If the GAAC decides that the academic dismissal should be revoked, the GAAC can request that the department reinstate the student immediately.

If the student is not satisfied with the GAAC's disposition of the matter, or if the dismissal appeal is not resolved within 35 calendar days after the written statement is submitted to the college, the student may further pursue the matter by requesting in writing that the university convene an Academic Appeals Resolution Committee to review the issue. This must be submitted within 10 calendar days of the notification from the college. This committee has been designated as the final authority on these matters. Students may obtain information on this process by contacting the Office of the Provost.

Regulations for All Students

Registration

Students must register via the Student Hub (https://me.northeastern.edu). Procedures to do so are available on the Office of the University Registrar's website. Consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/) for important registration dates.

Students are encouraged to obtain advisor approval of course selections each semester. This approval is required for all assistantship recipients and by some departments for all students. Students should check with individual departments for specific guidelines.

Students are expected to only complete the courses and semester hours required for the degree or certificate. Any courses taken outside of those requirements must be approved by the director of the graduate program.

Transfer Credit

For general regulations concerning transfer credit in Northeastern University's graduate degree programs, please visit Regulations Applying to All Degree Programs (p. 91).

Degree students may petition to transfer credit through their departments to the College of Social Sciences and Humanities Graduate Office by completing the Transfer Credit form on the Office of the University Registrar's website. An official transcript must be attached to the petition.

Awards

Only those students who are registered in degree programs are eligible for awards. Award recipients will receive an official award letter from the CSSH Graduate Office. Please pay attention to this letter as it is an official contract that should be read carefully. In order to maintain awards, students must be making satisfactory progress toward their degrees. Please refer to the Satisfactory Academic Progress section below for more information.

Students receiving a Stipended Graduate Assistantship must be in full-time status and be registered for a minimum of 6 semester hours. The standard duration of the SGA funding window is five years beginning from the time of admission and is not changed based on the source of funding or if the stipend is declined in any given semester(s). The health plan fee (NUSHP) is covered by the SGA award whereas the University Health and Counseling Services fee is not. Students on an SGA must be available to come to campus during normal business hours and are expected to spend 20 hours per week supporting their assignment. Unsatisfactory progress in either the graduate program or performance in assistantship-related duties or any deviation from the above may result in the early termination of the assistantship. Near the end of each funded term, student performance will be evaluated by their assignment supervisor and that evaluation will be filed with the CSSH Graduate Office.

CSSH Dean's Scholarship and Excellence Fellowship recipients must be in full-time status and be registered for a minimum of 8 semester hours.

Withdrawal from Courses

To withdraw from a course, a student must drop the course via the Student Hub within the deadlines as established by the Office of the University Registrar. Consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/) for more information.

Satisfactory Academic Progress

Satisfactory academic progress means satisfying requirements in the graduate program's general regulations and in the regulations specified by each department.

The college sets minimum standards for all students to fulfill, including:

- Maintaining the graduation requirement of a cumulative grade-point average of 3.000 (3.500 for doctoral programs) in their coursework
- Timely completion of coursework
- Timely completion of comprehensive/qualifying examinations

Departments and programs may have additional requirements that exceed those of the college. These requirements can be found in the Academic Catalog and department guides. Failure to maintain satisfactory academic progress may result in academic probation or dismissal from the program.

Receipt of financial support administered by the college is contingent on satisfactory academic progress toward the degree and on meeting department-specific guidelines. The college requires that all students receiving awards will generally have two semesters to reach a 3.000 GPA. Students whose cumulative GPA is below 3.000 (3.500 for doctoral programs) will be reviewed by their departments and by the CSSH Graduate Office and may have their funding terminated on recommendation of their department or by decision of the college in consultation with their department. In addition, continued funding for SGAs is contingent on satisfactorily carrying out duties as assigned.

Students enrolled in a program offering a cooperative education or internship option must be approved to participate. A minimum GPA of 3.000 is required at the time the co-op job or internship begins. Some departments may require a higher minimum GPA for co-op. Please refer to the Academic Catalog for program-specific information.

Leave of Absence

Full-time students who will not be involved in any academic endeavor for a period of time are required to petition via the Request for Leave of Absence form on the Student Hub (https://me.northeastern.edu). The CSSH Graduate Office will not accept retroactive leave requests. Please note that if a

student is requesting a leave for medical reasons (p. 57), a Medical Leave of Absence form must be completed. Students should contact University Health and Counseling Services.

Leaves of absence generally are not approved for more than one calendar year at a time. Further, a leave of absence is generally not appropriate for an international student on a student visa, unless the student is leaving the United States. The student must consult with an international student advisor at the Office of Global Services.

Leaves of absence are not appropriate for master's or doctoral students who are working on a thesis or dissertation but are away from the Northeastern campus.

Except in the case of medical leaves, being on an approved leave of absence does not extend the amount of time allowed for degree completion or the makeup of incomplete grades.

Time Limitations

Graduate course credits earned in the program of graduate study or accepted by transfer are valid for a maximum of seven years.

If students wish to apply for an extension of the university's seven-year time limit, they must submit a petition to their department of study. The petition must include a detailed plan for the completion of all remaining degree requirements. In the case of master's time-limit extension requests for coursework, the department must certify that the content of each of the courses has not changed since the time the student completed the course. If deemed appropriate, the department will recommend the approval of an extension to the college. The associate dean has final approval of time-limit extensions.

Application for the Diploma

Application for the diploma is made by applying to graduate. More information is available on the Commencement website (https://www.northeastern.edu/commencement/). Even though all other degree requirements may have been met, the application to graduate must be completed in order to assure that the degree will be conferred on the appropriate graduation date. It is the responsibility of the student to make sure that degree requirements have been met. Once degree requirements have been met, the student will be cleared for commencement. Please note that there are no honors distinctions awarded at the graduate level.

Changes in Requirements

The continuing development of the college may result in regular revision of curricula. When curriculum changes are made, students are allowed to complete the degree requirements of the program when they matriculated. If a student wishes to complete the degree requirements of the new curriculum, the student may request this in writing to the CSSH Graduate Office via gradcssh@northeastern.edu.

Doctor of Philosophy

The Doctor of Philosophy degree is awarded to candidates who give evidence of high scholastic attainment and research ability in their major field. Specific degree requirements are administered by a committee in charge of the degree program. It is the responsibility of the chair of this committee to certify to the college the completion of each requirement for each candidate. Note that advanced standing is determined at the time of admission by the graduate program director.

Continuity of Registration

Students are expected to maintain satisfactory progress toward their intended degree. All students must register as approved by their advisors or the departmental graduate program directors. After establishing degree candidacy, registration must be continuous until graduation requirements are complete unless a leave of absence is allowed by and recommended by the departmental graduate committee and approved by the college. For each of the first two semesters that a doctoral candidate has established candidacy, the student must register for Doctoral Dissertation. For each semester beyond the two Dissertation registrations, the student must register for Doctoral Dissertation Continuation until the dissertation is approved by the college and submitted to ProQuest. During the terms when a student is registered for Doctoral Dissertation or Dissertation Continuation, coursework is not permitted as the course requirements for the degree have already been met. If the academic program requires enrollment in seminars or courses in addition to Dissertation or Dissertation Continuation, the graduate program director will make a recommendation to the college. Approval of the college must happen prior to registration. Students must be registered for Dissertation or Dissertation Continuation during the semester in which they take the final oral examination (including the full summer semester if that is when defense occurs). Any student who does not attend Northeastern University for a period of one year may be required to apply for readmission.

Awards

Funding eligibility is contingent upon making satisfactory progress. See Regulations for All Students (p. 1046) for more information.

Course Requirements

Course requirements in each doctoral program are specified by the committee in charge of the doctoral program and departmental regulations. These are detailed in the academic catalog for the student's term of entry.

GPA Requirements

For all College of Social Sciences and Humanities doctoral degree programs, the minimum cumulative grade-point average is 3.500. To qualify for the degree, the minimum cumulative GPA must be obtained. This average will be calculated each semester according to the grading system noted in the academic catalog and will exclude any transfer credits or repeated courses. Individual programs may have additional GPA requirements. These can be found in the academic catalog or program policies and procedure documents. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be placed on academic probation or dismissed from the program. A student cannot begin working on exam requirements with a GPA that is below the program minimum.

Annual Student Progress Review

All PhD degree students are required to meet with their faculty advisor for an annual student progress review. The reviews will be submitted to the departmental graduate committee, which will determine whether satisfactory progress is being made and students are eligible to proceed to complete their graduate work. The CSSH Graduate Office will receive a copy of each student's review.

Residence Requirement

All PhD students must spend the equivalent of at least one academic year in residence at the university as a full-time graduate student. The departmental graduate committee specifies the method by which the residence requirement is satisfied. Residency is required of all students receiving a stipended graduate assistantship.

Qualifying Examinations

In programs where comprehensive or qualifying exams are required, students must complete these requirements within the time limit set by the program.

Dissertation Proposal

All CSSH doctoral programs require an approved prospectus or successful proposal defense for candidacy.

Doctoral Degree Candidacy

PhD degree candidacy is established when students have completed all departmental requirements for candidacy. These requirements vary by department and include completing the minimum number of graduate semester hours required of doctoral students by the department (this may include an earned master's degree accepted by the department) and passing a qualifying examination and/or a comprehensive examination. All CSSH doctoral programs require an approved prospectus or successful proposal defense for candidacy. Once students reach doctoral degree candidacy they will be certified, in writing, by the college. Registration in coursework is not permitted once a student reaches candidacy.

Doctoral Dissertation

Each doctoral student must complete a dissertation that embodies the results of extended research and makes an original contribution to the field. This work should give evidence of the candidate's ability to carry out independent investigation and interpret in a logical manner the results of the

research. The method of approval of the dissertation is established by the departmental graduate committee. No dissertation committee shall have fewer than three faculty members, two of whom shall be from Northeastern. The chair of the dissertation committee will be a full-time tenured or tenure-track member of the faculty of Northeastern and will hold an appropriate doctorate. A research faculty member may chair a dissertation committee if the faculty member holds an appropriate doctorate and has received the approval to do so from the tenured and tenure-track faculty members of the unit(s) in which their appointment resides.

Final Oral Examination

The final oral examination will be on the subject matter of the doctoral dissertation and on important developments in the field of the dissertation. Other fields may be included if recommended by the examining committee. This examination will be taken after completion of all other degree requirements and must be held at least four weeks prior to the commencement at which the degree is to be awarded. All internal and external committee members are expected to participate in the defense. The college must be notified of all scheduled defenses and expects that the defense will be publicly advertised for at least two weeks prior to the scheduled date. Some programs may require up to 30 days' notice.

- Upon successful defense of the dissertation, the student must have a dissertation approval record signed by the members of the dissertation committee and the department chair. Contact the CSSH Graduate Office at gradcssh@northeastern.edu for the approval form template.
- The student must have the dissertation approval record approved by a representative from the CSSH Graduate Office.
- The student must submit an electronic copy of the dissertation to ProQuest, following the directions outlined at the University Library website.

Master's Degrees

Academic Requirements

A candidate for the master's degree must complete a minimum of 30 semester hours of graduate-level coursework and additional requirements as determined by the department in which the student is registered.

To qualify for the degree, a minimum cumulative average of 3.000, equivalent to a grade of B, must be obtained. This average will be calculated each semester according to the grading system noted on the Office of the University Registrar's website and will exclude any transfer credits and nonrepeatable courses that have been retaken. A student who does not make satisfactory progress toward degree requirements, as specified by the individual department, may be dismissed from the program.

Continuity of Registration

Students are expected to maintain satisfactory progress toward their intended degrees. All students must be registered in the last semester of their program. Any student who does not attend Northeastern University for a period of one year will be required to apply for readmission.

Comprehensive Examination

Some programs require a final written or oral comprehensive examination. This examination will be given by the department concerned at least two weeks before the commencement at which the degree is expected. Students should check with individual departments for specific guidelines.

Thesis

Some programs require or offer Master's Thesis. Theses should demonstrate the individual's capacity to execute independent work based on original material. Registration for XXXX 7990 Thesis is required. In cases in which a grade is required, theses must receive a grade of B (3.000) or better to be accepted. Students who have not completed their thesis after having registered for the specified number of thesis credits must register for XXXX 7996 Master's Thesis Continuation in the subsequent semester. Master's Thesis Continuation will carry no credit but will be recorded on the student transcript with the appropriate grade (S or U). Master's Thesis Continuation is not repeatable.

- Upon successful defense of the thesis, the student must have a thesis approval record signed by the members of the thesis committee. Visit Thesis and Dissertation Formatting Guidelines (https://cssh.northeastern.edu/resources/theses-and-dissertations/) for the approval form template and additional guidance.
- The student must have the thesis approval record approved by a representative from the CSSH Graduate Office.
- The student must submit an electronic copy of the thesis to ProQuest, following the directions outlined on the University Library website.

School of Criminology and Criminal Justice

Website (https://cssh.northeastern.edu/sccj/)

Amy Farrell, PhD
Professor and Director

Kevin Drakulich, PhD
Professor and Associate Director

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CSSH Graduate Programs General Regulations (p. 1041)

The School of Criminology and Criminal Justice prepares students for meaningful careers in criminology, justice policy, the law, criminal justice, and related fields, including professional research careers. We do this by applying multidisciplinary social science tools that predict and explain crime, as well as deepening the understanding of policies that improve our systems of justice. Our approach is experiential, and our methods for teaching are rooted in knowledge creation as a top-tier research program. Our goal is to create ethical problem solvers who are prepared to tackle important crime and justice issues facing society. Our educational goals for students include a commitment to identify and address the role of systemic racism and intersecting dimensions of oppression in the development and application of justice system policies and practices, crime and justice theory, and research.

The school offers a Master of Science degree in criminology and criminal justice and a PhD degree in criminology and justice policy. In addition, the school offers a JD/MS in criminology and criminal justice program and a JD/PhD in criminology and justice policy in conjunction with the School of Law.

Programs

Doctor of Philosophy (PhD)

- Criminology and Justice Policy (p. 1052)

Master of Science (MS)

- Criminology and Criminal Justice (p. 1055)

Dual Degrees

- Law, JD/Criminology and Justice Policy, PhD (p. 778)
- Law, JD/Criminology and Criminal Justice, MS (p. 779)

Criminology and Justice Policy, PhD

The doctoral program in criminology and justice policy at the School of Criminology and Criminal Justice at Northeastern University seeks to prepare students for professional and research careers in criminal justice, criminology, and related fields by applying multidisciplinary and comparative social science to understand, predict, and explain crime and contribute to the development of public policy within urban communities. Using an active-learning approach, the school seeks to develop its students intellectually and ethically, while providing them with a keen appreciation for the complexities of crime and public and private efforts to make communities safer and to ensure justice.

The program is full time and is small and student centered. Students may enter the program with either a bachelor's degree or a master's degree. It is expected that students will be able to complete the program in four to five years, and students entering with a master's degree will be able to complete the program in three to five years.

Year one in the doctoral program offers students an opportunity to obtain a broad foundational knowledge in the discipline: one semester on theories of criminal justice process, two semesters of criminological theory, two semesters of statistics, and one semester of advanced research methods. To ensure that all students have mastered the foundational material emphasized across the required courses for the PhD program and can successfully integrate theory, research, and policy, all PhD students take a "foundations" qualifying examination at the end of their first year in the doctoral program.

After demonstrating mastery of the foundational knowledge in year one, students devote themselves to a more specific area of research in years two and three. Students demonstrate this commitment through the second and third qualifying examinations: an area exam and a publishable paper.

Following successful completion of the three qualifying examinations, and required and elective course work, the students proceed to a formal dissertation proposal defense.

Doctoral Degree Candidacy

A student achieves candidacy when they have successfully completed all course work (54 semester hours for students entering with a bachelor's degree or 42 semester hours for students entering with advanced standing), passed all three qualifying examinations, and deposited the final version of their dissertation proposal (approved by their full committee) with the school's graduate program office. Candidacy is certified, in writing, by the college.

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Three qualifying examinations—foundations exam, area exam, and publishable paper
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Pro-Seminar		
CRIM 7001	PhD Pro-Seminar in Criminology and Justice Policy 1	0
CRIM 7002	PhD Pro-Seminar in Criminology and Justice Policy 2	0
Criminal Justice Process		
CRIM 7203	Theories of Criminal Justice Process	4
Criminological Theory		
CRIM 7710	Criminology and Public Policy 1	4
CRIM 7711	Criminology and Public Policy 2	4
Analysis & Methods		
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	4
INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4
Practicum		
CRIM 7706	Practicum in Writing and Publishing	2
CRIM 7700	Practicum in Teaching	0

Electives

Code	Title	Hours
Complete 28 semester hours in the following ranges. Courses in additional disciplines with PhD program director approval.		28
CRIM 6000 to CRIM 7999		
INSH 6000 to INSH 7999		
POLS 6000 to POLS 7999		
PPUA 6000 to PPUA 7999		
SOCL 6000 to SOCL 7999		

Dissertation

Code	Title	Hours
Exam Preparation		
Students register for CRIM 8960 when they have completed required coursework but are still taking qualifying exams, and for CRIM 8986 when they have passed qualifying exams and are working on proposals.		
CRIM 8960	Exam Preparation—Doctoral	
CRIM 8986	Research	
Dissertation		
CRIM 9990	Dissertation Term 1	
CRIM 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of CRIM 9990 and CRIM 9991, registration in the following class is required in each subsequent semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
CRIM 9996	Dissertation Continuation	

Program Credit/GPA Requirements

54 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Advanced Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Three qualifying examinations—foundations exam, area exam, and publishable paper
Dissertation committee
Dissertation proposal
Candidacy achieved
Dissertation defense

Core Requirements

Code	Title	Hours
Pro-Seminar		
CRIM 7001	PhD Pro-Seminar in Criminology and Justice Policy 1	0
CRIM 7002	PhD Pro-Seminar in Criminology and Justice Policy 2	0
Criminal Justice Process		
CRIM 7203	Theories of Criminal Justice Process	4
Criminological Theory		
CRIM 7710	Criminology and Public Policy 1	4
CRIM 7711	Criminology and Public Policy 2	4
Analysis & Methods		
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	4
INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4
Practicum		

CRIM 7706	Practicum in Writing and Publishing	2
CRIM 7700	Practicum in Teaching	0

Electives

Code	Title	Hours
Complete 16 semester hours in the following range.		16
CRIM 6000 to CRIM 7999		
INSH 6000 to INSH 7999		
POLS 6000 to POLS 7999		
PPUA 6000 to PPUA 7999		
SOCL 6000 to SOCL 7999		

Dissertation

Code	Title	Hours
Exam Preparation		
Students register for CRIM 8960 when they have completed required coursework but are still taking qualifying exams, and for CRIM 8986 when they have passed qualifying exams and are working on proposals.		
CRIM 8960	Exam Preparation—Doctoral	
CRIM 8986	Research (Exam Preparation)	
Dissertation		
CRIM 9990	Dissertation Term 1	
CRIM 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of CRIM 9990 and CRIM 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
CRIM 9996	Dissertation Continuation	

Program Credit/GPA Requirements

42 total semester hours required
Minimum 3.500 GPA required

Criminology and Criminal Justice, MS

The master's program in criminology and criminal justice at Northeastern University concentrates both on the problem of crime as a form of deviant behavior and on the criminal justice and private security systems that deal with it. The program emphasizes a systems approach to criminal justice, stressing policy development and analysis, as well as the impact these policies have on the individuals and organizations charged with delivering justice in a fair and equitable manner. In concept and scope, the MS degree encompasses such related disciplines as law, sociology, political science, psychology, criminology, and public administration.

The master's program is comprised of required courses encompassing both substantive and technical skills. Additionally, students choose elective courses from offerings within the graduate program in criminal justice or in other graduate programs in the College of Social Sciences and Humanities. The course offerings afford students the flexibility to customize their own programs, which may include an internship, directed study, or master's thesis.

For students interested in criminal justice in an increasingly digital world, the Master of Science in Criminology and Criminal Justice with a Concentration in Cybersecurity offers a strong criminal justice foundation coupled with the conceptual and practical skills that enables them to contribute to ensuring the reliability and security of cyberspace. Successful students will learn the principles, practices, and responsibilities of criminal justice professionals alongside the fundamental knowledge of computer science skills necessary for practical applications in the field. The concentration in cybersecurity provides criminal justice students an opportunity to learn how social behavior, policy, and legal rules can affect cybersecurity and the tools of information technology.

Faculty members in the graduate program represent several different academic disciplines, and teaching activities vary in nature depending on the instructors' specific objectives. The faculty's specialized interests help make possible a broad range of program offerings, including courses on the criminal justice process, victimology, security management, criminal law, juvenile justice, law and psychology, and terrorism.

The master's program offers an optional cooperative education experience (co-op) to eligible students. Students extend the two-semester program to 18 months through a co-op work experience and Experiential Integration (INSH 6864), the associated experiential integration course. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Briefly stated, the graduate program endeavors to:

- Assist in developing criminal justice and private security leaders capable of assuming responsibility for policy planning and administration
- Offer students an opportunity to acquire the necessary skills and knowledge to conduct applied research while assisting them in developing the ability to apply this research in a variety of criminal justice settings
- Provide an opportunity for a solid educational foundation for those who wish to pursue more advanced graduate study beyond the Master of Science degree

Graduate study in criminology and criminal justice may be pursued on either a full- or part-time basis. All candidates for the Master of Science in Criminology and Criminal Justice degree must successfully complete a minimum of 32 semester hours of credit in course work.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core		
CRIM 6200	Criminology	4
CRIM 6202	The Criminal Justice Process	4
Research and Statistics		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4

Electives

Code	Title	Hours
Complete 16 semester hours in the following range.		16
CRIM 5000 to CRIM 7999		
INSH 5000 to INSH 7999		
POLS 5000 to POLS 7999		

PPUA 5000 to PPUA 7999	
SOCL 5000 to SOCL 7999	

Optional Concentration in Cybersecurity

Students adding a concentration in cybersecurity must use 12 semester hours of their elective credits to complete the following courses:

Code	Title	Hours
Required		
CY 5001	Cyberspace Technology and Applications	4
Choose two courses from the following:		8
CRIM 6262	Evidence-Based Crime Policy	
CY 5010	Foundations of Information Assurance	
CY 5200	Security Risk Management and Assessment [1]	
CY 5210	Information System Forensics [1]	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	

[1] Instructor approval

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms.		1-2
CRIM 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (33-34 with optional co-op)
Minimum 3.000 GPA required

Law, JD / Criminology and Justice Policy, PhD

The JD/PhD program will expand the knowledge base and career options of students. The disciplines of criminology and justice policy and law share common interests in identifying opportunities to create conditions for justice, equality, and societal well-being. The dual degree will provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the sociopolitical, legal, and economic context in which they are found. Solving problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the PhD degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the law school. Students will take criminology courses during semesters spent in SCCJ. Please consult the School of Law (https://www.northeastern.edu/law/) for more information about JD requirements. Additionally, please consult SCCJ (https://cssh.northeastern.edu/sccj/) for more information about PhD requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Law, JD / Criminology and Criminal Justice, MS

The JD/MS program will expand the knowledge base and career options of students. The disciplines of criminal justice and law share common interests in identifying opportunities to create the conditions for justice, social equality, and societal well-being. The dual degree is designed to provide students with a comprehensive interdisciplinary understanding of what influences criminal justice problems and the social, political, legal, economic context in which they are found. Solving these problems requires interdisciplinary knowledge and an analytical and practical skill set that includes interprofessional problem solving.

Up to 16 credits of coursework in the dual-degree program can be counted toward both the JD degree and the MS degree. Of these 16 credits, no more than 12 credits of non–law courses can count toward the JD degree.

Students will take law courses during semesters spent in the School of Law. Students will take criminology courses during semesters spent in in the School of Criminology and Criminal Justice. Please consult the School of Law for more information about JD requirements. Additionally, please consult SCCJ for more information about MS requirements.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Economics

Website (https://cssh.northeastern.edu/economics/)

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Professor and Chair

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CSSH Graduate Programs General Regulations (p. 1041)

The Department of Economics offers both a Master of Science and a Doctor of Philosophy in Applied Economics. The most distinctive feature of these programs is their emphasis on applied economics, coupled with attention to providing a solid grounding in microeconomic and macroeconomic theory, and econometrics. Students come from all over the world, and the curriculum is designed with this in mind, striving for balance in coverage of economies that are rich and poor, large and small, mixed and market. This gives a unique flavor to the course of study, making it well suited to the analysis of the emerging global economy of the 21st century.

The Master of Science program is in applied economic policy analysis, with broad specialization areas. The program is large enough to support a full slate of core and area courses each year, yet small enough to maintain a sense of community among the students.

The program is especially appropriate for those who wish to work in or return to positions in government, teaching, finance, or industry while providing a rigorous basis for those who want to continue their studies to the doctoral level.

Our signature co-op program offers qualified MS students the opportunity to apply for paid work positions as practicing economists for up to six months as part of their academic program. This paid work experience enhances our MS degree and its emphasis on application. Students have an opportunity to learn how to apply their knowledge, solve problems, and make a difference in the world before they graduate. Our graduates either find full-time work in their area of specialty or go on to earn additional graduate degrees. All of our graduates find jobs after completing our program.

Master of Science students may choose to pursue a concentration in data science. The concentration strategically combines econometrics and machine-learning techniques to analyze and predict outcomes with Big Data. Students in Seattle are required to select this concentration.

Our master's program-specific learning courses also feature "tracks." Along with the core MS classes, these tracks help our students prepare for different career paths. The Department of Economics currently offers three tracks (https://cssh.northeastern.edu/economics/graduate/ma/):

- Policy
- Quantitative analysis
- Academic

The PhD program is small and focused, and we welcome applications from those with a bachelor's or master's degree who have had prior training in macroeconomic and microeconomic theory and possess strong quantitative skills. Students take coursework in industrial organization, competition policy, and regulatory and labor economics. Health economics or development economics are additional areas that may be integrated into the primary fields noted above.

Programs

Doctor of Philosophy (PhD)

- Economics (p. 1060)

Master of Science (MS)

- Economics (p. 1064)

Economics, PhD

The PhD program in economics offers specializations in ***industrial organization, competition policy, and regulatory economics*** and ***labor economics*.**

Timeline

The PhD program for each student has two phases: the coursework phase followed by the dissertation phase. The coursework phase consists of required coursework and field courses, as well as taking and passing the three qualifying examinations.

A student moves into the dissertation phase upon successful completion of required coursework and upon passing the qualifying examinations. In the dissertation phase the student must prepare a dissertation proposal and present and defend the dissertation proposal before the student's proposal review committee. A student who successfully defends the dissertation proposal achieves candidacy. At the end of the dissertation phase, the student must defend their completed dissertation.

Coursework

Students entering the doctoral program will take seven core classes (28 semester hours), two classes in each of two doctoral fields (16 semester hours), and one elective (4 semester hours), for a total program requirement of 48 semester hours.

Core courses are focused on developing an advanced theoretical and quantitative foundation (macroeconomic theory, microeconomic theory, and applied econometrics). The remainder of the coursework is focused on the sophisticated application of analytical tools in the chosen field of concentration.

PhD students are expected to take three classes per semester as necessary to meet the degree's coursework requirements in the minimum number of semesters.

Field Coursework and Grade Requirement

Students must take four field courses, and they are strongly encouraged to take as many field courses as possible. Students should plan to take the two labor and two industrial organization courses, even if they arrange to do a field in development or health economics. Students interested in customizing their fieldwork should consult the PhD Program Guidelines on the website.

To maintain satisfactory standing in the PhD program, students must earn a grade of B or higher in at least four field courses. Students who do not earn a B in at least four field courses will be offered one opportunity to meet the grade standard. Consult PhD Program Guidelines on the website for further details.

Examinations

THREE QUALIFYING EXAMINATIONS—MACROECONOMICS, MICROECONOMICS, AND ECONOMETRICS

Three qualifying examinations are required upon completion of Macroeconomics 2, Microeconomics 2, and Econometrics 2. Students must receive a minimum grade of B– in the associated theory class to sit for its exam. Students are given a maximum of two attempts to pass each exam to continue in the program. Failure to sit for an exam at the appropriate time without prior consent of the graduate program director will result in an automatic fail on that exam.

Proposal Review

Students must complete the proposal review within two years of finishing their coursework; however, the department expects that a doctoral candidate's **dissertation committee** will be formed and the dissertation proposal presented within one year of reaching degree candidacy, which is normally by the end of the student's third year.

A **dissertation proposal** states the question or hypothesis, reviews the relevant literature, and explains how the proposed work will contribute to that literature and general understanding. The proposal sets forth data sources, models, and econometric issues in sufficient detail so that any faculty member not in the field will be able to assess its merits. Normally, the proposal should not exceed 30 double-spaced pages. The proposal is first approved by the dissertation committee and then presented at an open seminar.

Consult PhD Program Guidelines on the website for further details.

Doctoral Degree Candidacy

Upon successful completion of the proposal review, the student becomes a degree candidate. Candidacy may make the student eligible for a higher stipend and is an essential step in making satisfactory progress. Degree candidacy must be achieved within two years of completion of required coursework.

DISSERTATION

Students must complete their dissertation defense within five years of finishing their coursework, and postponing the proposal review does not alter the total time that students may use to complete their PhD. Under extenuating circumstances, a student may request an extension of this time frame from the Graduate Office.

One month in advance of the prospective date of the defense, the completed dissertation that is to be defended must be circulated to the committee members. At that time, all members of the committee must sign off on their agreement that the dissertation is ready for defense. Each student will have a dissertation committee chaired by a faculty member with an appointment in the economics department and at least two other members.

Committees may have two cochairs. Committees should not have more than four members (except at interim stages if faculty are leaving the committee). Committees may include members outside the economics department, but at least two committee members must have an appointment in the economics department. The composition of the committee should be set before the proposal review and again, if changes occur, before the dissertation defense. Committee compositions must be approved by the graduate program director and department chair.

The dissertation defense normally takes place during the student's fifth year. Those who have not defended by the end of their fifth year must submit a status report and timetable for approval by their dissertation advisor and the PhD program director. Consult PhD Program Guidelines on the website for further details

WRITING THE DOCTORAL DISSERTATION

Writing the dissertation entails working with the principal advisor and other committee members until it is determined that a dissertation is complete and the candidate is ready to present and defend the work at an open seminar. Candidates must arrange a date and time for the defense at least three weeks in advance. Students must familiarize themselves with the Theses and Dissertations Formatting Guidelines (https://cssh.northeastern.edu/resources/theses-and-dissertations/). The guide provides links to formatting tips, sample introductory pages, sample approval record, and deadlines. In addition, a checklist is provided to ensure students have fulfilled the required steps in the commencement clearance process.

Milestones

Maintaining satisfactory academic progress during doctoral candidacy requires the following:

PHD ANNUAL STUDENT PROGRESS REVIEW

Each PhD student will have an annual review of their progress toward the degree. Receipt of financial support administered by the graduate school is contingent upon satisfactory academic progress toward the degree and satisfactory performance in assigned duties. See the CSSH General Regulations (p. 1041) for further details.

FIELD WORKSHOP PARTICIPATION

All PhD students registered for Doctoral Dissertation or Continuation who are in residence are expected to regularly attend a field seminar in industrial organization or labor. These seminars meet roughly every week, and their purpose is to assist students in choosing and evaluating dissertation topics as well as advancing and completing their dissertation. All doctoral candidates will be expected to present their research at various stages of writing their dissertation.

SEMINAR SERIES PARTICIPATION

All PhD students registered for Doctoral Dissertation or Continuation who are in residence are expected to regularly attend academic seminars by speakers invited to campus through the Department of Economics Seminar Series. Participation in these seminars is an important component of doctoral training and is intended to expose students to current research in their field while helping to develop and hone their own presentation skills.

PRACTICAL EXPERIENCE IN APPLIED ECONOMICS PROGRAM

Participation in at least one semester of the Practical Experience in Applied Economics program is required of all students who have reached doctoral candidacy. The program is offered in the spring semester every other year. In this program, a variety of prominent practitioners working in consulting and government agencies in the fields of industrial organization and labor will describe their practical experience applying economics to a variety of consulting and policy problems, including antitrust, regulation, labor market policy, education, and health policy. This is a participatory class that will require advanced reading and preparation of questions for the practitioners in addition to other assignments.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations—microeconomics, macroeconomics, and econometrics

Annual reviews

Dissertation committee

Dissertation proposal

Dissertation defense

Field workshops (and present following completion of coursework)

Economics Seminar Series and Job Talks

Practical Experience in Economics series

Core Requirements

Code	Title	Hours
Quantitative		
ECON 6105	Advanced Mathematics and Statistics for Economists	4
ECON 6140	Advanced Applied Econometrics	4

ECON 7740	Applied Econometrics 2	4
Theory		
ECON 6110	Advanced Microeconomic Theory	4
ECON 6120	Advanced Macroeconomic Theory	4
ECON 7710	Microeconomic Theory 2	4
ECON 7720	Macroeconomic Theory 2	4
Field		
To maintain satisfactory standing in the PhD program, students must earn a grade of B or higher in at least four field courses.		
Labor Economics Field		
ECON 7763	Labor Market Analysis	4
ECON 7764	Topics in Labor Economics	4
Industrial Organization Field		
ECON 7771	Framework of Industrial Organization	4
ECON 7772	Public Policy Toward Business	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following:		4
ECON 7200 to ECON 7299		
ECON 7976	Directed Study	

Dissertation

Code	Title	Hours
Proposal Stage		
ECON 9986	Research	
Dissertation Candidacy Stage		
ECON 9990	Dissertation Term 1	
ECON 9991	Dissertation Term 2	
Following completion of ECON 9990 and ECON 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
ECON 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Three qualifying examinations—microeconomics, macroeconomics, and econometrics|
PhD annual student progress review
Meet minimum 3.000 grade requirement in at least four field classes to attain doctoral degree candidacy
Dissertation committee
Dissertation proposal
Dissertation defense
Field workshop participation throughout program (and required following completion of coursework)
Economics Seminar Series participation throughout program

Core Requirements

Code	Title	Hours
Quantitative		
ECON 7740	Applied Econometrics 2	4
Theory		

ECON 7710	Microeconomic Theory 2	4
ECON 7720	Macroeconomic Theory 2	4
Field		
Labor Economics Field		
ECON 7763	Labor Market Analysis	4
ECON 7764	Topics in Labor Economics	4
Industrial Organization Field		
ECON 7771	Framework of Industrial Organization	4
ECON 7772	Public Policy Toward Business	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following:		4
ECON 7200 to ECON 7299		
ECON 7976	Directed Study	

Dissertation

Code	Title	Hours
Proposal		
ECON 9986	Research	
Dissertation		
Registration in the following class is required in the fall and spring semesters following achievement of doctoral candidacy:		
ECON 9990	Dissertation Term 1	
ECON 9991	Dissertation Term 2	
Following completion of ECON 9990 and ECON 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
ECON 9996	Dissertation Continuation	

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.500 GPA required

Economics, MS

The Master of Science program focuses on applied economic policy analysis, with broad specialization areas. The program is large enough to support a full slate of core and area courses each year, yet small enough to maintain a sense of community among the students. The program is especially appropriate for those who wish to work in or return to positions in government, teaching, finance, or industry while providing a rigorous basis for those who want to continue their studies to the doctoral level.

The Master of Science in Economics offers the opportunity for master's students to apply for paid work positions through Northeastern University's world-famous co-op program. Qualified and approved master's students can participate in co-op as practicing economists for up to six months as part of their academic program (note that a minimum GPA of 3.000 is required in order to apply). This paid work experience enhances the degree and its emphasis on application. Students have an opportunity to learn how to apply their knowledge, solve problems, and make a difference in the world before they graduate. Our graduates either find full-time work in their area of specialty or go on to earn additional graduate degrees. All of our graduates find jobs after completing our program. For more information, please visit the Master of Science in Economics (https://cssh.northeastern.edu/economics/program/ms-graduate-program/) website.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Quantitative		
ECON 5105	Math and Statistics for Economists	4
or ECON 6105	Advanced Mathematics and Statistics for Economists	
ECON 5140	Applied Econometrics	4
or ECON 6140	Advanced Applied Econometrics	
Theory		
ECON 5110	Microeconomic Theory	4
or ECON 6110	Advanced Microeconomic Theory	
ECON 5120	Macroeconomic Theory	4
or ECON 6120	Advanced Macroeconomic Theory	

Electives

With prior approval from the graduate program director, the following courses may substitute for electives: Thesis (ECON 7990) or Internship In Economics (ECON 8550). Additionally, a student may select a maximum of 8 graduate semester hours offered by other departments.

Code	Title	Hours
Complete 16 semester hours from the following range (excluding any class taken to fulfill core requirements above):		16
ECON 5200 to ECON 7772		

Concentration in Data Science for Economics

The concentration may be taken in place of the elective section. Seattle students are required to complete the concentration.

Code	Title	Hours
Required		
CS 5800	Algorithms	4
DS 5110	Introduction to Data Management and Processing	4
Complete 4 semester hours from the following courses:		4
DS 5220	Supervised Machine Learning and Learning Theory	
DS 5230	Unsupervised Machine Learning and Data Mining	
DS 5500	Data Science Capstone	
Economics Elective		
Complete 4 semester hours from the following range:		4
ECON 5200 to ECON 7772		

OPTIONAL CO-OP EXPERIENCE

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		
ECON 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

English

Website (https://cssh.northeastern.edu/english/experiential-academics/majors-minors-grad-programs/#Graduate)

Theo Davis, PhD
Professor and Chair
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617.373.2509 (fax)
gradenglish@northeastern.edu

CSSH Graduate Programs General Regulations (p. 1041)

The graduate program in English is grounded in the study of British and American literature through the most current modes of humanistic inquiry and in the disciplines of writing and rhetoric. Both in coursework and through the NULab for Texts, Maps, and Networks (https://web.northeastern.edu/nulab/), the graduate program in English also offers training in the digital humanities. Altogether, our degree programs provide a challenging, flexible, and wide-ranging education in English studies today.

Programs

Doctor of Philosophy (PhD)

- English (p. 1067)

Master of Arts (MA)

- English (p. 1070)

Graduate Certificate

- Digital Humanities (p. 1072)

English, PhD

The PhD program seeks to train students to be productive scholars and teachers in the fields of both literary studies and rhetoric and composition. In course work, students read and analyze the important texts, current issues, and critical methodologies of the discipline. Drawing on the breadth of this preparation, students demonstrate their ability to recognize and produce scholarly arguments in designing the three comprehensive field papers in areas of scholarly interest and competence corresponding to recognized and emerging fields of study. Finally, the dissertation offers students an opportunity to design a focused research project in consultation with a dissertation advisor. Throughout the program, faculty works closely with doctoral students to develop their scholarly and professional identities in preparation for careers.

Academic Standing/Progress

To be considered in good academic standing, PhD students must be making progress toward their degree requirements, including maintaining a 3.500 minimum cumulative grade-point average (GPA) and completing the comprehensive examination within one year of finishing coursework.

Doctoral Degree Candidacy

Students entering with a relevant BA must complete 48 semester hours; students entering with a relevant MA must complete 24 semester hours. All students must complete the language requirement, pass the comprehensive examination, and submit their approved prospectus within six months after completing the comprehensive examination to reach candidacy.

General Regulations

Program requirements are described in the CSSH Graduate Programs General Regulations (p. 1041) and the Graduate Program in English PhD Guide (https://cssh.northeastern.edu/english/resources/resources-for-current-grad-students/). Both documents are updated annually.

Program Requirements

Bachelor's Degree Entrance

Milestones

Annual progress review
Reading proficiency in two languages other than English
Comprehensive exam
Dissertation committee
Dissertation prospectus
Doctoral degree candidacy
Public prospectus/dissertation work-in-progress presentation
Dissertation defense

Core Requirements

Code	Title	Hours
Proseminar		
ENGL 5103	Proseminar	4
Theories and Methods		
Complete 4 semester hours from the following:		4
ENGL 7351	Topics in Literary Study	
ENGL 7358	Topics in Literature and other Disciplines	
ENGL 7370	Introduction to Digital Humanities	
ENGL 7380	Topics in Digital Humanities	
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7976	Directed Study (GCWS Consortium, selected topics only)	
Writing and Rhetoric		
Complete 4 semester hours from the following (if completing 12 semester hours of Literary Period requirements).		4-8
Complete 8 semester hours of the following (if completing 8 hours of Literary Period requirements).		
ENGL 7360	Topics in Rhetoric	
ENGL 7392	Writing and the Teaching of Writing	
ENGL 7395	Topics in Writing	
Literary Periods		
Complete 8 semester hours from TWO of the following Literary Periods (if completing 8 semester hours of Writing and Rhetoric requirements), or complete 12 semester hours from THREE of the following Literary Periods (if completing 4 semester hours of Writing and Rhetoric requirements):		
Literature Pre-1700		
ENGL 7281	Topics in Medieval Literature	

ENGL 7282	Topics in Renaissance Literature
Literature 1700–1900	
ENGL 7284	Topics in 18th-Century Literature
ENGL 7352	Topics in Genre
Literature Post-1900	
ENGL 7211	Topics in American Literature
ENGL 7244	African-American Novel

Electives

Code	Title	Hours
Complete 24 semester hours of ENGL courses, or non-ENGL courses through successful petition.		24

Dissertation

Code	Title	Hours
Exam Preparation		
ENGL 8960	Exam Preparation—Doctoral (Only needed for PhD students who have completed coursework but have yet to complete the comprehensive exams. Repeatable.)	
Research		
ENGL 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	
Dissertation		
ENGL 9990	Dissertation Term 1	
ENGL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of ENGL 9990 and ENGL 9991, registration in the following class is required in each fall and spring semester for all students and each summer semester for those within funding until the dissertation is completed (students outside of funding must also register in the summer semester if it is their terminal term):		
ENGL 9996	Dissertation Continuation	

Program Credit/GPA Requirements

48 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual progress review
Reading proficiency in two languages other than English
Comprehensive exam
Dissertation committee
Dissertation prospectus
Doctoral degree candidacy
Public prospectus/dissertation work-in-progress presentation
Dissertation defense

Core Requirements

Code	Title	Hours
Proseminar		
ENGL 5103	Proseminar	4

Electives

Code	Title	Hours
Complete 20 semester hours of ENGL courses.		20

Dissertation

Code	Title	Hours
Exam Preparation		
ENGL 8960	Exam Preparation—Doctoral (Only needed for PhD students who have completed coursework but have yet to complete the comprehensive exams. Repeatable.)	
Research		
ENGL 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	
Dissertation		
ENGL 9990	Dissertation Term 1	
ENGL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of ENGL 9990 and ENGL 9991, registration in the following class is required in each fall and spring semester for all students and each summer semester for those within funding until the dissertation is completed (students outside of funding must also register in the summer semester if it is their terminal term):		
ENGL 9996	Dissertation Continuation	

Program Credit/GPA Requirements

24 total semester hours required
Minimum 3.500 GPA required

English, MA

The Master of Arts degree launches students into the study of literature, writing, and rhetoric at the graduate level. The program offers one and a half to two years of intensive study in the major fields of British and American literature, covering the debates and approaches that animate the discipline of English. Our MA graduates are fully prepared to proceed to study at the doctoral level, and their training in critical thinking, language skills, and cultural history has also proven to be fruitful preparation for a range of careers outside of academia.

The master's program offers an optional cooperative education experience to eligible students. Co-op is central to both the Northeastern University experience and the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the co-curricular experiential integration course.

Academic Standing/Progress

To be considered in good academic standing, MA students must be making progress toward their degree requirements, including maintaining a 3.000 minimum cumulative grade-point average.

General Regulations

Program requirements are described in the CSSH Graduate Programs General Regulations (p. 1041) and the Graduate Program in English MA Guide (https://cssh.northeastern.edu/english/resources/resources-for-current-grad-students/). Both documents are updated annually.

Program Requirements

Milestones

Annual progress review
Reading proficiency in a language other than English

Core Requirements

Code	Title	Hours
Proseminar		
ENGL 5103	Proseminar	4
Theories and Methods		
Complete 4 semester hours from the following:		4
ENGL 7351	Topics in Literary Study	
ENGL 7358	Topics in Literature and other Disciplines	
ENGL 7370	Introduction to Digital Humanities	
ENGL 7380	Topics in Digital Humanities	
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7976	Directed Study (GCWS Consortium, selected topics only)	
Writing and Rhetoric		
Complete 4 semester hours from the following (if completing 12 semester hours of literary period requirements); or complete 8 semester hours from the following (if completing 8 semester hours of literary period requirements):		4-8
ENGL 7360	Topics in Rhetoric	
ENGL 7392	Writing and the Teaching of Writing	
ENGL 7395	Topics in Writing	
Literary Periods		
Complete 8 semester hours from two of the following literary periods (if completing 8 semester hours of writing and rhetoric requirements); or complete 12 semester hours from three of the following literary periods (if completing 4 semester hours of writing and rhetoric requirements):		8-12
Literature Pre-1700		
ENGL 7281	Topics in Medieval Literature	
ENGL 7282	Topics in Renaissance Literature	
Literature 1700–1900		
ENGL 7284	Topics in 18th-Century Literature	
ENGL 7352	Topics in Genre	
Literature Post-1900		
ENGL 7211	Topics in American Literature	
ENGL 7244	African-American Novel	

Electives

Code	Title	Hours
Complete 8 semester hours of ENGL courses, or non-ENGL courses with prior approval.		8
ENGL 5000-ENGL 7980		
ENGL 7990	Thesis (minimum 3.500 GPA required)	

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms		1-2
ENGL 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

Digital Humanities, Graduate Certificate

CSSH Graduate Programs General Regulations (p. 1041)

The Graduate Certificate in Digital Humanities allows students to pursue an organized course of study in digital humanities with the interdisciplinary faculty of the NULab for Texts, Maps, and Networks (https://cssh.northeastern.edu/nulab/). This certificate can be completed both by Northeastern University doctoral and master's students in the course of their existing program of study as well as those seeking a stand-alone certificate.

Digital humanities is an emerging field of research that is interdisciplinary in scope and collaborative in nature. The field is developing in relation to new digital technologies that have changed the objects of study, methods, and opportunities for research and teaching in existing humanities fields. Digitized texts are now read and accessed in new ways; digitized corpora of texts make possible new modes of quantitative and qualitative analysis (including "distant reading," text mining, mapping, and network analysis); born digital objects constitute new primary sources in need of humanistic theorization, approaches, and critical vocabularies; and modes of encoding, aggregating, and connecting texts enable the creation of new archival resources that are changing our understanding of the archive itself as well as revealing new historical, literary, and cultural patterns.

The field is new and developing rapidly. Many students are eager for training in this area—both because DH is at the cutting edge of disciplinary work and because it offers new opportunities for employment within the academy and outside of it.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Final Project

The student will complete a final independent DH research project located in the student's home program (such as a thesis, or a portion thereof) or participation in a collaborative DH project with substantial student participation. The final project will be overseen by the NULab faculty members teaching the NULab project seminar during its development; NULab workshop instructors will advise students on their projects and help students get guidance from other faculty as appropriate. Final projects will be submitted with three components: the project itself, a written project description of about 3,000 words, and a presentation to the NULab community. The DH certificate committee will formally approve all final projects.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Topics/Readings/Methods		
ENGL 7370	Introduction to Digital Humanities (Introduction to Digital Humanities)	4
or HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
Lab Project Seminar		
Complete the following (repeatable) course twice:		4
INSH 7910	NULab Project Seminar	

Elective

Code	Title	Hours
Complete 4 semester hours from the following:		4
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5150	Information Visualization Principles and Practices	
CS 6120	Natural Language Processing	
CS 7250	Information Visualization: Theory and Applications	
CS 7260	Visualization for Network Science	
CS 7290	Special Topics in Data Science	
ENGL 7380	Topics in Digital Humanities	
HIST 7219	Topics in Cultural History (selected topics only)	
HIST 7239	Space and Place	
HIST 7250	Topics in Public History (selected topics only)	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
INSH 5602	Documenting Fieldwork Narratives: Oral History, Ethnography, Archival Practices	

INSH 6406	Analyzing Complex Digitized Data
JRNL 6340	Fundamentals of Digital Journalism
JRNL 6341	Telling Your Story with Data
JRNL 6355	Seminar in Investigative Reporting
POLS 7334	Social Networks
PPUA 5263	Geographic Information Systems for Urban and Regional Policy

Program Credit/GPA Requirements

Minimum 12 total semester hours required
Minimum 3.000 GPA required

History

Website (https://cssh.northeastern.edu/history/)

Gretchen Heefner, PhD
Associate Professor and Chair

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CSSH Graduate Programs General Regulations (p. 1041)

Graduate work in history focuses on global and world history, which study the interactions among geographical regions and historical processes around the globe. Students at both the master's and doctoral levels concentrate their work on the history of regions or peoples in Africa, Asia, Europe, Latin America, or the United States, with attention to the intersections and connections between national, regional, and global developments. The Department of History also offers a master's degree with a concentration in public history that emphasizes the study of topics such as material culture, historical exhibits and museums, historical agencies, and archival administration. Recent doctoral students have been the recipients of major fellowships for conducting dissertation research abroad, including Fulbright, Fulbright-Hays, Social Science Research Council, and Chateaubriand fellowships.

Programs

Doctor of Philosophy (PhD)

- History (p. 1075)

Master of Arts (MA)

- History (p. 1078)

Graduate Certificate

- Public History (p. 1080)

History, PhD

The PhD program, with a focus on global, transnational, and comparative history, seeks to train research historians who plan to teach at the college and university level. Systematic training in theory and methodology and preparation for college teaching are distinctive features of the Northeastern program.

Academic Standing/Progress

Students are required to maintain an overall GPA of at least 3.500. In addition, the PhD annual review is based on a report by the student's advisor with attention to:

1. Success in setting up a doctoral committee
2. Passing the departmental language examination in the language of their field
3. Successful performance of teaching assistant duties
4. Successful completion of courses in the tiered system (i.e., the required course sequence)
5. Successful completion, where appropriate, of other required activities, including construction of the comprehensive examination list and the dissertation proposal and scheduling of comprehensive examinations

Doctoral Degree Candidacy

Students entering without an MA in history must complete 45 semester hours of coursework; pass the qualifying examination; and successfully defend a dissertation proposal by the end of the third year in the program. Students entering with an MA in history must complete 37 semester hours of coursework; pass the qualifying examination; and successfully defend a dissertation proposal by the end of the third year in the program. Upon completion of these requirements, students will be deemed PhD degree candidates by the college.

Program Requirements

Milestones

Qualifying examination
Annual review
Language
PhD candidacy
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
HIST 5102	Theory and Methodology 2	4
Digital History		
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	4
Readings or Directed Study		
Complete 20 semester hours in either Readings or Directed Study:		20
HIST 8982	Readings	
or HIST 7976	Directed Study	
Research Seminar		
HIST 7314	Research Seminar in World History	4
Practicum		
HIST 8409	Practicum in Teaching	1

Electives

Code	Title	Hours
Complete 8 semester hours from the following range:		8
HIST 7200 to HIST 7702		

Dissertation

Code	Title	Hours
Exam Preparation		
Only needed for PhD students who have completed all coursework but have not yet passed the comprehensive exam:		
HIST 8960	Exam Preparation—Doctoral	
Dissertation		
HIST 9990	Dissertation Term 1	
HIST 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of HIST 9990, registration in the following class is required in each semester (excluding summers) until the dissertation is completed:		
HIST 9996	Dissertation Continuation	

Program Credit/GPA Requirements

45 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Qualifying examination
Annual review
Language
PhD Candidacy
Dissertation committee
Dissertation proposal
Dissertation defense

Core Requirements

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
HIST 5102	Theory and Methodology 2	4
Digital History		
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	4
Readings or Directed Study		
Complete 12 semester hours of either Readings or Directed Study:		12
HIST 8982	Readings	
or HIST 7976	Directed Study	
Research Seminar		
HIST 7314	Research Seminar in World History	4
Practicum		
HIST 8409	Practicum in Teaching	1

Electives

Code	Title	Hours
Complete 8 semester hours from the following range:		8
HIST 7200 to HIST 7702		

Dissertation

Code	Title	Hours
Exam Preparation		
Only needed for PhD students who have completed all coursework but have yet to pass the comprehensive exam. Not repeatable.		
HIST 8960	Exam Preparation—Doctoral	

Dissertation	
HIST 9990	Dissertation Term 1
HIST 9991	Dissertation Term 2
Dissertation Continuation	
Following completion of two semesters of HIST 9990, registration in the following class is required in each semester (excluding summers) until the dissertation is completed:	
HIST 9996	Dissertation Continuation

Program Credit/GPA Requirements

37 total semester hours required
Minimum 3.500 GPA required

History, MA

CSSH Graduate Programs General Regulations (p. 1041)

The Master of Arts in History offers two concentrations: public history and world history.

Public history encompasses the practice of history outside the academy in museums, state and local historical societies, archives, the National Park Service, and more. Public history includes the study of such topics as material culture, historical exhibits and museums, historical agencies, archival administration, and how difficult issues including slavery and site of violence are presented to the public.

World history focuses on the history of regions or peoples in Africa, Europe, Latin America, Asia, or the United States, with attention to the intersections and connections between national, regional, and global developments.

The master's program offers an optional cooperative education experience ("co-op") to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences as practicing public historians. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Academic Standing/Progress

Students are expected to maintain a 3.000 grade-point average (GPA). Should the GPA drop below 3.000, the student will be placed on academic probation and allowed one more semester to bring their GPA to the 3.000 level. If the student is not able to meet this requirement by the end of the following semester, the student may be asked to leave the program.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

The Master of Arts in History offers two concentrations: world history (p. 1078) and public history (p. 1078). The program requires a concentration. Please consult with a Department of History graduate program director for additional details.

Concentration in World History

CORE REQUIREMENTS

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
HIST 5102	Theory and Methodology 2	4
Research Seminar		
HIST 7301 to HIST 7325		4

ELECTIVES

Code	Title	Hours
Complete 20 semester hours from the following:		20
HIST 5101 to HIST 5295		
HIST 7205 to HIST 7218		
HIST 7220 to HIST 7297		

Concentration in Public History

CORE REQUIREMENTS

Code	Title	Hours
Theory and Methodology		
A grade of B or higher is required:		
HIST 5101	Theory and Methodology 1	4
Public History		
HIST 5237	Issues and Methods in Public History	4
Digital History		
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	4
Fieldwork		
Complete the following (repeatable) course twice:		4
HIST 8410	Fieldwork in History 1	

Research Seminar	
Complete 4 semester hours from the following:	4
HIST 7301 to HIST 7325	
HIST 5000 to 5900	

ELECTIVES

Code	Title	Hours
Complete 12 semester hours from the following:		12
HIST 5238 to HIST 5248		
HIST 5295 to HIST 6966		
HIST 7201 to HIST 7297		

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration. Each of the following courses must be taken twice.		2
HIST 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

Public History, Graduate Certificate

The Graduate Certificate in Public History allows students to pursue an organized course of study in public history. Students have an opportunity to gain a knowledge of core methods and issues in the field of public history and are enabled to use public history approaches in their own research and work.

Public history is a well-established field of practice that marries academic research and methods to public applications and collaborations. Public historians typically work in museums, archives, historical societies, documentary film production, and social activism, though training in public history is useful to a wide variety of humanistic, social science, and legal fields.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Issues and Methods		
HIST 5237	Issues and Methods in Public History	4
Fieldwork		
Complete the following (repeatable) course twice:		4
HIST 8410	Fieldwork in History 1	

Elective

Code	Title	Hours
Complete one of the following:		4
HIST 5241	Exhibits and Museums	
HIST 7219	Topics in Cultural History	
HIST 7250	Topics in Public History (Sites of Violence and Public Memory)	
HIST 7250	Topics in Public History (Public History and Slavery)	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Political Science

Website (https://cssh.northeastern.edu/polisci/)

Costas Panagopoulos, PhD
Professor and Chair
c.panagopoulos@northeastern.edu (c.panagopoulos@northeastern.edu)

Program Directors and Staff Members (https://cssh.northeastern.edu/polisci/staff-and-department-leadership/)

CSSH Graduate Programs General Regulations (p. 1041)

Graduate training in political science prepares students to analyze important issues in world affairs and succeed in a wide array of careers—from government and academia to the nonprofit and private sectors. Graduate programs in political science, public policy, public administration, security and resilience studies, and international affairs at Northeastern University explore the theory and practice of politics, public policy, and public management in the United States and throughout the world. In teaching and research, faculty members in the department cover a broad range of topics and issues in the field of political science. Core areas of inquiry within our department include national and international security, international and U.S. public policy, resilience, network science, European studies, Middle East studies, and democratization and development.

Programs

Doctor of Philosophy (PhD)

- Political Science (p. 1082)

Master of Arts (MA)

- Political Science (p. 1085)

Master of Science (MS)

- Security and Resilience Studies (p. 1088)

Graduate Certificate

- Security and Resilience Studies (p. 1091)

Political Science, PhD

The Doctor of Philosophy in Political Science is grounded in the core fields of the discipline—American government and politics, comparative politics, international relations, and public policy. Students identify a primary and secondary field as areas of emphasis. The curriculum introduces students to the core fields and also seeks to develop their research skills through a series of methods courses. Students may develop a traditional, academic focus in one of the fields, or they may combine it with public policy to highlight a policy orientation. The program focuses on preparing students to be academic scholars and teachers as well as practitioners in research and public service. The PhD degree includes completion of required courses, passing a written and oral comprehensive examination, and the successful defense of the dissertation before a faculty committee.

Credit Requirements and Advanced Standing

Students entering with a bachelor's degree must complete 56 semester hours. Students currently in the MA or MPA program and accepted into the PhD program before completing the MA or MPA must complete 56 semester hours as well as all curriculum requirements of the PhD program.

Students entering with a master's degree may receive advanced standing for relevant prior coursework but must complete a minimum of 40 semester hours. Students entering with a Northeastern MA in political science or international affairs must complete a minimum of 24 semester hours while also satisfying all PhD course requirements. Master's-level coursework that results in advanced standing is evaluated by the graduate program director to determine its applicability to the PhD curriculum.

Doctoral Degree Candidacy

Doctoral degree candidacy is attained after successfully completing all coursework, the comprehensive examination, and the dissertation proposal defense.

Academic Standing/Progress

All doctoral students must maintain an overall cumulative grade-point average (GPA) of 3.500 while making progress toward the degree requirements. Students who fall below any applicable standard for two consecutive semesters are subject to dismissal from the graduate program. Additionally, receipt of financial support administered by the department, college, or university is contingent on satisfactory academic progress toward the degree and specific guidelines as published in the terms of award. Students who have ungraded courses or courses graded as incomplete risk no longer being eligible for financial aid awards.

Language Proficiency

Students who conduct research in a language other than English must demonstrate proficiency as necessary for completion of the dissertation. Language courses do not count as electives.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
Dissertation proposal oral defense
Language (as determined by committee)
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Seminars		
Complete 12 semester hours from the following (complete both field seminars in the two areas in which you wish to take the comprehensive exams):		12
POLS 7204	Seminar in Public Policy	
POLS 7205	Seminar in American Government and Politics	
POLS 7206	Seminar in Comparative Politics	
POLS 7207	Seminar in International Relations	
Inquiry and Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
INSH 6500	Statistical Analysis	4

INSH 7400	Quantitative Analysis	4
Advanced methods courses from other disciplines may be chosen in consultation with your faculty advisor.		

Electives

Courses from other disciplines may be chosen in consultation with your faculty advisor.

Code	Title	Hours
Complete 32 semester hours in the following:		32
POLS 7200 to POLS 7990		

Dissertation

Code	Title	Hours
Exam Preparation		
POLS 8960	Exam Preparation—Doctoral (Only required for PhD students who have completed coursework but have yet to complete the comprehensive exam. Required for students who must maintain full-time status while completing thesis or comprehensive exam.)	
Research		
POLS 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	
Dissertation		
POLS 9990	Dissertation Term 1	
POLS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of POLS 9990 and POLS 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in the summer) until the dissertation is completed:		
POLS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

56 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
Dissertation proposal oral defense
Language (as determined by committee)
PhD candidacy
Dissertation defense

Core Requirements

Consult the graduate program director regarding which major-required courses apply to your individual plan of study.

Code	Title	Hours
Seminar		
Complete 12 semester hours from the following: [1]		12
POLS 7204	Seminar in Public Policy	
POLS 7205	Seminar in American Government and Politics	
POLS 7206	Seminar in Comparative Politics	
POLS 7207	Seminar in International Relations	
Inquiry and Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
INSH 6500	Statistical Analysis	4

or INSH 7400	Quantitative Analysis	
INSH 7500	Advanced Quantitative Analysis	4
Advanced methods courses from other disciplines may be chosen in consultation with your faculty adviser.		

Electives

Code	Title	Hours
Complete 0-16 semester hours in the following. Courses from other disciplines may be chosen in consultation with your faculty adviser.		0-16
POLS 7200 to POLS 7990		

Dissertation

Code	Title	Hours
Exam Preparation		
POLS 8960	Exam Preparation—Doctoral (Only required for PhD students who have completed coursework but have yet to complete the comprehensive exam.)	0
Research		
POLS 9986	Research (To be completed during the proposal/prospectus phase prior to reaching candidacy.)	0
Dissertation		
POLS 9990	Dissertation Term 1	
POLS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of POLS 9990 and POLS 9991, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
POLS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

24-40 total semester hours required
Minimum 3.500 GPA required

[1] You must complete both field seminars in the two areas you wish to take the comprehensive exams in.

Political Science, MA

Graduate Studies in Political Science
617.373.4404
gradpolisci@northeastern.edu

CSSH Graduate Programs General Regulations (p. 1041)

The Master of Arts program focuses on the core scholarly areas of political science. Students specialize in one of five concentration areas: American government and politics, comparative government and politics, international relations, public policy, and security studies. Courses in the MA program serve as a foundation for work in a doctoral program or as preparation for careers in government, nonprofit organizations, or related work in the private sector.

To earn the Master of Arts in Political Science degree at Northeastern, you must successfully complete 32 semester hours (typically eight courses) of credit. Full-time students can expect to complete the degree within two academic years. Course work consists of 4 semester hours in a required statistics course, 12 semester hours within a chosen concentration, and 16 semester hours of electives (including the experiential education requirement). To see the full breakdown, click the Program Requirements tab above.

Academic Standing/Progress

Satisfactory progress in the MA program includes maintaining a grade-point average (GPA) of 3.000 overall as well as in the student's concentration area. A final cumulative GPA of at least 3.000 in all course work is required to qualify for the Master of Arts degree. Any course in which a student earns lower than a C grade cannot be used to fulfill concentration area requirements. A student who fails to make satisfactory progress is placed on academic probation, which is a warning that the student may not be allowed to continue in the graduate program unless the deficiency is addressed.

Experiential Learning Requirement

In addition to in-class course work, students are required to complete an experiential education component that advances their learning, research, and/or career objectives. Experiential education offers MA students a direct experience with focused reflection relevant to their academic studies. For students with research interests, the experience focuses on related activities, such as primary source analysis and data gathering. For other students, the experience involves engagement with areas of practice and policy, such as an internship. Students register for the relevant course with a minimum of 4 semester hours and maximum of 8 semester hours to satisfy the experiential education requirement.

An optional cooperative education experience (co-op) can also satisfy the experiential education requirement. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities Experiential Liberal Arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
Methods Course		
Complete 4 SH from the list below.		4
CS 6220	Data Mining Techniques	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	

Concentrations

- American Government and Politics (p. 1085)
- Comparative Politics (p. 1086)
- International Relations (p. 1086)
- Public Policy (p. 1086)
- Security Studies (p. 1087)

AMERICAN GOVERNMENT AND POLITICS CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7205	Seminar in American Government and Politics	4

American Government Courses		
Complete 8 semester hours from the following:		8
POLS 7341	Security and Resilience Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5240	Health Policy and Politics	
PPUA 5245	Education Policy in the United States	
PPUA 5270	Food Systems and Public Policy	
PPUA 6220	How Healthcare Works: Business and Policy Innovations	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6522	Administrative Ethics and Public Management	
PPUA 6551	Nonprofit Organizations and Social Change	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	

COMPARATIVE POLITICS CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7206	Seminar in Comparative Politics	4
Comparative Politics Courses		
Complete 8 semester hours from the following:		8
POLS 7325	Contemporary Issues in Third World Development	
POLS 7346	Resilient Cities	
or PPUA 7346	Resilient Cities	
POLS 7366	Genocide in a Comparative Perspective	
POLS 7376	Government and Politics of the Middle East	
PPUA 5240	Health Policy and Politics	
PPUA 5266	Urban Theory and Science	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	

INTERNATIONAL RELATIONS CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7207	Seminar in International Relations	4
International Relations Courses		
Complete 8 semester hours from the following:		8
POLS 7341	Security and Resilience Policy	
POLS 7343	Counterterrorism	
POLS 7344	Hard Power, Soft Power, and Smart Power	
POLS 7369	International Security	
POLS 7387	Global Governance	
POLS 7441	Cyberconflict	

PUBLIC POLICY CONCENTRATION

Code	Title	Hours
Seminar		
POLS 7204	Seminar in Public Policy	4
or PPUA 6506	Techniques of Policy Analysis	
Public Policy Courses		
Complete 8 semester hours from the following:		8
POLS 7341	Security and Resilience Policy	
PPUA 5240	Health Policy and Politics	
PPUA 5245	Education Policy in the United States	

PPUA 6500	Principles of Public Administration
PPUA 6506	Techniques of Policy Analysis
PPUA 6507	Institutional Leadership and the Public Manager
PPUA 6509	Techniques of Program Evaluation
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs

SECURITY STUDIES CONCENTRATION

Code	Title	Hours
Seminar		
Security Studies Courses		
POLS 7341	Security and Resilience Policy	4
Complete 8 semester hours from the following:		8
POLS 7207	Seminar in International Relations	
POLS 7343 to POLS 7346		
POLS 7366	Genocide in a Comparative Perspective	
POLS 7369	International Security	
POLS 7376	Government and Politics of the Middle East	
POLS 7387	Global Governance	

Electives

Code	Title	Hours
Complete 12 semester hours in the following range:		12
POLS 5408 to POLS 7976		

Experiential Learning Component [1]

Code	Title	Hours
Complete 4 semester hours from the following:		4
POLS 7980	Capstone Project	
POLS 7976	Directed Study	
POLS 7990	Thesis	
POLS 8407	Internship	

Optional Co-op Experience

Code	Title	Hours
Complete two consecutive semesters of Co-op Work Experience and Experiential Integration: Each of the following courses must be taken twice.		2
POLS 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours required (34 with optional co-op)
Minimum 3.000 GPA required

[1] Students who decide to fulfill the Experiential Learning Requirement with the optional Co-op, will enroll in one additional elective course and graduate with 34 semester hours instead of 32.

Security and Resilience Studies, MS

Overview

Security and resilience studies is an emerging field of inquiry that focuses on how global, national, and subnational actors manage a range of chronic transnational challenges—such as terrorism, organized crime, weapons proliferation, cyberattacks, bioterrorism, climate change and catastrophic disasters, migration, and radicalization—that can be destabilizing to societies. It explores how strategic doctrines, organization processes, bureaucratic behaviors, and security tools and tactics are adapting to these challenges by placing greater emphasis on resilience. Resilience is a concept rooted in multiple disciplines that is gaining widespread currency at the community, societal, and global levels given the prevalence of human-made and naturally occurring threats that do not lend themselves to preventive and protective measures. Strategies for dealing with these threats emphasize measures that mitigate, respond to, recover from, and adapt to risk in order to safeguard essential functions and societal values. Many of these measures involve the role of technologies, system design, and engineering as well as policy, regulatory, and governance issues. Students at Northeastern who enroll in the Master of Science in Security and Resilience Studies have an opportunity to become prepared to inform and support domestic and international efforts to deal with the major sources of turbulence in the 21st century.

The master's program offers an optional cooperative education experience (co-op) to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

To earn the Master of Science in Security and Resilience Studies degree at Northeastern, you must successfully complete 32 semester hours (34 semester hours with co-op). Full-time students can expect to complete the degree within one calendar year. This program can be completed either at Northeastern University's Boston campus or online. Cost per semester hour may vary based on the college that offers the course. See Tuition and Fees (p. 40) for more information.

Academic Standing/Progress

Satisfactory progress in the MS program includes maintaining a minimum grade-point average of 3.000.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Required Core Courses		
POLS 7341	Security and Resilience Policy [1]	4
Research Method		
INSH 6300	Research Methods in the Social Sciences	4
or INSH 6500	Statistical Analysis	
or PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
Core Elective Courses		
Complete 8 semester hours from the following:		8
CRIM 6200	Criminology [1]	
CY 5010	Foundations of Information Assurance [1]	
POLS 7343	Counterterrorism	
POLS 7346	Resilient Cities	
or PPUA 7346	Resilient Cities	
POLS 7369	International Security	
or POLS 5408	International Security	
POLS 7441	Cyberconflict	
PPUA 5390	Special Topics in Public Policy and Urban Affairs [1]	

Capstone

Code	Title	Hours
Choose one of the following options in consultation with faculty advisor and program director:		4
POLS 7980	Capstone Project [1]	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	

Electives

Electives are organized by themes to allow students to think thematically.

Code	Title	Hours
Complete 12 semester hours from any combination of the following elective themes:		12

- Administration, Management, and Policy (p. 1089)
- Counterterrorism and Conflict Studies (p. 1089)
- Criminal Justice (p.)
- Cybersecurity Policy (p. 1089)
- Resilient Cities (p. 1089)

ADMINISTRATION, MANAGEMENT, AND POLICY

Code	Title	Hours
CRIM 6202	The Criminal Justice Process	
POLS 7387	Global Governance	
POLS 7704	Critical Infrastructure Resilience [1]	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6503	Managing People in Public and Nonprofit Sectors [1]	
PPUA 6505	Public Budgeting and Financial Management [1]	
PPUA 6506	Techniques of Policy Analysis [1]	
PPUA 6507	Institutional Leadership and the Public Manager [1]	

COUNTERTERRORISM AND CONFLICT STUDIES

Code	Title	Hours
CRIM 5201	Global Criminology	
POLS 7343	Counterterrorism	
POLS 7344	Hard Power, Soft Power, and Smart Power	
POLS 7366	Genocide in a Comparative Perspective	
POLS 7369	International Security	
or POLS 5408	International Security	

CRIMINAL JUSTICE

Code	Title	Hours
CRIM 5201	Global Criminology	
CRIM 6200	Criminology [1]	
CRIM 6202	The Criminal Justice Process	
CRIM 6262	Evidence-Based Crime Policy	

CYBERSECURITY POLICY

Code	Title	Hours
CY 5001	Cyberspace Technology and Applications	
CY 5010	Foundations of Information Assurance	
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 5250	Decision Making for Critical Infrastructure	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
POLS 7441	Cyberconflict [1]	

RESILIENT CITIES

Code	Title	Hours
CRIM 6200	Criminology	
CRIM 6262	Evidence-Based Crime Policy	
CRIM 6270	Crime and Community Context	

LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7346	Resilient Cities
or PPUA 7346	Resilient Cities
POLS 7704	Critical Infrastructure Resilience [1]
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities [1]
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5266	Urban Theory and Science
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 7237	Advanced Spatial Analysis of Urban Systems

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms.		1-2
POLS 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

32 total semester hours (33-34 with optional co-op) required
Minimum 3.000 GPA required

[1] Occasional online offering

Security and Resilience Studies, Graduate Certificate

The goal of the Graduate Certificate in Security and Resilience Studies is to prepare students to manage contemporary transnational risks by offering them an opportunity to gain a comprehensive understanding of the principles and policies for security and resilience of critical systems. This goal is achieved by:

- Passing a core course in security and resilience policy that introduces students to a comprehensive approach to managing transnational risks
- Passing recommended foundation courses for cyberspace policy, security administration, and counterterrorism specializations that provide a broad perspective on transnational threats and the means states use to address them
- Learning how to work with others in groups and exercise leadership in teams by completing group assignments and projects

The certificate requires students to take three courses for a total of 12 semester hours. This program can be completed at Northeastern University's Boston campus or online.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
POLS 7341	Security and Resilience Policy	4

Electives

Code	Title	Hours
Complete 8 semester hours from the following:		8
CRIM 6200	Criminology	
POLS 7343	Counterterrorism	
POLS 7346	Resilient Cities	
POLS 7369	International Security	
or POLS 5408	International Security	
POLS 7441	Cyberconflict	
PPUA 5390	Special Topics in Public Policy and Urban Affairs	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

School of Public Policy and Urban Affairs

Website (https://cssh.northeastern.edu/policyschool/)

Maria Ivanova, PhD
Director, School of Public Policy and Urban Affairs
m.ivanova@northeastern.edu

310 Renaissance Park
617.373.8900
617.373.7905 (fax)
sppua@northeastern.edu

The School of Public Policy and Urban Affairs is nationally and internationally recognized for excellence and innovation in policy-oriented education, applied research, and engagement. Our mission is to educate professional master's and doctoral students who are sought after as policy analysts, program evaluators, and leaders of nonprofit, public, private sector, and academic institutions; to create and disseminate policy-relevant knowledge and analytical methods of value to policymakers and the public; and to serve the broader community through policy analysis and technical assistance.

The school is committed to excellence in research and education on pressing and emerging policy issues of the day—public health, climate change, environmental challenges, the court and justice systems, and creating sustainable and resilient cities that provide economic opportunity for their residents. We define our approach as locally informed and internationally relevant. Our hallmark is to engage students in building the world that they would like to live in through experiential learning opportunities and applied research.

Programs

Doctor of Philosophy (PhD)

- Public Policy (p. 1093)

Master of Arts (MA)

- International Affairs (p. 1098)

Master of Public Administration (MPA)

- Public Administration (p. 1100)

Master of Public Policy (MPP)

- Public Policy (p. 1103)

Master of Science (MS)

- Engineering and Public Policy (p. 387)
- Environmental Science and Policy (p. 985)
- Urban Informatics (p. 1111)
- Urban Planning and Policy (p. 163)

Dual Degree

- Law, JD / Public Policy, MPP (p. 781)

Graduate Certificates

- Nonprofit Sector, Philanthropy, and Social Change (p. 1120)
- Public Policy Analysis (p. 1121)
- Sustainability and Climate Change Policy (p. 1122)
- Urban Analytics
- Urban Studies (p. 1124)

Public Policy, PhD

Website (https://cssh.northeastern.edu/policyschool/)

CSSH Graduate Programs General Regulations (p. 1041)

The PhD in Public Policy is an interdisciplinary program that combines social science and legal theoretical perspectives with quantitative and qualitative research methodologies. The faculty in the School of Public Policy and Urban Affairs support students' research and dissertations in three broad areas of inquiry—urban and regional policy, sustainability and resilience, and health management and policy. Students work with faculty advisors to formulate a plan of study within their field of concentration by choosing from graduate programs offered in the School of Public Policy and Urban Affairs, the College of Social Sciences and Humanities, and in other colleges and schools at Northeastern University. Students study a common body of knowledge in core courses in policy theory, research methods, and statistics, followed by courses in each student's respective concentration. The school's research centers and faculty research projects provide opportunities for students to develop insight, experience, and synergies to help with their own research goals. The college and school offer a high level of support allowing all students to be devoted full time to their studies and research. The program is full time and in residence only.

Doctoral Degree Candidacy

Complete all required coursework with a minimum 3.500 grade-point average, pass the comprehensive examinations, and defend a dissertation proposal. Students entering without a JD or master's degree must complete 55 semester hours. Students entering with a JD or master's degree must complete 47 semester hours.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

A grade of B+ or higher is required in each course.

Code	Title	Hours
Seminar		
POLS 7204	Seminar in Public Policy	4
Complete the following two courses for a minimum of 4 semester hours total:		4
PPUA 7976	Directed Study	
PPUA 9984	Research	
Research and Statistical Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6302	Qualitative Methods	4
INSH 7400	Quantitative Analysis	4
Advanced Methods		
Complete one of the following (an additional concentration elective may be taken in lieu of the advanced methods elective):		4
INSH 7500	Advanced Quantitative Analysis	
or INSH 7600	Multilevel Theorizing and Analysis	

Experiential Research Residency

A PhD research residency or waiver is required.

Code	Title	Hours
PPUA 9980	Experiential PhD Research Residency	0

Concentrations

Complete one of the following concentrations:

- Health Policy and Management (p. 1094)
- Sustainability and Resilience (p. 1094)
- Urban and Regional Policy (p. 1095)

Exam and Dissertation

Code	Title	Hours
Exam Prep		
Only needed for PhD students who have completed all coursework but have not yet passed the comprehensive exam/proposal defense. Repeatable.		
PPUA 8960	Exam Preparation—Doctoral	
Dissertation		
PPUA 9990	Dissertation Term 1	
PPUA 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of dissertation (PPUA 9990 and PPUA 9991), registration in the following class is required in each semester (including summer if the dissertation is submitted in summer) until the dissertation is completed:		
PPUA 9996	Dissertation Continuation	

Program Credit/GPA Requirements

55 total semester hours required
Minimum 3.500 GPA required

HEALTH POLICY AND MANAGEMENT CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6220	How Healthcare Works: Business and Policy Innovations	4
Health Organization		
HRMG 6220	Health Organization Management	3
Business Elective		
Complete 3 semester hours from the following:		3
FINA 6220	Healthcare Finance	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	
Law Requirement		
LW 7335	Health Law	3
Electives		
Complete a minimum of 18 semester hours from the following:		18
ECON 7200	Topics in Applied Economics	
LPSC 7311	Strategizing Public Policy	
PPUA 5240	Health Policy and Politics	
PPUA 6509	Techniques of Program Evaluation	
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	
PHTH 6000–9999 (public health elective, by advisement)		

SUSTAINABILITY AND RESILIENCE CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6101	Environmental Science and Policy Seminar 1	4
Law Requirement		
LW 7329	Environmental Law	3
Electives		
Complete 24 semester hours from the following:		24
CIVE 7110	Critical Infrastructure Resilience	
LPSC 7311	Strategizing Public Policy	

LPSC 7312	Cities, Sustainability, and Climate Change
POLS 7341	Security and Resilience Policy
POLS 7704	Critical Infrastructure Resilience
PPUA 6509	Techniques of Program Evaluation
PPUA 7237	Advanced Spatial Analysis of Urban Systems
PPUA 7346	Resilient Cities
PPUA 7976	Directed Study
SOCL 7267	Environment, Health, and Society

URBAN AND REGIONAL POLICY CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 7521	Seminar in Urban Theory	4
Law Requirement		
Consult an advisor when selecting courses from the following:		3
LW 6000–9999		
Electives		
Complete 24 semester hours from the following:		24
ARCH 5210	Environmental Systems	
CRIM 6270	Crime and Community Context	
ECON 7240	Workshop in Applied Econometrics	
ECON 7250	International Economic Development	
ECON 7261	Urban Economic Development	
ECON 7266	Economics of Government	
ECON 7270	Economics of Law and Regulation	
ECON 7740	Applied Econometrics 2	
ECON 7763	Labor Market Analysis	
LPSC 7311	Strategizing Public Policy	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
PPUA 7976	Directed Study	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Comprehensive examination
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

A grade of B+ or higher is required in each course.

Code	Title	Hours
Seminar		
POLS 7204	Seminar in Public Policy	4
Complete the following two courses for a minimum of 4 semester hours total:		4
PPUA 7976	Directed Study	

PPUA 9984	Research	
Research and Statistical Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6302	Qualitative Methods	4
INSH 7400	Quantitative Analysis	4
Advanced Methods		
Complete one of the following (an additional concentration elective may be taken in lieu of the advanced methods elective):		4
INSH 7500	Advanced Quantitative Analysis	
or INSH 7600	Multilevel Theorizing and Analysis	

Experiential Research Residency

A PhD research residency or waiver is required.

Code	Title	Hours
PPUA 9980	Experiential PhD Research Residency	0

Concentrations

Complete one of the following concentrations:

- Health Policy and Management (p. 1094)
- Sustainability and Resilience (p. 1094)
- Urban and Regional Policy (p. 1095)

Exam and Dissertation

Code	Title	Hours
Exam Prep		
Only required for students who have completed PhD coursework but have yet to complete the comprehensive exam/proposal defense. Repeatable.		
PPUA 8960	Exam Preparation—Doctoral	
Dissertation		
PPUA 9990	Dissertation Term 1	
PPUA 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of PPUA 9990 and PPUA 9991, registration in the following class is required in each semester (including summer if the dissertation is submitted in summer) until the dissertation is completed:		
PPUA 9996	Dissertation Continuation	

Program Credit/GPA Requirements

47 total semester hours required
Minimum 3.500 GPA required

HEALTH POLICY AND MANAGEMENT CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6220	How Healthcare Works: Business and Policy Innovations	4
Health Organization		
HRMG 6220	Health Organization Management	3
Business Elective		
Complete 3 semester hours from the following:		3
FINA 6220	Healthcare Finance	
SCHM 6223	Managing Healthcare Supply Chain Operations	
STRT 6220	Strategic Management for Healthcare Organizations	
Law Requirement		
LW 7335	Health Law	3
Electives		
Complete a minimum of 10 semester hours from the following:		10

ECON 7200	Topics in Applied Economics
LPSC 7311	Strategizing Public Policy
PPUA 5240	Health Policy and Politics
PPUA 6509	Techniques of Program Evaluation
SOCL 7267	Environment, Health, and Society
SOCL 7287	Social Movements in Health
PHTH 6000 to PHTH 9999 (public health elective, by advisement)	

SUSTAINABILITY AND RESILIENCE CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 6101	Environmental Science and Policy Seminar 1	4
Law Requirement		
LW 7329	Environmental Law	3
Electives		
Complete 16 semester hours from the following:		16
CIVE 7110	Critical Infrastructure Resilience	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
POLS 7341	Security and Resilience Policy	
POLS 7704	Critical Infrastructure Resilience	
PPUA 6509	Techniques of Program Evaluation	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
PPUA 7346	Resilient Cities	
PPUA 7976	Directed Study	
SOCL 7267	Environment, Health, and Society	

URBAN AND REGIONAL POLICY CONCENTRATION

Code	Title	Hours
Seminar		
PPUA 7521	Seminar in Urban Theory	4
Law Requirement		
Consult an advisor when selecting courses from the following:		3
LW 6000 to LW 9999		
Electives		
Complete 16 semester hours from the following:		16
ARCH 5210	Environmental Systems	
CRIM 6270	Crime and Community Context	
ECON 7240	Workshop in Applied Econometrics	
ECON 7250	International Economic Development	
ECON 7261	Urban Economic Development	
ECON 7266	Economics of Government	
ECON 7270	Economics of Law and Regulation	
ECON 7740	Applied Econometrics 2	
ECON 7763	Labor Market Analysis	
LPSC 7311	Strategizing Public Policy	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	
PPUA 6509	Techniques of Program Evaluation	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
PPUA 7976	Directed Study	
SOCL 7221	Globalization, Development, and Social Justice	
SOCL 7227	Race and Ethnic Relations	

International Affairs, MA

School of Public Policy and Urban Affairs (https://cssh.northeastern.edu/policyschool/)

We live in an increasingly interconnected global environment where people, goods, ideas, and conflicts traverse borders with rising frequency. Leaders in the activist, policy, and academic spheres must learn not only how to critically analyze these phenomena but also to envisage harnessing their constructive potential. The Master of Arts in International Affairs is an interdisciplinary graduate program dedicated to preparing tomorrow's global citizens.

A holistic approach to enhancing our understanding of the world must span the limits of any one academic field and embrace cross-disciplinary analytical competencies. Spanning several social sciences and humanities, our courses are taught by leading scholars who research democratization, gender, globalization, ethnic conflict and cooperation, human rights and international law, international relations, social activism, social justice, and many other topics. Through its core courses, its two thematic emphases—globalization, development, and social justice and international public policy—as well as global, policy, and methodological electives, this graduate program allows students to pursue a variety of themes.

The master's program offers an optional cooperative education experience ("co-op") to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Please review the tuition and fee (p. 31) page as credit costs differ depending on the College in which the course is located.

Sustainability and Climate Change Policy Concentration

This graduate concentration is available to students in the Master of International Affairs (MIAF) program in the College of Social Sciences and Humanities. It is designed to enable MIAF students to develop deeper insights into the policy dimensions of these intertwined but conceptually distinct realms of inquiry and action, and in both domestic and international domains. The concentration is comprised of three courses.

CSSH Graduate Programs General Regulations (p. 1041)

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Political Economy		
Complete 8 semester hours from the following:		8
POLS 7387	Global Governance	
PPUA 5268	International Environmental Policy	
SOCL 7221	Globalization, Development, and Social Justice	
Social Science Methods		
Complete 4 semester hours from the following:		4
ECON 5110	Microeconomic Theory	
ECON 5120	Macroeconomic Theory	
ECON 7251	International Finance	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
INSH 6302	Qualitative Methods	
Public Policy		
Complete 4 semester hours from the following:		4
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6507	Institutional Leadership and the Public Manager	

PPUA 6509	Techniques of Program Evaluation
PPUA 6551	Nonprofit Organizations and Social Change

Concentration Option or Elective Option

SUSTAINABILITY AND CLIMATE CHANGE POLICY CONCENTRATION

Code	Title	Hours
Complete 12 semester hours from the following course list:		12
ENVR 6150	Food Security and Sustainability	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5100	Climate and Development	
PPUA 5231	Transportation Policy	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5249	Sustainable Urban Coastal Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	
PPUA 6101	Environmental Science and Policy Seminar 1	
Complete 8 semester hours of elective courses from the list below:		8

ELECTIVES OPTION

Selected in consultation with faculty advisor.

Code	Title	Hours
Complete 20 semester hours from the following list of courses:		20
INTL 7990	Thesis	
LPSC 5000 to LPSC 7999		
PPUA 5000 to PPUA 7999		
CRIM 5000 to CRIM 7999 (by advisement only)		
ECON 5000 to ECON 7999 (by advisement only)		
ENGL 5000 to ENGL 7999 (by advisement only)		
HIST 5000 to HIST 7999 (by advisement only)		
POLS 5000 to POLS 7999 (by advisement only)		
SOCL 5000 to SOCL 7999 (by advisement only)		

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration. Each of the following courses must be taken twice.		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

36 total semester hours required (38 with optional co-op)
Minimum 3.000 GPA required

Public Administration, MPA

Website (https://publicaffairs.northeastern.edu/master-of-public-administration/)

CSSH Graduate Programs General Regulations (https://www.northeastern.edu/cssh/graduate/current_students/)

The Master of Public Administration is the management and leadership degree for those seeking to serve the public good. The program seeks to equip its students with skills in policy analysis, program evaluation, research methods, and written and verbal communications.

Students have an opportunity to develop competencies in budgeting and human resources, organizational management and leadership, and the interplay between ethics and accountability in a diverse society.

Throughout the degree program, students gain career-oriented experience through internships, small group projects, and other interactions with professionals in the field. These experiences are designed to enable the Northeastern University MPA graduate to move into a wide array of public and nonprofit sector positions at the local, state, national, and international levels. The Northeastern MPA program is nationally accredited by NASPAA.

Mission Statement

The mission of the MPA program at Northeastern is to serve the needs of the public affairs community, including students, working professionals, faculty, and researchers, by providing a practice-oriented and research-based graduate educational experience. The faculty pledges the best instruction available in a set of courses designed to integrate theoretical foundations with practical skills. The MPA program is designed to prepare students to be effective in a dynamic and increasingly diverse professional environment. We also commit ourselves to assisting students in every possible way to secure internships, postgraduate employment, and overall career advancement. Students, in turn, are expected to meet high levels of academic excellence combined with ethical and professional integrity. Committed to the ideals of public service and advancing the public interest, we seek students who share the same enthusiasm.

The MPA program requires all students to pursue an internship experience and offers an optional cooperative education experience to eligible students. Co-op is central to both the Northeastern experience and to the experiential liberal arts framework of the College of Social Sciences and Humanities. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States.

Healthcare Management and Policy Concentration

This graduate concentration is available to students in the MPA program in the School of Public Policy and Urban Affairs. It is designed to enable students in the MPA program to develop a deeper understanding of the contemporary healthcare sector, including the intricacies of U.S. health policy, and competencies in healthcare management. The concentration is comprised of three courses, one from each of three focus areas, and an elective.

Please review the tuition and fees (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/) page as credit costs differ depending on the college that offers the course.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose cumulative GPA falls below 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

A cumulative 3.000 grade-point average is required for the core requirements.

Code	Title	Hours
Quantitative Techniques		
INSH 6500	Statistical Analysis	4
Analysis		
PPUA 6506	Techniques of Policy Analysis	4
PPUA 6502	Economic Analysis for Policy and Planning	4
Administration and Management		
PPUA 6500	Principles of Public Administration	4
PPUA 6505	Public Budgeting and Financial Management	4
PPUA 6507	Institutional Leadership and the Public Manager	4
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4

Internship Requirement

Code	Title	Hours
PPUA 6861	Internship	0

Concentration or Electives Option

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration.

- Healthcare Management and Policy Concentration (p. 1101)
- Electives Option (p. 1101)

Optional Co-op Experience

Code	Title	Hours
Both of the following courses must be taken during each co-op semester:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

40 total semester hours required (42 with optional co-op)
Minimum 3.000 GPA

HEALTHCARE MANAGEMENT AND POLICY CONCENTRATION

Code	Title	Hours
Health Management		
Complete one of the following:		3-4
HRMG 6220	Health Organization Management	
PPUA 6220	How Healthcare Works: Business and Policy Innovations	
STRT 6220	Strategic Management for Healthcare Organizations	
Health Policy		
Complete one of the following:		3-4
PHTH 5212	Public Health Administration and Policy	
PHTH 5234	Economic Perspectives on Health Policy	
PPUA 5240	Health Policy and Politics	
Electives		
Health Elective		
Complete one of the following:		3
PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
General Elective		
Complete an additional course from the health elective list above or one of the following:		2-3
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	

ELECTIVES OPTION

Code	Title	Hours
Complete 12 semester hours from the following:		12
LPSC 5000 to LPSC 7999		
PPUA 5000 to PPUA 7999		
CRIM 5000 to CRIM 7999 (by advisement only)		
ECON 5000 to ECON 7999 (by advisement only)		
ENGL 5000 to ENGL 7999 (by advisement only)		
HIST 5000 to HIST 7999 (by advisement only)		

POLS 5000 to POLS 7999 (by advisement only)

SOCL 5000 to SOCL 7999 (by advisement only)

Public Policy, MPP

School of Public Policy and Urban Affairs (https://cssh.northeastern.edu/policyschool/)

CSSH Graduate Programs General Regulations (p. 1041)

The Master of Public Policy is the recognized industry standard for those seeking careers in public policy analysis and design. The MPP degree emphasizes the analysis of data and other relevant information to enable graduates to assess public problems, develop appropriate policy responses, and evaluate program effectiveness. MPP graduates enter careers as policy analysts, researchers, consultants, program evaluators, and policymakers in a broad range of public and nonprofit settings, ranging from the local to the international, and in the private sector. At Northeastern, the MPP joins the nationally accredited Master of Public Administration as well as our Master of Science in Urban Planning and Policy, Master of Science in Urban Informatics, Master of Science in Environmental Science and Policy, and Master of Arts in International Affairs. As such, MPP students are part of a larger School of Public Policy and Urban Affairs community of great intellectual and policy area diversity.

The MPP programs require all students to engage in an internship experience and offer an optional cooperative education experience to eligible students. Cooperative education is central to both the Northeastern experience and to the experiential liberal arts framework of the College of Social Sciences and Humanities. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States.

Healthcare Management and Policy Concentration

This graduate concentration is available to students in the MPP program in the School of Public Policy and Urban Affairs. It is designed to enable students in the MPP program to develop a deeper understanding of the contemporary healthcare sector, including the intricacies of U.S. health policy, and competencies in healthcare management. The concentration is comprised of three courses, one from each of three focus areas, and an elective.

Sustainability and Climate Change Policy Concentration

This graduate concentration is available to students in the MPP program in the College of Social Sciences and Humanities. It is designed to enable MPP students to develop deeper insights into the policy dimensions of these intertwined but conceptually distinct realms of inquiry and action, in both domestic and international domains. The concentration is comprised of three courses.

Please review the tuition and fees (p. 40) page as credit costs differ depending on the college the course is located in.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Methods, Statistics, and Applications Core		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4
PPUA 6509	Techniques of Program Evaluation	4
or PPUA 6506	Techniques of Policy Analysis	
Policy Frameworks and Practice Core		
LPSC 7311	Strategizing Public Policy	4
PPUA 6502	Economic Analysis for Policy and Planning	4
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Methods and Statistics Elective		
Complete 4 semester hours from the following:		4
INSH 7400	Quantitative Analysis	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	

Internship Requirement

Code	Title	Hours
PPUA 6861	Internship	0

Concentration or Electives Options

A concentration is not required. Students may complete electives (from the elective list below) in lieu of a concentration.

- Healthcare Management and Policy Concentration (p. 1104)
- Sustainability and Climate Change Policy Concentration (p. 1104)
- Electives Option (p. 1105)

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

40 total semester hours required (42 with optional co-op)
Minimum 3.000 GPA required

HEALTHCARE MANAGEMENT AND POLICY CONCENTRATION

Code	Title	Hours
Health Management		
Complete one of the following:		3-4
HRMG 6220	Health Organization Management	
PPUA 6220	How Healthcare Works: Business and Policy Innovations	
STRT 6220	Strategic Management for Healthcare Organizations	
Health Policy		
Complete one of the following:		3-4
PHTH 5212	Public Health Administration and Policy	
PHTH 5234	Economic Perspectives on Health Policy	
PPUA 5240	Health Policy and Politics	
Electives		
Health Elective		
Complete one of the following:		3
PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5212	Public Health Administration and Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 6200	Principles and History of Urban Health	
PHTH 6204	Society, Behavior, and Health	
General Elective		
Complete an additional course from the health elective list above or one of the following:		2-3
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	

SUSTAINABILITY AND CLIMATE CHANGE POLICY CONCENTRATION

Code	Title	Hours
Complete 12 semester hours from the following:		12
ENVR 6150	Food Security and Sustainability	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5100	Climate and Development	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	

PPUA 5270	Food Systems and Public Policy
PPUA 6101	Environmental Science and Policy Seminar 1

ELECTIVES OPTION

Code	Title	Hours
Complete 12 semester hours from the following:		12
LPSC 5000 to LPSC 7999		
PPUA 5000 to PPUA 7999		
CRIM 5000 to CRIM 7999 (by advisement only)		
ECON 5000 to ECON 7999 (by advisement only)		
ENGL 5000 to ENGL 7999 (by advisement only)		
HIST 5000 to HIST 7999 (by advisement only)		
POLS 5000 to POLS 7999 (by advisement only)		
SOCL 5000 to SOCL 7999 (by advisement only)		

Engineering and Public Policy, MS

For program contact information, please visit the College of Engineering website (https://cee.northeastern.edu/academics/graduate-studies/ms-cepp/).

The purpose of this degree is to provide students with a background in engineering with the tools necessary to conduct robust policy analysis. It includes required core courses from the Department of Civil and Environmental Engineering and the School of Public Policy and Urban Affairs, complemented by electives in engineering and public policy, which can be met by two courses and a master's report (recommended), or by one course and a thesis, or by three courses. A minimum of 16 semester hours must be taken in the College of Engineering.

Degree Requirements	With Report	With Thesis	Coursework Only
Required core courses	20 SH	20 SH	20 SH
Other electives	8 SH	4 SH	12 SH
Master of Science report/thesis	4 SH	8 SH	
Minimum semester hours required	32 SH	32 SH	32 SH

Graduate Certificate Options

Students enrolled in a master's degree have the opportunity to also pursue one of the many engineering graduate certificate options in addition to or in combination with the MS degree. Students should consult their faculty advisor regarding these options (p. 567).

GORDON INSTITUTE OF ENGINEERING LEADERSHIP

Master's Degree in Engineering and Public Policy with Graduate Certificate in Engineering Leadership

Students may complete a Master of Science in Engineering and Public Policy in addition to earning a Graduate Certificate in Engineering Leadership (p. 551). Students must apply and be admitted to the Gordon Engineering Leadership Program in order to pursue this option. The program requires fulfillment of the 16 semester-hour curriculum required to earn the Graduate Certificate in Engineering Leadership, which includes an industry-based challenge project with multiple mentors. The integrated 36-semester-hour degree and certificate will require 20 hours of advisor-approved technical courses.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Sustainable Engineering and Systems Modeling Requirements

Code	Title	Hours
Complete 12 semester hours from the following:		12
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
or PPUA 5261	Dynamic Modeling for Environmental Decision Making	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 6566	Sustainable Urban Transportation: Netherlands	
CIVE 6777	Climate Hazards and Resilient Cities Abroad	
CIVE 6778	Climate Adaptation and Policy Abroad	
CIVE 7100	Time Series and Geospatial Data Sciences	
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7150	Data-Driven Decision Support for Civil and Environmental Engineering	
CIVE 7151	Urban Informatics and Processing	
CIVE 7155	Dynamics and Control of Infrastructure Systems	
CIVE 7272	Air Quality Management	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
IE 6200	Engineering Probability and Statistics	
IE 7280	Statistical Methods in Engineering	
ME 5645	Environmental Issues in Manufacturing and Product Use	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

Public Policy and Analysis Requirements

Code	Title	Hours
Complete 8 semester hours from the following:		8
ECON 7266	Economics of Government	
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 6500	Statistical Analysis	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5260	Ecological Economics	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Options

Complete one of the following options:

COURSEWORK OPTION

Code	Title	Hours
Complete 12 semester hours from the Elective Course List below.		12

REPORT OPTION

Code	Title	Hours
CIVE 8674	Master's Report	4
Complete 8 semester hours from the Elective Course List below.		8

THESIS OPTION

Code	Title	Hours
CIVE 7990	Thesis	8
Complete 4 semester hours from the Elective Course List below.		4

Elective Course List

Code	Title	Hours
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5670	Global Biogeochemistry	
CIVE 7230	Legal Aspects of Civil Engineering	
CIVE 7392	Special Topics in Environmental Engineering (Equity in Civil and Environmental Engineering)	
EMGT 6225	Economic Decision Making	
ENVR 5210	Environmental Planning	
ENVR 5260	Geographical Information Systems	
ENVR 6102	Environmental Science and Policy Seminar 2	
INSH 7400	Quantitative Analysis	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	

LPSC 7312	Cities, Sustainability, and Climate Change
PHTH 5214	Environmental Health
PHTH 5230	Global Health
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5268	International Environmental Policy
PPUA 5270	Food Systems and Public Policy
PPUA 6101	Environmental Science and Policy Seminar 1
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 7346	Resilient Cities

Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

Environmental Science and Policy, MS

The Master of Science in Environmental Science and Policy program emphasizes a broadly interdisciplinary and synthetic approach that integrates knowledge in the environmental sciences (conservation biology, climate change, fisheries science, ecosystem function, biodiversity, restoration ecology) with the social sciences (policy, economics, sociology, political science, and development) and humanities (environmental history, philosophy, and ethics). The goal of the program is to equip professionals with substantive breadth in knowledge and skills at the intersection of environmental science and policy. The program focuses on training students to think critically about the underlying causes of environmental problems and understanding the reciprocal relationships between coupled human-natural ecosystems and the interconnections between social and technological innovations. The program explores practical approaches and potential solutions that decision makers need to evaluate in policy debates related to promoting environmental sustainability.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Seminars		
PPUA 6101	Environmental Science and Policy Seminar 1	4
ENVR 6102	Environmental Science and Policy Seminar 2	4
Skills Courses		
Complete 2 courses from the following. At least one course needs to be taken from the College of Science Skills Course List and one course from the College of Social Sciences and Humanities Skills Course List.		8
College of Science Skills Course List		
EEMB 5130	Population Dynamics	
EEMB 5522	Experimental Design Marine Ecology	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5210	Environmental Planning	
ENVR 5240	Sedimentary Basin Analysis	
ENVR 5260	Geographical Information Systems	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 6500	Biostatistics	
College of Social Sciences and Humanities Skills Course List		
INSH 5301	Introduction to Computational Statistics	
INSH 6300	Research Methods in the Social Sciences	
INSH 7400	Quantitative Analysis	
LPSC 7311	Strategizing Public Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6505	Public Budgeting and Financial Management	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6525	Institutions and Public Policy	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Electives

Complete five courses from the following list. At least one course must be taken from the College of Science Elective Course List and one course from the College of Social Sciences and Humanities Elective Course List. Any skills course not taken to fulfill the skills courses requirement can be taken as an elective. Students may petition to enroll in other relevant graduate courses offered by other schools at Northeastern University.

COLLEGE OF SCIENCE ELECTIVE LIST

Code	Title	Hours
EEMB 5130 - EEMB 8984		
ENVR 5115 - ENVR 6900		

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES ELECTIVE LIST

Code	Title	Hours
INSH 5302	Information Design and Visual Analytics	
INTL 5100	Climate and Development	
LPSC 7311	Strategizing Public Policy	
LPSC 7312	Cities, Sustainability, and Climate Change	
PHTH 5214	Environmental Health	
PHTH 5230	Global Health	
PPUA 5100 - PPUA 7346		
SOCL 7267	Environment, Health, and Society	
SOCL 7287	Social Movements in Health	

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Urban Informatics, MS

The Master of Science in Urban Informatics (MSUI) degree couples comprehensive data analytics skills with an understanding of the big questions faced by cities in the 21st-century city. This cutting-edge program is built upon a unique cross-college initiative, which offers comprehensive state-of-the-art training in the core skills of data analytics—including quantitative analysis, data mining, machine learning, and data visualization. Urban informatics students supplement training in these foundational skills with a specialized sequence of courses that address how data and technology are being used to tackle key social, infrastructural, and environmental challenges.

By combining a theoretically informed perspective of cities with advanced skills in accessing, managing, analyzing, and communicating insights from large complex, datasets, graduates are a part of the next wave of urban professionals ready to lead in the public, private, and nonprofit sectors. Given the continuous growth in urban data and technology, these professionals are essential to shaping the future of urban areas around the globe.

This program provides a uniquely integrated urban and informatics degree with a substantial experiential education component. The focus throughout is on practical application, and students have multiple opportunities to apply what they are learning.

The master's program offers an optional cooperative education experience (co-op) to eligible students. Co-op education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

Please review the tuition and fee (p. 31) page as credit costs differ depending on the college in which the course resides.

Climate and Resilience Concentration

This graduate concentration is available to students in the MSUI who want to specialize in the policy challenges that arise from climate change and the methodological tools designed to respond to them, especially those that help us understand and instill resilience in communities that are vulnerable to disruption. The concentration is comprised of three courses: a methods and applications course specific to the concentration; an analysis course specific to the concentration; and the requirement to complete a capstone or practicum relevant to climate and resilience.

Communities and Economic Development Concentration

This graduate concentration is available to students in the MSUI who want to specialize in the policy challenges associated with neighborhoods and communities and the methodological tools for addressing them. This includes examining more closely how communities work and the types of interventions that can help them to thrive and prosper. The concentration is comprised of three courses: a methods and applications course specific to the concentration; an analysis course specific to the concentration; and the requirement to complete a capstone or practicum relevant to communities and economic development.

Transportation and Infrastructure Concentration

This graduate concentration is available to students in the MSUI who want to specialize in the policy challenges and methods associated with transportation and related infrastructure. This includes questions of policy and operations pertaining to traffic management and public transit and the skills for analyzing mobility decisions. The concentration is comprised of three courses: a methods and applications course specific to the concentration; an analysis course specific to the concentration; and the requirement to complete a capstone or practicum relevant to transportation or infrastructure.

CSSH Graduate Programs General Regulations (p. 1041)

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Data Science Courses		
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
or PPUA 7237	Advanced Spatial Analysis of Urban Systems	
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
Methods and Applications		
PPUA 5262	Big Data for Cities	4

Concentrations

- No concentration (p. 1112)
- Climate and Resilience (p. 1112)
- Communities and Economic Development (p. 1113)
- Transportation and Infrastructure (p. 1113)

NO CONCENTRATION

Code	Title	Hours
Methods and Applications		
PPUA 5266	Urban Theory and Science	4
Analysis		
Complete 4 semester hours from the following:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
INSH 6406	Analyzing Complex Digitized Data	
POLS 7334	Social Networks	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management (2 semester hours)	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing (2 semester hours)	
Practicum or Capstone		
PPUA 6966	Practicum	4
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

CLIMATE AND RESILIENCE CONCENTRATION

Code	Title	Hours
Methods and Applications		
Complete 4 semester hours from the following:		4
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5260	Ecological Economics	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
PPUA 6101	Environmental Science and Policy Seminar 1	
PPUA 7346	Resilient Cities	
Analysis		
Complete 4 semester hours from the following:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
INSH 6302	Qualitative Methods	
POLS 7334	Social Networks	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
CIVE 7000-level Special Topics in Engineering—approved by program director		
Practicum or Capstone		
Complete topic-focused capstone or practicum approved by program director:		4
PPUA 6966	Practicum	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

COMMUNITIES AND ECONOMIC DEVELOPMENT CONCENTRATION

Code	Title	Hours
Methods and Applications		
Complete 4 semester hours from the following:		4
CRIM 6270	Crime and Community Context	
IE 7374	Special Topics in Industrial Engineering (Sharing Economy Systems)	
PPUA 5230	Housing Policy	
PPUA 5235	Participatory Community Planning Methods	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5265	Global Urbanization and Planning	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	
Analysis		
Complete 4 semester hours from the following:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
INSH 6302	Qualitative Methods	
INSH 6406	Analyzing Complex Digitized Data	
POLS 7334	Social Networks	
PPUA 6509	Techniques of Program Evaluation	
Practicum or Capstone		
Complete topic-focused capstone or practicum approved by program director:		4
PPUA 6966	Practicum	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

TRANSPORTATION AND INFRASTRUCTURE CONCENTRATION

Code	Title	Hours
Methods and Applications		
Complete one of the following:		4
IE 7374	Special Topics in Industrial Engineering (Sharing Economy Systems)	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 7346	Resilient Cities	
Analysis		
Complete 4 semester hours from the following:		4
CIVE 7110	Critical Infrastructure Resilience	
CIVE 7380	Performance Models and Simulation of Transportation Networks	
CIVE 7381	Transportation Demand Forecasting and Model Estimation	
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
NETS 7350	Bayesian and Network Statistics	
CIVE 7000-level Special Topics in Engineering—approved by program director		
Practicum or Capstone		
Complete topic-focused capstone or practicum approved by program director:		4
PPUA 6966	Practicum	
or PPUA 7673	Capstone in Public Policy and Urban Affairs	
Portfolio		
PPUA 6410	Urban Informatics Portfolio	1

OPTIONAL CO-OP EXPERIENCE

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

33 total semester hours required (35 with optional co-op)

1114 Urban Informatics, MS

Minimum 3.000 GPA required

Urban Planning and Policy, MS

The Master of Science in Urban Planning and Policy program trains leaders interested in building just and sustainable solutions to today's critical urban problems. Students in the program develop the theoretical and analytical tools to understand contemporary challenges of social, racial, and environmental injustice in cities and urban regions. They develop professional tools to work effectively in the realms of planning, policy, politics, and advocacy to impact urban challenges, including affordable housing provision, equitable and sustainable economic growth, sustainable transportation, and climate change adaptation and mitigation. This innovative program combines the expertise in urban planning and policy analysis data analytics of the School of Public Policy and Urban Affairs with expertise in physical planning, design, and data visualization at the School of Architecture. The core curriculum of the program provides students with a solid foundation in essential skills and concepts, including techniques of effective community engagement, research design and statistics, economic analysis, legal foundations of urban planning and policy, and the history of urban development and urban planning. Students also have the opportunity to develop substantial expertise in a specialization area, including urban analytics, urban sustainability and resilience, urban design and physical planning, and urban development policy and planning.

The optional cooperative education experience (co-op) is available to eligible students. Cooperative education is central to both the Northeastern experience and to the College of Social Sciences and Humanities experiential liberal arts framework. Northeastern's signature co-op ecosystem provides qualified master's students with six-month work experiences in businesses, nonprofits, and government agencies in Boston and across the United States. Graduate students take their work from campus learning spaces, apply their knowledge outside of the classroom, and then bring knowledge and skills gained in community learning spaces back to our campus learning spaces during the cocurricular experiential integration course.

In addition to the co-op option, students in the program have opportunities to gain experience in the application of their knowledge and skills via internships, class projects, and a capstone research report. They graduate prepared for careers working for state and local government, federal agencies, community development corporations and other nonprofit organizations, research institutes, and as private-sector planning consultants.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Planning and Policy		
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	4
PPUA 6502	Economic Analysis for Policy and Planning	4
SUEN 6340	Topics in Urban Environmental Design	4
Research Design		
INSH 6300	Research Methods in the Social Sciences	4
Quantitative Techniques		
Students in the urban analytics focus area are encouraged to take INSH 5301.		
Choose one from the following:		4
INSH 5301	Introduction to Computational Statistics	
INSH 6500	Statistical Analysis	
Planning Law		
Choose one from the following:		2-4
LPSC 5201	Law and the City	
PPUA 5201	Urban Planning and the Law	
Planning and Social Justice		
Choose one from the following:		2-4
PPUA 5233	Contemporary Community Development	
PPUA 5235	Participatory Community Planning Methods	
PPUA 6219	Race, Justice, and Belonging in Planning Practice	

Focus Areas

Complete one of the following focus areas:

- Urban Design and Physical Planning (p. 164)
- Urban Analytics (p. 164)
- Sustainability and Resilience (p. 164)
- Urban Development Policy and Planning (p. 165)

URBAN DESIGN AND PHYSICAL PLANNING

Code	Title	Hours
Gateway Course		
ARCH 6340	Graduate Topics in Architecture	4
Tracks		
Complete one of the following tracks:		8
Urban Design and Real Estate		
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
Physical Planning and Design for Sustainable Urbanism		
SUEN 7230	Urban Ecologies and Technologies 1	
SUEN 7240	Urban Ecologies and Technologies 2	
Urban Experience Track		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 6310	Design for Behavior and Experience	
Capstone		
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	6

URBAN ANALYTICS

Code	Title	Hours
Gateway Course		
PPUA 5262	Big Data for Cities	4
Required Courses		
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	4
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4

SUSTAINABILITY AND RESILIENCE

Code	Title	Hours
Gateway Course		
LPSC 7312	Cities, Sustainability, and Climate Change	4
or SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	
Methods		
Complete one of the following:		4
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
SUEN 7230	Urban Ecologies and Technologies 1	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5231	Transportation Policy	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5238	Climate Change and Global Urbanization	
PPUA 5249	Sustainable Urban Coastal Policy	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6220	Implementation and Visualization for Urban Environments 2	
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory	

SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

URBAN DEVELOPMENT POLICY AND PLANNING

Code	Title	Hours
Gateway Course		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5233	Contemporary Community Development	
PPUA 5265	Global Urbanization and Planning	
Methods		
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4
or PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
Capstone		
PPUA 7673	Capstone in Public Policy and Urban Affairs	4
Elective		
Complete one of the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers	
PPUA 5265	Global Urbanization and Planning	
PPUA 5270	Food Systems and Public Policy	
PPUA 6506	Techniques of Policy Analysis	
PPUA 6551	Nonprofit Organizations and Social Change	
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites	
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems	
SUEN 6340	Topics in Urban Environmental Design	

Electives

Code	Title	Hours
Complete 4-8 semester hours of the following:		4-8
ARCH 5310	Design Tactics and Operations	
ARCH 5530	Innovative Models in Real Estate Development and Design	
ARCH 6100	Graduate Skills Studio	
ARCH 6330	Seminar in Modern Architecture	
ARCH 6340	Graduate Topics in Architecture	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5120	Research Methods for Design	
ARTG 5130	Visual Communication for Information Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 6330	Information Design Mapping Strategies	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5302	Information Design and Visual Analytics	
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5233	Contemporary Community Development	

PPUA 5234	Land Use and Urban Growth Policy
PPUA 5236	Introduction to Real Estate Development for Urban Policy Makers
PPUA 5238	Climate Change and Global Urbanization
PPUA 5239	Problems in Metropolitan Policymaking
PPUA 5244	Comparative Public Policy and Administration
PPUA 5245	Education Policy in the United States
PPUA 5249	Sustainable Urban Coastal Policy
PPUA 5260	Ecological Economics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
PPUA 5265	Global Urbanization and Planning
PPUA 5270	Food Systems and Public Policy
PPUA 6202	Research Toolkit for Python for Policy
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing
PPUA 6506	Techniques of Policy Analysis
PPUA 6551	Nonprofit Organizations and Social Change
PPUA 7237	Advanced Spatial Analysis of Urban Systems
SUEN 6110	Graduate Studio 1: Sustainable Urban Sites
SUEN 6120	Graduate Studio 2: Sustainable Urban Systems
SUEN 6210	Implementation and Visualization for Urban Environments 1
SUEN 6220	Implementation and Visualization for Urban Environments 2
SUEN 6310	Cities, Nature, and Design in Contemporary History and Theory
SUEN 6340	Topics in Urban Environmental Design
SUEN 7230	Urban Ecologies and Technologies 1
SUEN 7240	Urban Ecologies and Technologies 2
SUEN 7320	Pro-Seminar: Issues in Designed Urban Environments

Optional Co-op Experience

Code	Title	Hours
Requires two consecutive semesters of Co-op Work Experience and Experiential Integration:		2
PPUA 6964 and INSH 6864	Co-op Work Experience and Experiential Integration	

Program Credit/GPA Requirements

48 total semester hours required (50 with optional co-op)
Minimum 3.000 GPA required

Law, JD / Public Policy, MPP

The JD/Master of Public Policy (MPP) is designed to equip graduates with a unique blend of skills for navigating a complex and rapidly changing policy landscape. The program builds on students' legal training with a compelling blend of skills in applied public policy analysis, policy design, and strategic policy formation. Students also gain career-relevant experience through internships, small group capstone projects, and other interactions with professionals in the field. All are part of a learning process designed to enable the Northeastern law and public policy graduates to navigate, and to redefine, diverse policy areas.

Ideally, students would apply to Northeastern's JD and MPP programs simultaneously. Those who apply and are admitted to both programs take MPP classes after completing their first year in the School of Law. Applicants may also be considered after they have enrolled in the JD program; interested JD students should consult the School of Law's Office of Academic and Student Affairs and the School of Public Policy and Urban Affairs graduate program director for more information.

Students enrolled in this dual-degree program will be able to count 8 JD credit hours toward their MPP degree and 12 MPP credit hours toward their JD degree. Students should consult advisors in each program if they have questions about which courses may be shared between degrees.

All JD students, including FlexJD students, are ordinarily eligible to apply into dual degree pathways.

Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate

School of Public Policy and Urban Affairs

CSSH Graduate Programs General Regulations (p. 1041)

The Graduate Certificate in Nonprofit Sector, Philanthropy, and Social Change is a response to recent developments in social change theory, practice, and funding that are placing new demands and expectations on social change actors in the nonprofit, public, and private sectors, including nonprofit leaders, philanthropists, policymakers, and corporate social responsibility managers. These developments include the emergence of hybrid, cross-sector business models and new intermediary mechanisms for channeling the flow of capital into social change; new expectations and standards for performance measurement, transparency, and accountability; more sophisticated use of data and technology to support decision making, evaluation, and continual improvement; decreased public funding for traditional nonprofit activities; and the emergence of social media as a vehicle for mobilizing people and resources. The certificate enables social change professionals in all sectors to respond to these changes more effectively and will distinguish itself from other nonprofit certificate programs by focusing on the relationship between social program implementation and funding.

The certificate is a professionally oriented, application-based program for students seeking leadership positions in nonprofit organizations or in a public agency that deals extensively with nonprofits. The curriculum is designed to address the distinctive features and practices of the nonprofit sector and emphasizes management techniques helpful to nonprofit leaders.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose GPA falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
PPUA 6551	Nonprofit Organizations and Social Change	4
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following. Courses outside this list may be taken as electives with approval of the graduate program director.		4
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 6503	Managing People in Public and Nonprofit Sectors	
PPUA 6509	Techniques of Program Evaluation	
PPUA 6522	Administrative Ethics and Public Management	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Public Policy Analysis, Graduate Certificate

CSSH Graduate General Regulations (p. 1041)

The Graduate Certificate in Public Policy Analysis seeks to provide students with the tools to analyze and shape public policy at the local, state, and national levels. Students have an opportunity to gain an understanding of the political and legal processes of policymaking, develop skills central to conducting research on policy questions, and learn techniques for evaluating the effectiveness of competing policies.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Core Requirements

Students may not reuse required degree courses for the certificate.

Code	Title	Hours
Analysis Methods and Skills		
Complete 8 semester hours from the following:		8
INSH 5302	Information Design and Visual Analytics	
INSH 6300	Research Methods in the Social Sciences	
LPSC 7311	Strategizing Public Policy	
or PPUA 6506	Techniques of Policy Analysis	
PPUA 6502	Economic Analysis for Policy and Planning	
PPUA 5260	Ecological Economics	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6509	Techniques of Program Evaluation	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	
Policy		
Complete 4 semester hours from the following:		4
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5232	Immigration and Urban America	
PPUA 5234	Land Use and Urban Growth Policy	
PPUA 5240	Health Policy and Politics	
PPUA 5245	Education Policy in the United States	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5270	Food Systems and Public Policy	
PPUA 6525	Institutions and Public Policy	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sustainability and Climate Change Policy, Graduate Certificate

This graduate certificate, a collaboration between the School of Public Policy (SPPUA) and the School of Law (NUSL), is designed to prepare students for the dynamic, evolving landscape of climate and sustainability policy. Interest in the area of climate and sustainability policy is expanding rapidly among graduate students in multiple programs throughout Northeastern and among professionals who may be considering graduate coursework at Northeastern. This certificate provides students from multiple backgrounds an option for gaining interdisciplinary skills and perspectives in climate and sustainability policy. Given the growing need in every organization, including private sector, public sector, and nonprofits, for professionals with knowledge and training in how to respond to the rapidly changing policy and regulatory frameworks in climate and sustainability, this certificate is open to JD, master's and PhD students throughout the university. This certificate is also available to professionals who have not yet been admitted to one of Northeastern's graduate programs.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Policy		
Complete 8 semester hours from the following:		8
ENVR 5350	Sustainable Energy and Climate Solutions	
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5100	Climate and Development	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	
PPUA 6101	Environmental Science and Policy Seminar 1	
Law		
Complete 3 semester hours from the following: [1]		3
LAW 7329	Environmental Law	
or LW 7329	Environmental Law	
LAW 7634	Energy Law and Policy	
or LW 7634	Energy Law and Policy	
LAW 7666	Human Rights, the Environment, Development and Community Resilience	
or LW 7666	Human Rights, the Environment, Development and Community Resilience	
Practicum		
PPUA 6966	Practicum	1

[1] Students enrolled in NU colleges other than the School of Law should contact a School of Law advisor at lawstudentaffairs@northeastern.edu for guidance on registering for courses from the School of Law.

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Urban Analytics, Graduate Certificate

CSSH Graduate General Regulations (p. 1041)

With 75 percent of the world's population projected to be living in cities by 2050, the need for professionals in urban planning and related careers will only increase. The Graduate Certificate in Urban Analytics seeks to prepare students outside of the Master of Science in Urban Informatics program to manage the progressively complex issues involved with rapidly expanding data and technological resources in cities. As Claire Lane of the City of Boston recently noted, "The blueprints for great cities are increasingly anchored in big data, expressed in GIS [Geographic Information Systems] and codified in coherent policy." Successful graduates with an urban analytics certificate have skills in each of these areas, which prepares them to be professionals ready to shape the future of cities across the globe.

Students are trained with the practical and theoretical knowledge necessary to understand the intricacies of interconnected urban systems and to analyze how these systems work together to create sustainable, resilient, and just cities. The curriculum emphasizes the expertise needed to bridge emerging technological capacities and traditional policymaking processes. Students cultivate applied skills in visual presentation, analysis, and modeling of new data sets—all of which helps to inform investment and policymaking. Inspired by Northeastern's leadership in experiential education, students use Boston and cities around the world as learning labs.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
PPUA 5262	Big Data for Cities	4
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	4

Elective

Code	Title	Hours
Complete 4 semester hours from the following or another elective in consultation with your faculty advisor:		4
INSH 6101	Agent-Based Modeling for Applied and Social Sciences	
PPUA 5246	Participatory Modeling for Collaborative Decision Making	
PPUA 5261	Dynamic Modeling for Environmental Decision Making	
PPUA 5266	Urban Theory and Science	
PPUA 6202	Research Toolkit for Python for Policy	
PPUA 6203	Research Toolkit for Effective Communications for Policy Impact	
PPUA 6212	Research Toolkit for Urban and Regional Policy: Project Management	
PPUA 6216	Research Toolkit for Urban and Regional Policy: Grant Writing	
PPUA 7237	Advanced Spatial Analysis of Urban Systems	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Urban Studies, Graduate Certificate

CSSH Graduate Programs General Regulations (p. 1041)

The Graduate Certificate in Urban Studies provides a foundation in the fundamentals of urban planning and policy theory for students outside the Master of Science in Urban Planning and Policy degree. It also allows students to pursue course work in a range of areas of concentration, including housing and community development, urban environmental sustainability, economic development, international comparative urban policy, and transportation.

Academic Standing/Progress

Students in the program are monitored for academic progress. Those students whose grade-point average (GPA) falls below a 3.000 are notified by and meet with the director of academic programs. They are counseled that if their GPA does not rise to a 3.000 or higher, they run the risk of not graduating and are advised on strategies for improvement.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirement

Code	Title	Hours
Complete 4 semester hour course:		
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context	4

Focus Area Selective

Code	Title	Hours
Complete 4 semester hours from the following:		4
LPSC 7312	Cities, Sustainability, and Climate Change	
PPUA 5230	Housing Policy	
PPUA 5231	Transportation Policy	
PPUA 5233	Contemporary Community Development	
PPUA 5235	Participatory Community Planning Methods	
PPUA 5262	Big Data for Cities	
PPUA 5265	Global Urbanization and Planning	
SUEN 6340	Topics in Urban Environmental Design	

Elective

Code	Title	Hours
Complete 4 semester hours in the following range (selected by advisement):		4
PPUA 5000 to PPUA 7999		

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Sociology

Website (http://www.northeastern.edu/cssh/socant/)

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CSSH Graduate Programs General Regulations (p. 1041)

The Department of Sociology and Anthropology at Northeastern University is home to a distinguished graduate program offering a Doctor of Philosophy in Sociology. The primary objectives of our graduate program are to offer a strong curricular foundation in sociology and the social sciences; to inculcate in students a depth of knowledge in the basic tools of the discipline; to train our students to be outstanding teachers and researchers; and to provide professional socialization that adequately prepares students for a career in the discipline.

The PhD program boasts a wide array of curricular strengths and diverse methodological offerings, all of which draw upon the department's emphasis on the study of social inequalities along lines of race, class, and gender. Faculty expertise ranges widely from domestic U.S. concerns to issues that affect groups, regions, and societies on a global scale. We boast strengths in 11 different research foci (https://cssh.northeastern.edu/socant/research-foci/):

- Gender, sexuality, and intersectionality
- Political change and social movements
- Work, labor, and economic insecurity
- Global economy and culture
- Violence, conflict, and security
- Cities and urbanization
- Health and health equity
- Environment and environmental justice
- Racial identity, racism, and anti-racism
- Migration and immigrant communities
- Science and technology studies

The PhD program is designed to admit relatively small numbers of graduate students each year, which affords students the opportunity to forge close working relationships with the faculty. Our faculty and graduate students work together in a number of interdisciplinary research projects, programs, and centers, including the Social Science Environmental Health Research Institute (http://www.northeastern.edu/environmentalhealth/); the Brudnick Center on Violence and Conflict (http://www.northeastern.edu/brudnickcenter/); the Dukakis Center for Urban and Regional Policy (http://www.northeastern.edu/dukakiscenter/); and the Institute for Health Equity and Social Justice Research (http://www.northeastern.edu/iuhrp/). Many of the faculty in the Department of Sociology and Anthropology have additional interests and are affiliated with other departments on campus, including environmental studies; law and public policy; Latino, Latin American, and Caribbean studies; African American studies; international affairs; Jewish studies; and criminal justice. Students who wish to work with faculty in other disciplines are encouraged to enlist the aid of the sociology graduate director or their advisors in contacting individual faculty members.

Programs

Doctor of Philosophy

- Sociology (p. 1126)

Sociology, PhD

The Department of Sociology and Anthropology at Northeastern University is home to a distinguished graduate program offering a PhD in Sociology. The primary objectives of our graduate program are to offer a strong curricular foundation in sociology and the social sciences; to inculcate in students a depth of knowledge in the basic tools of the discipline; to train our students to be outstanding teachers and researchers; and to provide professional socialization that adequately prepares students for a career in the discipline.

The PhD program is designed to attract students who wish to develop a broad base of sociological knowledge, such as would equip students to embark on academic careers in leading institutions of higher education. The PhD program boasts a wide array of curricular strengths and diverse methodological offerings, all of which draw upon the department's emphasis on the study of social inequalities along lines of race, class, and gender. Faculty expertise ranges widely from domestic U.S. concerns to issues that affect groups, regions, and societies on a global scale.

The PhD program is designed to admit relatively small numbers of graduate students each year, which affords students the opportunity to forge close working relationships with the faculty. Our faculty and graduate students work together in a number of interdisciplinary research projects, programs, and centers, including the Social Science Environmental Health Research Institute (http://www.northeastern.edu/environmentalhealth/); the Brudnick Center on Violence and Conflict (http://www.northeastern.edu/brudnickcenter/); the Dukakis Center for Urban and Regional Policy (http://www.northeastern.edu/dukakiscenter/); and the Institute for Health Equity and Social Justice Research (http://www.northeastern.edu/iuhrp/). Many of the faculty in the Department of Sociology and Anthropology have additional interests and are affiliated with other departments on campus, including environmental studies; law and public policy; Latino, Latin American, and Caribbean studies; African American studies; international affairs; Jewish studies; and criminal justice. Students who wish to work with faculty in other disciplines are encouraged to enlist the aid of the sociology graduate director or their advisors in contacting individual faculty members.

Admissions

Students interested in the PhD apply directly to that program. Students admitted without a master's degree earn the Master of Arts in Sociology en route once PhD coursework is completed. Please note that all applicants for the doctoral program are required to submit a writing sample that should consist of written materials that demonstrate their capacity for scholarship at the doctoral level. (Copies of several course or term papers or a copy of a master's thesis or paper are appropriate.)

Coursework

Doctoral students are required to complete 60 standard credit hours (SH) with grades of B or higher if coming in with a bachelor's degree and 40 credit hours if coming in with a master's degree in sociology. Students admitted without a master's degree earn the MA in sociology en route to completing their PhD requirements (30 credits).

Required courses cover the core areas of sociological theory, research methods, and statistical analysis. All students must take courses in these areas regardless of their areas of specialization. Students must fulfill these requirements during their first year in the program. Students entering our program may be able to substitute courses taken at the prior institution for some or all of these requirements by submitting a course waiver form (a course waiver does not waive the associated semester hour requirement) or transfer of credit (courses submitted with a transfer of credit cannot have counted toward another degree).

FOUR PROSEMINARS

Proseminars provide students structure for their first two years in the PhD program to help ensure their professionalization into the discipline and to help them move more smoothly through program requirements.

Each course meets weekly for 60-minute sessions throughout each fall and spring semester for the student's first two years. Each 1-credit course will be taken on a pass/fail basis. In order to receive a passing grade, students must attend most proseminar class meetings, complete the requirements for the proseminar course in a satisfactory manner, and attend most intellectual and professional development events organized by the department. Proseminar 1 and 2 are completed in the first year; Proseminar 3 and 4 are completed in the second year.

POST COURSEWORK BUT PRIOR TO PROPOSAL DEFENSE

Students must complete two field statements prior to their proposal defense and will register for Exam Preparation—Doctoral (SOCL 8960) (with the field statement chair listed as instructor of record).

Once field statements are complete and students are working on their dissertation proposal, students should register for a Research course (with their committee chair listed as instructor of record) until the proposal is successfully defended.

DEGREE CANDIDACY

To enter into degree candidacy, the student must have earned a Master of Arts degree or its departmental semester-hour equivalent, completed the four proseminars, successfully defended two field statements, and defended their dissertation proposal.

Students who have completed required coursework with a cumulative GPA of 3.000 or better may be eligible to receive an MA in Sociology *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/*) degree. In addition, students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal* MA in Sociology *(*https://

catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/*) degree. Note that no students will be admitted directly into the* MA in Sociology *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/sociology/sociology-ma/*) to pursue a master's degree.*

Program Requirements

Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Two field statements
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Foundations		
SOCL 7200	Foundations of Social Theory 1	4
SOCL 7201	Foundations of Social Theory 2	4
Proseminars		
SOCL 7001	Proseminar 1: Acclimating to Graduate School	1
SOCL 7002	Proseminar 2: Academic Planning	1
SOCL 7003	Proseminar 3: Committee, Topics, and Reading Lists	1
SOCL 7004	Proseminar 4: Field Statement Writing	1
Research Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4
or INSH 5301	Introduction to Computational Statistics	
Advanced Methods		
Complete 8 semester hours from the following (courses taken after this requirement is fulfilled will be counted as electives):		8
INSH 5302	Information Design and Visual Analytics	
INSH 6302	Qualitative Methods	
INSH 6406	Analyzing Complex Digitized Data	
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	
INSH 7400	Quantitative Analysis	
INSH 7500	Advanced Quantitative Analysis	
INSH 7600	Multilevel Theorizing and Analysis	
PHTH 6320	Qualitative Methods in Health and Illness	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6509	Techniques of Program Evaluation	

Electives

Code	Title	Hours
Complete 32 semester hours from the following:		32
SOCL		
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	
CRIM 6270	Crime and Community Context	
CRIM 7264	Immigration and Crime	
ENGL 7370	Introduction to Digital Humanities	
HIST 7228	Atlantic Connections	
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	

POLS 7341	Security and Resilience Policy
POLS 7343	Counterterrorism
POLS 7346	Resilient Cities
POLS 7366	Genocide in a Comparative Perspective
POLS 7369	International Security
POLS 7387	Global Governance
PPUA 5100	Climate and Development
PPUA 5240	Health Policy and Politics
PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 6220	How Healthcare Works: Business and Policy Innovations
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs
PPUA 7346	Resilient Cities
PPUA 7521	Seminar in Urban Theory
SOCL 5240	Feminist Resistance
SOCL 7100	Queer Theory: Sexualities, Genders, Politics
or WMNS 7100	Queer Theory: Sexualities, Genders, Politics
SOCL 7221	Globalization, Development, and Social Justice
SOCL 7227	Race and Ethnic Relations
SOCL 7256	Contemporary Issues in Sociology
SOCL 7263	Social Psychology of Stratification
SOCL 7267	Environment, Health, and Society
SOCL 7270	Sociology of Work and Employment
SOCL 7273	Gender and Social Policy
SOCL 7287	Social Movements in Health
SOCL 7976	Directed Study
WMNS 6100	Theorizing Gender and Sexuality
WMNS 7100	Queer Theory: Sexualities, Genders, Politics
WMNS 7900	Special Topics in Women's, Gender, and Sexuality Studies

Dissertation

Code	Title	Hours
Exam Preparation		
Required for students who must maintain full-time status while completing comprehensive exam. Must take twice.		
SOCL 8960	Exam Preparation—Doctoral	
Research		
SOCL 8986	Research	
Dissertation		
SOCL 9990	Dissertation Term 1	
SOCL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of dissertation, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
SOCL 9996	Dissertation Continuation	

Progression Requirements

Students who receive two grades below B may be placed on academic probation and risk being separated from the program.

Program Credit/GPA Requirements

60 total semester hours required
Minimum 3.500 GPA required

Advanced Entry Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review

Two field statements
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
Foundations		
SOCL 7200	Foundations of Social Theory 1	4
SOCL 7201	Foundations of Social Theory 2	4
Proseminars		
SOCL 7001	Proseminar 1: Acclimating to Graduate School	1
SOCL 7002	Proseminar 2: Academic Planning	1
SOCL 7003	Proseminar 3: Committee, Topics, and Reading Lists	1
SOCL 7004	Proseminar 4: Field Statement Writing	1
Research Methods		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4
or INSH 5301	Introduction to Computational Statistics	
Advanced Methods		
Complete 8 semester hours from the following (courses taken after this requirement is fulfilled will be counted as electives):		8
INSH 5302	Information Design and Visual Analytics	
INSH 6302	Qualitative Methods	
INSH 6406	Analyzing Complex Digitized Data	
INSH 7300	Advanced Research Methods in the Social Sciences and Humanities	
INSH 7400	Quantitative Analysis	
INSH 7500	Advanced Quantitative Analysis	
INSH 7600	Multilevel Theorizing and Analysis	
PHTH 6320	Qualitative Methods in Health and Illness please note this course is only 3 credits	
PPUA 5262	Big Data for Cities	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 6509	Techniques of Program Evaluation	

Electives

Code	Title	Hours
Complete 12 semester hours from the following:		12
CRIM 6200	Criminology	
CRIM 6202	The Criminal Justice Process	
CRIM 6270	Crime and Community Context	
CRIM 7264	Immigration and Crime	
ENGL 7370	Introduction to Digital Humanities	
HIST 7228	Atlantic Connections	
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
POLS 7325	Contemporary Issues in Third World Development	
POLS 7334	Social Networks	
POLS 7341	Security and Resilience Policy	
POLS 7343	Counterterrorism	
POLS 7346	Resilient Cities	
POLS 7366	Genocide in a Comparative Perspective	
POLS 7369	International Security	
POLS 7387	Global Governance	
POLS 7441	Cyberconflict	
PPUA 5100	Climate and Development	
PPUA 5240	Health Policy and Politics	

PPUA 6201	The 21st-Century City: Urban Opportunities and Challenges in a Global Context
PPUA 6220	How Healthcare Works: Business and Policy Innovations
PPUA 6552	The Nonprofit Sector in Civil Society and Public Affairs
PPUA 7346	Resilient Cities
PPUA 7521	Seminar in Urban Theory
SOCL 5240	Feminist Resistance
SOCL 7100	Queer Theory: Sexualities, Genders, Politics
or WMNS 7100	Queer Theory: Sexualities, Genders, Politics
SOCL 7221	Globalization, Development, and Social Justice
SOCL 7227	Race and Ethnic Relations
SOCL 7256	Contemporary Issues in Sociology
SOCL 7263	Social Psychology of Stratification
SOCL 7267	Environment, Health, and Society
SOCL 7270	Sociology of Work and Employment
SOCL 7273	Gender and Social Policy
SOCL 7287	Social Movements in Health
SOCL 7976	Directed Study
WMNS 6100	Theorizing Gender and Sexuality
WMNS 7615	Feminist Inquiry
WMNS 7100	Queer Theory: Sexualities, Genders, Politics
WMNS 7900	Special Topics in Women's, Gender, and Sexuality Studies

Dissertation

Code	Title	Hours
Exam Preparation		
Students register for this course while writing each of their two field statements. Must take twice.		
SOCL 8960	Exam Preparation—Doctoral	
Research		
SOCL 8986	Research	
Dissertation		
SOCL 9990	Dissertation Term 1	
SOCL 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of two semesters of dissertation, registration in the following class is required in each semester (including the summer if the dissertation is submitted in summer) until the dissertation is completed:		
SOCL 9996	Dissertation Continuation	

Progression Requirements

Students who receive two grades below B may be placed on academic probation and risk being separated from the program.

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.500 GPA required

Interdisciplinary Programs

Doctor of Philosophy (PhD)

- Network Science (p. 273)

Master of Science (MS)

- Applied Quantitative Methods and Social Analysis

Graduate Certificate

- Computational Social Science (p. 1139)
- Data Analytics (p. 299)
- Information Ethics (p. 1141)
- Women's, Gender, and Sexuality Studies (p. 1142)

Network Science, PhD

Website (http://www.networkscienceinstitute.org)

The PhD program in network science aims to enhance our understanding of networks arising from the interplay of human behavior, sociotechnical infrastructures, information diffusion, and biological agents. This is an intrinsically multidisciplinary activity, with members of the network science community representing a wide range of fields including computer science, information science, complexity, physics, sociology, communication, organizational behavior, political science, and epidemiology. This is an interdisciplinary doctoral program focused on training students in network science across several colleges—including the College of Social Sciences and Humanities, the College of Science, the Khoury College of Computer Sciences, and Bouvé College of Health Sciences—with several research areas, including computational sciences, information sciences, health and life sciences, social sciences, and theoretical physics. See other collaborating colleges' catalog sections for possible elective courses.

Coursework is dependent on a student's area of research and subject to prior approval by their faculty advisor. Required coursework includes 20 semester hours of core courses in network science, plus an additional 20 semester hours of courses relevant to the students' area of research. A minimum of 40 credit hours of coursework is required, though the graduate program committee may recommend additional coursework based on student research interests.

Satisfactory progress in the program will be ongoing and formally evaluated at the end of both the first and second years of the program. Students are expected to maintain a cumulative GPA of 3.000 or better in all coursework. Students are not allowed to retake courses. A student who does not maintain the 3.000 GPA, or is not making satisfactory progress on their dissertation research, may be recommended for termination by the graduate program committee.

Each student will have one primary research advisor from the network science doctoral program faculty.

Students will be expected to select their research advisor by the end of the spring semester of their second year in the program.

The dissertation committee consists of at least four members: the dissertation advisor, one additional network science doctoral program faculty member, one member expert in the specific topic of research (can be from outside the university), and one additional tenured/tenure-track faculty member from the concentration department/conferring college. The dissertation advisor must be a full-time tenured or tenure-track member of the Northeastern University faculty. Students may repeat the comprehensive examination once if they are unsuccessful.

Degree Candidacy

A student is considered a PhD candidate upon completion of all required coursework with a minimum cumulative GPA of 3.000, satisfactory completion of the qualification exam, and satisfactory completion of the comprehensive exam.

Qualifying Examination

The qualification exam will be an oral examination of the material during the students' coursework. The exam will be an hour in length and consist of questions selected by network science faculty who comprise the qualifying examination and dissertation committee. Students will receive 50 to 80 potential questions, which they must be prepared to answer, one month before the exam. The exam will consist of a subset of these questions. The qualifying exam will be offered twice annually, in the fall and spring terms. All students are required to initially sit for the exam in the fall, typically in their third year of the PhD program. Students who do not pass the qualifying exam on their first attempt are expected to retake the exam in the spring term. Students may sit for the qualifying exam no more than twice.

Students who fail to complete the qualifying examination but who have completed all the PhD program's required coursework with a cumulative GPA of 3.000 or better will be awarded a terminal Master of Science in Network Science degree. Note that no students will be admitted directly into the network science program for receipt of a master's degree.

Comprehensive Examination

Students must submit a written dissertation proposal to the dissertation committee. The proposal (with the aid and approval of their dissertation advisor) will outline a plan to carry out new and original research. The proposal should identify relevant literature, the research problem, the research plan, and the potential impact on the field. An oral presentation of the proposal will be made in an open forum before a public audience and the dissertation committee, followed by questions from noncommittee members. The written proposal must be given to committee members at least two weeks prior to the oral presentation. After the presentation, the student will meet with the dissertation committee to address any concerns raised in either the written proposal or the presentation. The comprehensive exam must precede the final dissertation defense by at least one year.

Dissertation Defense

A PhD student must complete and defend a dissertation that involves original research in network science. The dissertation defense must adhere to Northeastern academic policies.

Students who do not qualify for the doctoral degree, but who have completed required coursework with a cumulative GPA of 3.000 or better, may be eligible to receive a terminal Master of Science in Network Science *(*https://catalog.northeastern.edu/graduate/social-sciences-humanities/interdisciplinary/network-science-ms/*). Note that no students will be admitted directly into the network science program to pursue a master's degree.*

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Milestones

Annual review
Qualifying exam
Dissertation committee
Dissertation proposal
PhD candidacy
Dissertation defense

Core Requirements

Code	Title	Hours
PHYS 5116	Network Science 1	4
NETS 6116	Network Science 2	4
PHYS 7332	Network Science Data 2	4
or NETS 7332	Machine Learning with Graphs	
PHYS 7335	Dynamical Processes in Complex Networks	4
POLS 7334	Social Networks (NETS)	4

Specializations

Choose one of the following specializations or 20 semester hours of elective coursework from the electives course list:

- Computer Science (p.)
- Epidemiology (p. 274)
- Math (p. 274)
- Physics/Theory (p. 274)
- Social Science (p.)
- Coursework (p.)

COMPUTER SCIENCE

Code	Title	Hours
CS 5800	Algorithms	4
CS 6140	Machine Learning	4
or CS 6220	Data Mining Techniques	
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

EPIDEMIOLOGY

Code	Title	Hours
PHTH 5202	Introduction to Epidemiology	3
PHTH 6202	Intermediate Epidemiology	3
Complete 14 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		14

MATH

Code	Title	Hours
CS 5800	Algorithms	4
MATH 7233	Graph Theory	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

PHYSICS/THEORY

Code	Title	Hours
MATH 7233	Graph Theory	4
PHYS 7321	Computational Physics	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

SOCIAL SCIENCE

Code	Title	Hours
NETS 7350	Bayesian and Network Statistics	4
NETS 7360	Research Design for Social Networks	4
Complete 12 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		12

COURSEWORK

Code	Title	Hours
Complete 20 semester hours of elective courses from the electives list below. Students who wish to take courses outside of the electives list below must do so in consultation with their advisor.		20

ELECTIVES LIST

Common electives include the following:

Code	Title	Hours
CS 5800	Algorithms	
CS 6120	Natural Language Processing	
CS 6140	Machine Learning	
CS 6220	Data Mining Techniques	
CS 7180	Special Topics in Artificial Intelligence	
CS 7260	Visualization for Network Science	
CS 7295	Special Topics in Data Visualization	
MATH 7233	Graph Theory	
MATH 7243	Machine Learning and Statistical Learning Theory 1	
NETS 7341	Network Economics	
NETS 7350	Bayesian and Network Statistics	
NETS 7976	Directed Study	
NETS 7983	Topics	
PHYS 7305	Statistical Physics	
PHYS 7321	Computational Physics	

Dissertation

Code	Title	Hours
Dissertation		
NETS 9990	Dissertation Term 1	
NETS 9991	Dissertation Term 2	
Dissertation Continuation		
Following completion of NETS 9990 and 9991, registration in the following class is required each semester until the dissertation is completed:		
NETS 9996	Dissertation Continuation	

Program Credit/GPA Requirements

40 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Year 1

Fall	Hours	Spring	Hours
PHYS 5116	4	PHYS 7332 or NETS 7332	4
POLS 7334	4	NETS 6116	4
	8		**8**

Year 2

Fall	Hours	Spring	Hours
PHYS 7335	4	Two elective courses	8
Two elective courses	8		
	12		**8**

Year 3

Fall	Hours	Spring	Hours
NETS 9990	0	NETS 9991	0
	0		**0**

Year 4

Fall	Hours
NETS 9996	0
	0

Total Hours: 36

Applied Quantitative Methods and Social Analysis, MS

The Master of Science in Applied Quantitative Methods and Social Analysis is an interdisciplinary, flexible, and innovative degree that focuses on quantitative research methods for social analysis strategies and techniques. The program integrates the interdisciplinary perspectives and methodological and analytical tools across the College of Social Sciences and Humanities. The program seeks to educate ambitious social scientists and analysts primed to deploy computational tools for social analysis and tackle social science questions of equity, hierarchy, social organization, and social systems. The 21st-century economy will increasingly demand a workforce capable of collecting, processing, analyzing, and interpreting large-scale data on human attributes, personal preferences, social attributes, and political behavior. In response, this program provides students with rigorous training in quantitative research and social science methods to address important questions of social inquiry. Emphasizing public dissemination of findings, the program prepares students to inform policymakers, decision makers in the private and public sectors, and the broader community. These skills prepare graduates to pursue analytical or research careers in corporations, nonprofits, and public services or to continue their education.

Students in this degree program will have the opportunity to gain advanced training in statistical analysis and research methodology aligned to key areas of strength in CSSH, including data analytics in the social sciences, computational social science, network analysis in the social sciences, statistical methods in the social sciences, information ethics for social analysis, geospatial analysis, and the digital humanities. Students will also have the opportunity to stack a range of graduate certificate programs into the master's degree.

The program will take advantage of various co-op opportunities—positions such as policy analysts, network scientists, econometricians, and crime analysts—that provide students a professional environment to integrate quantitative skills and social analysis. The learning opportunities in professional settings (private sector, government, or nonprofit sector) reinforce the development of advanced quantitative skills and their applied nature to contemporary social issues. Ultimately, the Master of Science in Applied Quantitative Methods and Social Analysis will position students to enter the labor force with the competitive advantage of these experiences and skills.

CSSH Graduate Programs General Regulations (p. 1041)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Core Requirements		
INSH 6300	Research Methods in the Social Sciences	4
INSH 6500	Statistical Analysis	4

Required Concentration

Complete one of the following concentrations:

- Computational Social Science (p. 1137)
- Data Analytics in the Social Sciences (p. 1137)
- Information Ethics for Social Analysis (p. 1137)
- Network Analysis in the Social Sciences (p. 1138)
- Statistical Methods in the Social Sciences (p. 1138)

ELECTIVES

Electives are selected in consultation with the program director. Concentration courses may not be double counted as elective courses.

Code	Title	Hours
Complete 12 semester hours from the following:		12
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
DA 5020	Collecting, Storing, and Retrieving Data	
DA 5030	Introduction to Data Mining/Machine Learning	
ECON 5140	Applied Econometrics	
HIST 7370	Texts, Maps, and Networks: Readings and Methods for Digital History	
INSH 5301	Introduction to Computational Statistics	
INSH 5302	Information Design and Visual Analytics	
INSH 5303	Machine Learning in the Social Sciences	
INSH 5304	Social Network Analysis	
or POLS 7334	Social Networks	
INSH 6302	Qualitative Methods	

INSH 6406	Analyzing Complex Digitized Data
INSH 7400	Quantitative Analysis
INSH 7500	Advanced Quantitative Analysis
NETS 7350	Bayesian and Network Statistics
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PHYS 5116	Network Science 1
PPUA 5260	Ecological Economics
PPUA 5261	Dynamic Modeling for Environmental Decision Making
PPUA 5262	Big Data for Cities
PPUA 5263	Geographic Information Systems for Urban and Regional Policy
PPUA 6506	Techniques of Policy Analysis
PPUA 6509	Techniques of Program Evaluation
PPUA 7237	Advanced Spatial Analysis of Urban Systems

Optional Co-op Experience

Code	Title	Hours
Four-month co-ops require registration at 1 SH for one term. Longer co-ops require registration at 1 SH per term for two consecutive terms.		1-2
INSH 6864	Experiential Integration	
INSH 6964	Co-op Work Experience	

Program Credit/GPA Requirements

32 total semester hours required (33-34 with optional co-op)
Minimum 3.000 GPA required

COMPUTATIONAL SOCIAL SCIENCE

Code	Title	Hours
Concentration Requirements		
INSH 5302	Information Design and Visual Analytics	4
or INSH 5304	Social Network Analysis	
or POLS 7334	Social Networks	
or PPUA 5262	Big Data for Cities	
or PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
INSH 5303	Machine Learning in the Social Sciences	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 6406	Analyzing Complex Digitized Data	4
or INSH 5301	Introduction to Computational Statistics	

DATA ANALYTICS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
DA 5020	Collecting, Storing, and Retrieving Data	4
or DA 5030	Introduction to Data Mining/Machine Learning	
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

INFORMATION ETHICS FOR SOCIAL ANALYSIS

Code	Title	Hours
Concentration Requirements		
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	

or PHIL 5010	AI Ethics	
PHIL 5005	Information Ethics	4

NETWORK ANALYSIS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4
INSH 5304	Social Network Analysis	4
or POLS 7334	Social Networks	

STATISTICAL METHODS IN THE SOCIAL SCIENCES

Code	Title	Hours
Concentration Requirements		
INSH 5301	Introduction to Computational Statistics	4
INSH 7400	Quantitative Analysis	4
INSH 7500	Advanced Quantitative Analysis	4

Computational Social Science, Graduate Certificate

The certificate highlights how big data, computational analysis, and related techniques can be used to shed light on theoretical and policy questions in the fields of public policy, public health, sociology, criminal justice, political science, economics, computer science, and network science. The certificate will contribute to students' understanding of:

- How to collect, analyze, and interpret insights culled from applying computational analyses to big data in social science domains
- The ways in which computational analysis can be used to develop policy and evaluate policy outcomes and results

The field is new and developing rapidly, and employers are eager to hire students trained in this area—both because computational social science is at the cutting edge of interdisciplinary work and because it offers new opportunities for research and analysis. This certificate leverages the real-world relevance of big data, source data, machine learning, and predictive analytics, which are dominant aspects of the contemporary workplace landscape. The certificate is available on the Boston campus and online modalities.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
INSH 5301	Introduction to Computational Statistics	4
or INSH 6406	Analyzing Complex Digitized Data	
INSH 5303	Machine Learning in the Social Sciences	4
or DA 5030	Introduction to Data Mining/Machine Learning	

Elective

Code	Title	Hours
Complete 4 SH from the following:		4
INSH 5302	Information Design and Visual Analytics	
POLS 7334	Social Networks	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 5262	Big Data for Cities	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Data Analytics, Graduate Certificate

The interdisciplinary Graduate Certificate in Data Analytics is offered through a collaboration between the Khoury College of Computer Sciences and the College of Social Sciences and Humanities. The certificate curriculum emphasizes the skills needed to bridge between emerging technological capacities and traditional policymaking processes. The program is designed to provide students with foundational knowledge in data science—including data management, machine learning, data mining, statistics, and visualizing and communicating data—that can be applied to data-driven decision making in any discipline.

For more information on the certificate, refer to the program's website (https://www.northeastern.edu/graduate/program/graduate-certificate-in-data-analytics-boston-14423/).

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
DA 5020	Collecting, Storing, and Retrieving Data	4
DA 5030	Introduction to Data Mining/Machine Learning	4
INSH 5301	Introduction to Computational Statistics	4
INSH 5302	Information Design and Visual Analytics	4

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Information Ethics, Graduate Certificate

The Graduate Certificate in Information Ethics is intended to help students build a working knowledge of the primary theories, frameworks, concepts, and issues in information ethics, as well as to help students develop robust skills in ethical analysis and evaluation.

Students who complete the certificate will be able to conduct comprehensive ethics and value analysis and assessment of emerging issues and problems related to such things as data collection, management, and use; design and implementation of artificial intelligence and machine learning; development and deployment of autonomous systems; and online, networked, and digital experiences and systems.

The certificate is open to students in any graduate program at Northeastern.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicted.

Note: At least two of the three courses taken to fulfill the certificate requirements must be PHIL courses.

Core Requirements

Code	Title	Hours
Complete two of the following:		8
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

Elective

Code	Title	Hours
Complete one of the following. The elective course must be different than the core courses:		4
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Women's, Gender, and Sexuality Studies, Graduate Certificate

Website (https://www.northeastern.edu/cssh/wgss/graduate/certificate/)

The Graduate Certificate in Women's, Gender, and Sexuality Studies (WGSS) is designed for students currently enrolled in a Northeastern University master's or doctoral program. The certificate aims to provide enhanced competency by:

- Analyzing contemporary feminist theoretical frameworks, methodologies, issues, and topics and their relation to established disciplines
- Focusing on the intersection of gender with sexuality, race, class, and other vectors of power and identity
- Broadening and enriching analytical skills in one or more disciplines while drawing on the interdisciplinary perspectives of WGSS
- Challenging the traditional separation of academic theory from political and professional practice

Prospective certificate students are advised initially to consult with the WGSS program director and the advisor in their home department to develop a plan for completing the certificate.

In addition to the College of Social Sciences and Humanities certificate, there is a specialized pathway for students enrolled in the Master of Public Health program (p. 650). These students are able to apply theories, concepts, and methods gained from the WGSS certificate to urban health issues. Students work closely with advisors in their home school and in WGSS to select a course of study to complete the certificate, including incorporating gender and sexuality studies into their MPH coursework as final projects/papers and naming a WGSS faculty member to their capstone committee, if using the capstone as an elective for the certificate. Students using the capstone toward their certificate must also enroll in a 1-credit directed study with the WGSS faculty who will sit on their committee. *Note:* Students pursuing the BS/MPH accelerated program and WGSS certificate should wait until they have *matriculated* into the MPH program to declare the certificate and to begin coursework toward the WGSS certificate.

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Foundational Requirement

Code	Title	Hours
All students, regardless of disciplinary background, must complete one of the following:		4
WMNS 6100	Theorizing Gender and Sexuality	
WMNS 7100	Queer Theory: Sexualities, Genders, Politics	
or SOCL 7100	Queer Theory: Sexualities, Genders, Politics	

General Option

Code	Title	Hours
Electives		
Complete two courses according to the instructions from the electives list (below the MPH option). At least one should come from outside the student's home department.		8

MPH Option

Code	Title	Hours
MPH students should plan to take one foundational required course from the list above and to focus final projects in core MPH courses on gender/sexuality in public health.		
Electives		
Complete 8 semester hours according to the instructions from the electives list. One course may be the capstone, if the topic selected focuses on gender and/or sexuality in connection to the selected urban health issue and the student enrolls in a 1-semester-hour directed study with the WGSS faculty member who will sit on the capstone committee.		8

Electives List

Code	Title	Hours
At least one course must come from outside the student's home discipline. Any foundational course not taken to complete the required foundational coursework may be taken as an elective but may not count as both the foundational requirement and an elective. Electives outside this list, particularly special topics courses not listed here, may be chosen in consultation with program director. Students may also consider courses at the Graduate Consortium for Studies of Gender, Culture, Women, and Sexuality (located at MIT). MPH students, in conversation with their advisors, may substitute PHTH 6910 for one elective.		
ECON 5292	Gender and Development Economics	
HIST 5240	Feminist Resistance	
PHTH 6910	Public Health Capstone (with 1-SH directed study)	
SOCL 5240	Feminist Resistance	
SOCL 7273	Gender and Social Policy	

SOCL 7287	Social Movements in Health
SOCL 7100	Queer Theory: Sexualities, Genders, Politics
WMNS 5240	Feminist Resistance
WMNS 6100	Theorizing Gender and Sexuality (if not taken as core course)
WMNS 7100	Queer Theory: Sexualities, Genders, Politics (if not taken as core course)
WMNS 7615	Feminist Inquiry (if not taken as core course)
WMNS 7900	Special Topics in Women's, Gender, and Sexuality Studies
WMNS 7976	Directed Study

Program Credit/GPA Requirements

12 total semester hours required
Minimum 3.000 GPA required

Mills College at Northeastern

Website (https://mills.northeastern.edu/)

Beth D. Kochly, PhD, Interim Dean of Mills College at Northeastern
Christie Chung, PhD, Associate Dean for Research, Scholarship, and Partnerships

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Mills College at Northeastern is a community of teachers, scholars, researchers, leaders, and changemakers rooted in the diverse Bay Area. Through our teaching and scholarship, we promote social and community accountability, diversity, equity and inclusion, and environmental sustainability. We prepare students to make an impact in the world by building on Oakland's roots in activism and leveraging our strengths in social justice, equity, meaningful partnerships, and academic excellence. We are committed to furthering the university's mission of diverse and inclusive experiential learning and research on our beautiful campus, the surrounding community, and beyond. The historic architecture and intimate facilities of our Oakland campus serve as incubators for scholars in a wide variety of disciplines. We strive to foster learning and well-being by building a curriculum, praxis, and research focus that are thoughtful, intentional, and of the highest quality. Our graduate and undergraduate programs will engage students in transformative, important conversations and provide a range of opportunities for personal and professional growth. This foundation prepares students to lead meaningful change in their chosen fields.

Gordon Institute of Engineering Leadership

Website (http://www.northeastern.edu/gordonleadership/)

Simon Pitts
Director and Head—Gordon Institute of Engineering Leadership

415 Stearns Center
617.373.4800
617.373.7680 (fax)

The Gordon Institute of Engineering Leadership offers a graduate certificate that pairs with over 20 master's programs in the College of Engineering, College of Science, and Khoury College of Computer Sciences. The Gordon program is a transformational graduate program designed to build a future corps of engineering leadership professionals. GIEL seeks to accelerate leadership development capability in an engineering context through a concentrated curriculum that inculcates both the psychological skills and capabilities needed to lead engineers in parallel with technical skills to successfully engineer products to customers and markets. The program teaches relevant leadership theory followed by practice in leadership laboratories. Technical product development and scientific principles courses are followed by the completion of a market-worthy challenge project. This learning framework is supplemented with three-way mentoring from industry, faculty, and program mentors. Graduates of the program, known as Gordon Fellows, have an opportunity to gain the knowledge, skills, and attitudes required to successfully lead engineering teams. They stand out from their peers in their ability to invent, innovate, and implement engineering projects from concept to market success. Participation in GIEL accelerates Gordon Fellows' careers, making them more valuable to their company.

The Challenge

When relatively unseasoned engineers run teams or projects, most fail to satisfy all of the project's critical requirements—missing the mark in functionality, performance, quality, time-to-market, cost, or other key objectives.

This shortfall exists because engineers enter the workforce without critical skills related to:

- Competitiveness
- Taking responsibility to prevent failure
- Market and customer focus
- Influencing and motivating skills
- Interdisciplinary decision making and teamwork capability
- Simultaneous optimization of all elements of performance, quality, cost, and timing
- Front-loading the engineering process
- Financial acumen
- Big-picture engineering
- Leadership abilities and organizational social awareness
- Enterprise understanding
- Program management tools and processes
- Designing to avoid failure modes
- Designing for lean manufacture

The Mission

GIEL's mission is to create an elite cadre of engineering leaders who stand out from their peers in their ability to invent, innovate, and implement engineering projects from concept to market success.

These leaders will demonstrate an exceptional ability to lead engineering teams by providing purpose, direction, and motivation to influence others to achieve their collective goals.

The Method

To close the gaps and realize its mission, GIEL concentrates on the knowledge, skills, and abilities that reside at the intersection of engineering and leadership.

At the end of the program, Gordon Fellows emerge with the awareness, confidence, vision, and technical dexterity to drive positive change within their organizations and society.

Admissions

GIEL candidates must apply for and be admitted to both the Northeastern University Graduate School of Engineering and the Gordon Institute of Engineering Leadership.

Students pursue GIEL as part of a Master of Science degree in the engineering discipline of their choice or as a stand-alone graduate certificate. Upon completion of a Master of Science degree, students earn both the Master of Science degree in the discipline of choice and a Graduate Certificate in Engineering Leadership. Students who already hold a graduate degree in engineering or have greater than three years of engineering work experience can complete the program to earn a Graduate Certificate in Engineering Leadership. The core GIEL curriculum takes place during one calendar year (September–July), and additional coursework required for the Master of Science degree can be pursued before, after, or in parallel with GIEL.

Programs

MS Degrees with Combined Gordon Leadership Certificate

- Engineering Leadership (p. 551)
- Technology Leadership (p. 1149)

Engineering Leadership, Graduate Certificate

The Gordon Engineering Leadership Program is a transformational, technical, and challenging graduate-level learning experience targeted for engineering professionals.

The Gordon Engineering Leadership Program directed by the Gordon Institute of Engineering Leadership offers a graduate certificate that pairs with over 20 master's degrees in the College of Engineering, College of Science, and Khoury College of Computer Sciences. The Gordon Program is a transformational graduate program designed to build a future corps of engineering leadership professionals.

Pursuing the graduate certificate allows participants to:

- Take part in a hands-on curriculum taught by industry-experienced professors
- Work with peers from across engineering fields on leadership skills development
- Receive one-on-one mentoring from industry experts and faculty

The Gordon Engineering Leadership Program anchors around an intense, market-worthy challenge project based on your organization's strategic needs. This is a unique opportunity to apply your classroom experience in a professional setting, potentially further accelerating your career.

How to Earn a Graduate Certificate in Engineering Leadership

If you already have a Master of Science, then you can complete the one-year program to earn a Graduate Certificate in Engineering Leadership.

If you do not have a Master of Science, then you can still be considered for the Graduate Certificate in Engineering Leadership if you have at least three years of engineering work experience.

Additional information can be found on the Gordon Engineering Leadership Program website. (http://www.northeastern.edu/gordonleadership/)

Beyond a Graduate Certificate

Most candidates pursue the Gordon Engineering Leadership Program as part of a Master of Science degree in the engineering discipline of their choice. Upon completion, they earn both a Master of Science degree and a Graduate Certificate in Engineering Leadership.

Students can enroll in the Engineering Leadership Graduate Certificate while pursuing the following degrees:

- MS Advanced and Intelligent Manufacturing (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/advanced-and-intelligent-manufacturing/)
- MS Biotechnology (http://www.northeastern.edu/gordonleadership/degree/ms-in-biotechnology/)
- MS Computer Science (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/computer-science/)
- MS Cybersecurity (https://provost.northeastern.edu/gordon/certificate-and-degree-options/khoury-college-of-computer-sciences/ms-in-information-assurance-and-cyber-security/)
- MS Data Analytics Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-data-analytics-engineering/)
- MS Engineering and Public Policy (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-and-public-policy/)
- MS Human Factors (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/human-factors/)
- MS Robotics (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/robotics/)
- MS Telecommunication Networks (http://www.northeastern.edu/gordonleadership/degree/ms-in-telecommunication-networks/)
- MSBioE Bioengineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-bioengineering/)
- MSChE Chemical Engineering (http://www.northeastern.edu/gordonleadership/degree/chemical-engineering/)
- MSCivE Civil Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-civil-engineering/)
- MSCSE Software Engineering Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-computer-systems-engineering/)
- MSECE Electrical and Computer Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering/)
- MSECEL Electrical and Computer Engineering Leadership (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-electrical-and-computer-engineering-leadership/)
- MSEM Engineering Management (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-engineering-management/)
- MSENE Energy Systems (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-energy-systems/)
- MSEnvE Environmental Engineering (http://www.northeastern.edu/gordonleadership/degree/ms-in-environmental-engineering/)

- MSIE Industrial Engineering (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-industrial-engineering/)
- MSIS Information Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-information-systems/)
- MSME Mechanical Engineering (select concentrations) (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-mechanical-engineering/)
- MSOR Operations Research (https://provost.northeastern.edu/gordon/certificate-and-degree-options/college-of-engineering/ms-in-operations-research/)
- MSSBS Sustainable Building Systems (http://www.northeastern.edu/gordonleadership/degree/ms-in-sustainable-building-systems/)

Program Requirements

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
ENLR 5121	Engineering Leadership 1	2
ENLR 5122	Engineering Leadership 2	2
ENLR 5131	Scientific Foundations of Engineering 1	2
ENLR 5132	Scientific Foundations of Engineering 2	2
Complete the following two courses based on the discipline of your master's program:		
ENLR 7440	Engineering Leadership Challenge Project 1	4
or EECE 7440	Electrical and Computer Engineering Leadership Challenge Project 1	
or ENSY 7440	Energy Systems Engineering Leadership Challenge Project 1	
or IE 7440	Industrial Engineering Leadership Challenge Project 1	
or ME 7440	Mechanical Engineering Leadership Challenge Project 1	
or TELR 7440	Technology Leadership Challenge Project 1	
ENLR 7442	Engineering Leadership Challenge Project 2	4
or EECE 7442	Electrical and Computer Engineering Leadership Challenge Project 2	
or ENSY 7442	Energy Systems Engineering Leadership Challenge Project 2	
or IE 7442	Industrial Engineering Leadership Challenge Project 2	
or ME 7442	Mechanical Engineering Leadership Challenge Project 2	
or TELR 7442	Technology Leadership Challenge Project 2	

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Technology Leadership, Graduate Certificate

The Graduate Certificate in Technology Leadership offered by the Gordon Institute of Engineering Leadership (GIEL) is a transformational graduate program designed to build a future corps of technology leadership professionals. GIEL seeks to accelerate leadership development capability in a technical context through a concentrated curriculum that inculcates both the psychological skills and capabilities needed to lead in parallel with technical skills to successfully release products to customers and markets. The program teaches relevant leadership theory followed by practice in leadership laboratories. Technical product development and scientific principles courses are followed by the completion of a market-worthy challenge project. This learning framework is supplemented with three-way mentoring from industry, faculty, and program mentors. Graduates of the program, known as Gordon Fellows, have an opportunity to gain the knowledge, skills, and attitudes required to successfully lead technical teams. They stand out from their peers in their ability to invent, innovate, and implement technology projects from concept to market success. Participation in GIEL accelerates Gordon Fellows' careers, making them more valuable to their company.

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This shortfall exists because professionals enter the workforce without critical skills related to:

- Competitiveness
- Taking responsibility to prevent failure
- Market and customer focus
- Influencing and motivating skills
- Interdisciplinary decision making and teamwork capability
- Simultaneous optimization of all elements of performance, quality, cost, and timing
- Front-loading the technology delivery process
- Financial acumen
- Big-picture engineering
- Leadership abilities and organizational social awareness
- Enterprise understanding
- Program management tools and processes
- Designing to avoid failure modes
- Designing for lean manufacture

The Mission

GIEL's mission is to create an elite cadre of technology leaders who stand out from their peers in their ability to invent, innovate, and implement technical projects from concept to market success.

These leaders will demonstrate an exceptional ability to lead teams by providing purpose, direction, and motivation to influence others to achieve their collective goals.

The Method

To close the gaps and realize its mission, GIEL concentrates on the knowledge, skills, and abilities that reside at the intersection of technology and leadership.

At the end of the program, Gordon Fellows emerge with the awareness, confidence, vision, and technical dexterity to drive positive change within their organizations and society.

Admissions

Candidates must apply for and be admitted to both a master's degree program at Northeastern and the Graduate Certificate in Technology Leadership.

Students pursue the Graduate Certificate in Technology Leadership as part of a master's degree or as a stand-alone graduate certificate. Upon completion of a Master of Science degree, students earn both the Master of Science degree in the discipline of choice and a Graduate Certificate in Technology Leadership. Students who already hold a graduate degree or have greater than three years' industry work experience can complete

the program to earn a stand-alone Graduate Certificate in Technology Leadership. The core GIEL curriculum takes place during one calendar year (September–July), and additional coursework required for the Master of Science degree can be pursued before, after, or in parallel with GIEL.

For more information contact Amy Manley, Director of Admissions and Marketing, (617) 373-4800 or a.manley@northeastern.edu.

Program Requirements

Code	Title	Hours
TELR 5121	Technology Leadership 1	2
TELR 5122	Technology Leadership 2	2
TELR 5131	Scientific Foundations of Technology 1	2
TELR 5132	Scientific Foundations of Technology 2	2
TELR 7440	Technology Leadership Challenge Project 1	4
TELR 7442	Technology Leadership Challenge Project 2	4

[1] The Scientific Foundations of Technology 1 (TELR 5131) and Scientific Foundations of Technology 2 (TELR 5132) requirements may be met by completion of Special Problems in Technology Leadership (TELR 7400) upon approval of program director.

Program Credit/GPA Requirements

16 total semester hours required
Minimum 3.000 GPA required

Additional Programs

- Postsecondary Teaching, Graduate Certificate (p. 1152)

Postsecondary Teaching, Graduate Certificate

The Certificate in Postsecondary Teaching prepares graduate students to be effective teachers and educators both inside and outside the classroom. It focuses on both didactic training in best practices and pedagogy around traditional teaching as well as online teaching. Finally, it is anchored by a teaching practicum where students put into practice what they have learned.

Program Requirements

Requirements

Code	Title	Hours
Required Courses		
INPR 5100	Foundations of Evidence-based Postsecondary Teaching	4
INPR 5110	Integrating Teaching Across Contexts	4
INPR 5120	Postsecondary Teaching Practicum	4

Program Credit/GPA Requirements

12 total semester hours required

Minimum 3.000 GPA required

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A

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B

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Margaret Bahn
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Jianqiu Bai
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Rekha Bai
Assistant Teaching Professor, Mathematics; University of Iowa, PhD

Ruobing Bai
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Y

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Alexander Zvonok
Assistant Research Professor, Center for Drug Discovery; Belarusian State University (Belarus), PhD

General Information

- Notifications and Disclosures (p. 1238)
- Governing Boards and Officers of Northeastern (p. 1240)
- University Leadership (p. 1242)
- Accreditation (p. 1243)
- Authorizations (p. 1247)
- Major CIP Codes (p. 1251)
- Resources (p. 1271)

Notifications and Disclosures

The *Northeastern University Catalog* contains the university's primary statements about approved academic programs and degree requirements, as authorized by the president or the Board of Trustees.

The *Northeastern University Catalog* contains current information about the university calendar, admissions, degree requirements, fees, and certain procedures and regulations; however, such information is not intended and should not be regarded to be contractual. Course information was current as of July 31, 2023. For updated course information, students and advisors should consult the Banner course catalog (https://nubanner.neu.edu/StudentRegistrationSsb/ssb/term/termSelection/?mode=courseSearch).

Accreditation

Please visit the Accreditation (https://catalog.northeastern.edu/archive/2023-2024/graduate/appendix/statements-accreditation/) page of this catalog for details of Northeastern University's accreditation status.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

In accordance with the Family Educational Rights and Privacy Act of 1974, Northeastern University permits its students to inspect their records wherever appropriate and to challenge specific parts of them when they feel it is necessary to do so. Specific details of the law as it applies to Northeastern are discussed in this section of the catalog (https://catalog.northeastern.edu/archive/2023-2024/graduate/academic-policies-procedures/ferpa/).

PERSISTENCE RATES UNDER THE STUDENT RIGHT-TO-KNOW ACT

In the fall of 2022, the persistence rate for undergraduate students who entered in the fall 2021 cohort was 97.2%.

TUITION DEFAULT POLICY

In cases where the student defaults on their tuition, the student shall be liable for the outstanding tuition and all reasonable associated collection costs incurred by the university, including attorneys' fees.

NONDISCRIMINATION POLICIES

Northeastern University is committed to providing a living, learning, and working environment free from discrimination and harassment and does not discriminate on the basis of race, color, religion, genetic information, sex, gender, gender identity, sexual orientation, age, national origin, ancestry, disability, or veteran status in admission to, access to, treatment in, or employment in its programs and activities. The university will not tolerate any conduct that violates rights guaranteed by law, or any of the university policies that prohibit discrimination, including the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), Policy on Sexual and Gender-Based Harassment and Title IX (https://policies.northeastern.edu/policy104/#_ga=2139912052678023693168597240 6-9222403871666097079), and the Policy on Non-Fraternization (https://www.northeastern.edu/policies/pdfs/Policy_on_Non-Fraternization.pdf). Furthermore, university policy also includes prohibitions of retaliation for filing complaints of discrimination with the Office for University Equity and Compliance. Links to the university's nondiscrimination policies and its grievance procedures are available at the OUEC (https://www.northeastern.edu/ouec/). Inquiries regarding the university's nondiscrimination policies may be directed to:

Office for University Equity and Compliance (https://www.northeastern.edu/ouec/)
125 Richards Hall
Northeastern University
Boston, Massachusetts 02115
617.373.4644
ouec@northeastern.edu

The university strongly encourages any person to report information relating to alleged discrimination or harassment to the OUEC (https://www.northeastern.edu/ouec/) by completing the form available here (https://cm.maxient.com/reportingform.php?NortheasternUniv&layout_id=7) or through any of the contact options listed above. OUEC's policies, as well as other helpful information, can be found at the OUEC website (https://www.northeastern.edu/ouec/).

DISABILITY RESOURCE CENTER

The Disability Resource Center provides a variety of disability-related services and accommodations to Northeastern University's students with disabilities.

Northeastern University's compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 are coordinated by the senior director of the Disability Resource Center. Persons requiring information regarding the Disability Resource Center should contact the center at 617.373.2675 or drc@northeastern.edu.

CLERY ACT

Northeastern University is committed to assisting all members of the university community in providing for their own safety and security. Information regarding campus security and personal safety, including topics such as crime prevention, university police law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures, is available in the Annual Security & Fire Safety Reports, located on the NUPD website (https://nupd.northeastern.edu/annual-reports/).

EMERGENCY INFORMATION

The university is prepared to respond to emergencies and urgent situations that require immediate action with a trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals from a coordinated group that is able to manage a wide range of potential situations.

In case of emergency or crisis situations that require immediate notification, university officials will deploy the NU Alert system, which sends email, voice mail, and text messages to students, faculty, and staff. NU Alert is intended to communicate pertinent information and, when appropriate, provide directions to those in the affected area(s).

A record of past Timely Warning and NU Alert Emergency Notifications for our campus community can be found on the NUPD website (https://nupd.northeastern.edu/safety-notifications/).

Examples of crisis situations range from snowstorms to national emergencies that have a local impact.

Additional information on the university's emergency information systems can be found on the university's Emergency Information (https://www.northeastern.edu/emergency-information/) website.

MISSION STATEMENT

To educate students for a life of fulfillment and accomplishment.
To create and translate knowledge to meet global and societal needs.

Governing Boards and Officers of Northeastern

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Accreditation

Northeastern University has maintained its status as a member in good standing of the New England Commission of Higher Education, Inc. (NECHE), previously New England Association of Schools and Colleges (NEASC), since it was awarded its initial accreditation in 1940. The university was last reviewed by NECHE in 2018 and will be reviewed again in fall 2028.

Northeastern University possesses degree-granting authority in Massachusetts, under the auspices of the Massachusetts Board of Higher Education.

BOUVÉ COLLEGE OF HEALTH SCIENCES

Program	Accrediting Agency
BA Public Health (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/public-health-ba/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BS Health Science (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/health-science-bs/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
MPH Public Health (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/public-health-mph/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[3]	North Carolina Board of Nursing (https://www.ncbon.com/)[3]
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Physician Assistant Studies (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/physician-assistant-studies-ms/)	Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) (http://www.arc-pa.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA) (https://caa.asha.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
CAGS Nursing (multiple concentrations) (https://nextcatalog.northeastern.edu/graduate/health-sciences/nursing/#programstext)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)[1]	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Council on Accreditation of Nurse Anesthesia Educational Programs (COA) (https://www.coacrna.org/)
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DNP Nursing Practice—Post-Master's (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-practice-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DPT Physical Therapy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/dpt-post-baccalaureate-entry/)	Commission on Accreditation in Physical Therapy Education (CAPTE) (https://www.capteonline.org/)
PharmD Pharmacy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/pharmacy/pharmd-direct-entry/)	Accreditation Council for Pharmacy Education (ACPE) (https://www.acpe-accredit.org/)
PhD Counseling Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/counseling-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

1 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.
2 The Massachusetts Board of Registration in Nursing approves (not accredits) programs.
3 The North Carolina Board of Nursing approves (not accredits) programs.

COLLEGE OF ARTS, MEDIA AND DESIGN

Program	Accrediting Agency
Master of Architecture (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/architecture/#text)	National Architectural Accreditation Board (NAAB) (https://www.naab.org/)

COLLEGE OF ENGINEERING

Program	Accrediting Agency
BSBioE Bioengineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/bioengineering/bioengineering-bsbioe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSChE Chemical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/chemical/chemical-engineering-bsche/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCE Civil Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/civil-engineering-bsce/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCmpE Computer Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/computer-engineering-bscompe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEE Electrical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/electrical-engineering-bsee/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEnvE Environmental Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/environmental-engineering-bsenve/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSIE Industrial Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsie/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

BSME Mechanical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsme/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

COLLEGE OF PROFESSIONAL STUDIES

Program	Accrediting Agency
BS Finance and Accounting Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/finance-accounting-management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BS Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BSET Computer Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Electrical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Mechanical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
MS Organizational Leadership (with concentration in Project Management) (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/organizational-leadership-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MS Project Management (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MSLD Sports Leadership (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/master-of-sports-leadership/)	Commission on Sport Management Accreditation (https://www.cosmaweb.org/)
Master of Arts in Teaching programs in: (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/teaching-secondary-licensure-mat/#text)	
Elementary Education, 1–6	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Sheltered English Immersion Administrator—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)
Sheltered English Immersion Teacher—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Biology, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Chemistry, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Earth and Space Science, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English as a Second Language (ESL), PreK–6, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of History, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Mathematics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Physics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Political Science/Political Philosophy, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

Teacher of Social Science, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Students with Moderate Disabilities, PreK–8, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

1 Accredited under the aegis of the "sponsoring" full-time college.
2 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.

COLLEGE OF SCIENCE

Program	Accrediting Agency
BS Biochemistry (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/science/biochemistry/biochemistry-bs/)	American Society for Biochemistry and Molecular Biology (ASBMB) (https://www.asbmb.org/)

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

Program	Accrediting Agency
BS American Sign Language—English Interpreting (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/social-sciences-humanities/cultures-societies-global-studies/american-sign-language-english-interpreting-bs/)	Commission on Collegiate Interpreter Education (http://www.ccie-accreditation.org/)
MPA Public Administration (https://catalog.northeastern.edu/archive/2023-2024/graduate/social-sciences-humanities/public-policy-urban-affairs/public-administration-mpa/)	Network of Schools of Public Policy, Affairs, and Administration (https://www.naspaa.org/)

D'AMORE-MCKIM SCHOOL OF BUSINESS

Program	Accrediting Agency
All programs offered in 2023–24	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)

SCHOOL OF LAW

Program	Accrediting Agency
JD Law (https://catalog.northeastern.edu/archive/2023-2024/graduate/law/law-jd/)	American Bar Association; Association of American Law Schools[1]

1 The Association of American Law Schools is an elected membership organization, not an accrediting body.

Authorizations

Campus Locations and Regulatory Agencies

In addition to accreditation by the New England Commission of Higher Education, Northeastern University is regulated by local authorities for its global campus network locations. These agencies are as follows:

- Arlington, Virginia
  - State Council of Higher Education for Virginia
- Charlotte, North Carolina
  - Board of Governors of the University of North Carolina
- Miami, Florida
  - Florida Commission for Independent Education
- Portland, Maine
  - Maine State Board of Education
- Oakland, California
  - Bureau for Private Postsecondary Education
- San Francisco, California
  - Bureau for Private Postsecondary Education
- San Jose, California
  - Bureau for Private Postsecondary Education
- Seattle, Washington
  - Washington Student Achievement Council
- Toronto, Ontario, Canada
  - Ministry of Colleges and Universities
- Vancouver, British Columbia, Canada
  - Ministry of Post-Secondary Education and Future Skills

Required Disclosures

VIRGINIA

Northeastern has processes in place to ensure that student grievances are treated with respect and addressed in a fair and professional manner. Students can report concerns to the Office of Student Conduct and Conflict Resolution (https://www.northeastern.edu/osccr/) or the University Ombuds (https://provost.northeastern.edu/ombuds/). At the Arlington campus, students can contact the on-site student support specialist or the campus principal.

If a student's problem has not been resolved in pursuance of the Northeastern grievance policy, they may contact the State Council of Higher Education for Virginia. SCHEV representatives can be reached via telephone at (804) 225-2600; via fax at (804) 225-2604; at this website (https://www.schev.edu/students/resources/student-complaints/); or by mail at 101 N. 14th Street, 10th Floor, James Monroe Building, Richmond, VA 23219.

The Virginia State Approving Agency (SAA) is the approving authority of education and training programs for Virginia. Our office investigates complaints of GI Bill® beneficiaries. While most complaints should initially follow the school grievance policy, if the situation cannot be resolved at the school, the beneficiary should contact our office via email saa@dvs.virginia.gov. *GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at* http://www.benefits.va.gov/gibill *(*http://www.benefits.va.gov/gibill/*).*

NORTH CAROLINA

Northeastern has been evaluated by the University of North Carolina and is licensed to conduct higher education degree activity in the state. The university's guaranty bond for unearned prepaid tuition is on file with the Board of Governors of the University of North Carolina and the Office of the General Counsel at Northeastern. North Carolina students may view a copy of the Tuition Guaranty Bond by contacting Northeastern's Risk Services at 716 Columbus Avenue (Columbus Place), Suite 301 CP, Boston, MA 02120.

If students are unable to resolve a complaint offered by the Northeastern grievance procedures, they can submit a complaint through the online student complaint form at https://studentcomplaints.northcarolina.edu/form (https://studentcomplaints.northcarolina.edu/form/), or by mail to North Carolina Post-Secondary Education Complaints, 140 Friday Center Drive, Chapel Hill, NC 27517. https://www.northcarolina.edu/post-secondary-education-complaints/.

FLORIDA

Northeastern University—Miami is accredited by the New England Commission of Higher Education (NECHE) and is provisionally licensed in the state of Florida by the Commission on Independent Education (CIE). Additional information regarding the institution may be obtained by contacting the Commission for Independent Education, Department of Education, 325 West Gaines Street, Suite 1414, Tallahassee, Florida 32399-0400, toll-free telephone number (888) 224-6684.

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

CALIFORNIA

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education (http://www.bppe.ca.gov), 1747 N. Market Blvd., Ste. 225, Sacramento, CA 95834; P.O. Box 980818, West Sacramento, CA 95798-0818, (888) 370-7589, or by fax (916) 263-1897.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

The Office of Student Assistance and Relief is available to support prospective students, current students, or past students of private postsecondary educational institutions in making informed decisions, understanding their rights, and navigating available services and relief options. The office may be reached by calling (888) 370-7589 or by visiting https://osar.bppe.ca.gov/.

WASHINGTON

Northeastern is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Northeastern to offer specific degree programs. The council may be contacted for a list of currently authorized programs. Authorization by the council does not carry with it an endorsement by the council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the council at P.O. Box 43430, Olympia, WA 98504-3430 or by email at degreeauthorization@wsac.wa.gov.

The transferability of credits earned at Northeastern is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Northeastern will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Northeastern to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Northeastern will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned. The Washington Student Achievement Council has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit http://www.wsac.wa.gov/student-complaints (http://www.wsac.wa.gov/student-complaints/) for information regarding the WSAC complaint process.

ONTARIO

Master of Science in Project Management *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Regulatory Affairs *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/regulatory-affairs-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting June 25, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Informatics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/informatics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Biotechnology (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/chemistry-chemical-biology/biotechnology-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting September 14, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Cyber-Physical Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/cyber-physical-systems-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Bioinformatics (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/biology/bioinformatics-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

BRITISH COLUMBIA

Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Align—Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/#alignprogramrequirementstext)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Data Analytics Engineering (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/mechanical-industrial/data-analytics-engineering-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective November 29, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Design and Data Visualization (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/art-design/information-design-data-visualization-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF SCIENCE IN INFORMATION SYSTEMS (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective March 3, 2023, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF professional studies in digital media *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps/*) (including* connect *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps-connect/*))*

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective June 6, 2023 having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (for example, acceptable to potential employers, professional licensing bodies, or other educational institutions).

Distance Education/State Authorization Reciprocity Agreement Student Complaint Procedures (https://www.northeastern.edu/graduate/wp-content/uploads/2020/07/25.-Student-Complaint-Procedure-with-links.pdf)

Major CIP Codes

The following is a list of Northeastern University majors for programs accepting new students during the 2023-2024 catalog year, along with each major's corresponding CIP code. "CIP" refers to the Classification of Instructional Programs published by the U.S. Department of Education's National Center for Education Statistics (https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=56).

Academic Program	Major Transcript Title	Major Cip Code
P-CERTG-3DAN: 3D Animation, Graduate Certificate	3-D Animation	100304
CERTG-ACFD: Accounting and Financial Decision Making, Graduate Certificate	Accntng Fin Decision Making	520899
MSA-ACCT: Accounting, MSA	Accounting	520301
P-CERTU-ACCT: Accounting, Undergraduate Certificate	Accounting	520301
P-CERTU-AACT: Advanced Accounting, Undergraduate Certificate	Advanced Accounting	520301
MS-AIMF: Advanced and Intelligent Manufacturing, MS	Advanced and Intelligent Mfg	143601
P-BS-AVMS: Advanced Manufacturing Systems, BS	Advanced Manufacturing Systems	150613
BA-AFMS: Africana Studies and Media and Screen Studies, BA	Africana St/Media Screen St	050201
BA-AFHS: Africana Studies and Human Services, BA	Africana Stud/Human Services	050201
BA-AFCS: Africana Studies, BA	Africana Studies	050201
BS-AFCS: Africana Studies, BS	Africana Studies	050201
BA-AFEN: Africana Studies and English, BA	Africana Studies/English	050201
BA-AFPS: Africana Studies and Political Science, BA	Africana Studies/Political Sci	050201
P-CERTG-AGPM: Agile Project Management, Graduate Certificate	Agile Project Management	520211
P-BS-ANLY: Analytics, BS	Analytics	110802
P-CERTU-ANLY: Analytics, Undergraduate Certificate	Analytics	110802
P-MPS-ANLY: Analytics, MPS	Analytics	110802
MS-AQMS: Applied Quantitative Methods and Social Analysis, MS	Appl Quant Methods Soc Anlys	450102
P-CERTG-APAN: Applied Analytics, Graduate Certificate	Applied Analytics	307101
MS-ABA: Applied Behavior Analysis, MS	Applied Behavior Analysis	422814
MS-AEPP: Applied Educational Psychology, MS	Applied Educational Psychology	422805
P-MPS-APLG: Applied Logistics, MPS	Applied Logistics	520203
P-MPS-APMI: Applied Machine Intelligence, MPS	Applied Machine Intelligence	521301
CERTG-AMTH: Applied Mathematics, Graduate Certificate	Applied Mathematics	270301
MS-AMTH: Applied Mathematics, MS	Applied Mathematics	270301
MS-APNR: Applied Nursing Research, MS	Applied Nursing Research	513808
P-MS-APNU: Applied Nutrition, MS	Applied Nutrition	301901
BS-APHY: Applied Physics, BS	Applied Physics	400801
MS-APEN: Applied Physics and Engineering, MS	Applied Physics/Engineering	400801
MS-APPS: Applied Psychology, MS	Applied Psychology	422813
BS-ARCS: Architectural Studies, BS	Architectural Studies	040801
BS-ARSD: Architectural Studies and Design, BS	Architectural Studies/Design	040803
BS-ARCH: Architecture, BS	Architecture	040902

MARCH-ARCH1: Master of Architecture—One-Year Program	Architecture	040902
MARCH-ARCH2: Master of Architecture—Two-Year Program	Architecture	040902
MARCH-ARCH3: Master of Architecture—Three-Year Program	Architecture	040902
MARCH-ARCH3A: Master of Architecture—Three-Year Program—Advanced Degree Entrance	Architecture	040902
BS-AENG: Architecture and English, BS	Architecture/ English	040201
BA-ARTS: Art, BA	Art	500702
MS-ARIN: Artificial Intelligence	Artificial Intelligence	110102
MS-AMCE: Arts Administration and Cultural Entrepreneurship, MS	Arts Adm Cultural Entrepren	501099
CERTG-ARAD: Arts Administration, Graduate Certificate	Arts Administration	501099
BS-ASLI: American Sign Language—English Interpreting, BS	ASL - English Interpreting	161601
BS-ASHU: American Sign Language and Human Services, BS	ASL / Human Services	161601
BS-ASLN: American Sign Language and Linguistics, BS	ASL / Linguistics	161601
BS-ASPS: American Sign Language and Psychology, BS	ASL / Psychology	161601
BS-ASTH: American Sign Language and Theatre, BS	ASL / Theatre	161601
BS-BNPH: Behavioral Neuroscience and Philosophy, BS	Behav Neuroscience/Philosophy	261501
BS-BENS: Behavioral Neuroscience, BS	Behavioral Neuroscience	261501
BS-BNDS: Behavioral Neuroscience and Design, BS	Behavioral Neuroscience/Design	261501
BS-BIOC: Biochemistry, BS	Biochemistry	260202
CERTG-BDBS: Biodefense and Biosecurity, Graduate Certificate	Biodefense and Biosecurity	261201
BSBIOE-BION: Bioengineering, BSBioE	Bioengineering	149999
MSBIOE-BION: Bioengineering, MSBioE	Bioengineering	149999
PHD-BION: Bioengineering, PhD	Bioengineering	149999
PHD-BION-A: Bioengineering, PhD—Advanced Entry	Bioengineering	149999
BSBIOE-BEBC: Bioengineering and Biochemistry, BSBioE	Bioengineering/Biochemistry	149999
CERTG-BINF: Bioinformatics, Graduate Certificate	Bioinformatics	261103
MS-BINF: Bioinformatics, MS	Bioinformatics	261103
P-BS-BIOS: Biological Science, BS	Biological Science	260101
BS-BIOL: Biology, BS	Biology	260101
MS-BIOL: Biology, MS	Biology	260101
PHD-BIOL: Biology, PhD	Biology	260101
PHD-BIOL-A: Biology, PhD-Advanced Entry	Biology	260101
BS-BENG: Biology and English, BS	Biology/English	269999
BS-BIMA: Biology and Mathematics, BS	Biology/Mathematics	260101
BS-BIPO: Biology and Political Science, BS	Biology/Political Science	269999
BS-BIMP: Biomedical Physics, BS	Biomedical Physics	260203
MS-BIOM: Biomedical Science, MS	Biomedical Science	260102
PHD-BIOM: Biomedical Science, PhD	Biomedical Science	260102
PHD-BIOM-A: Biomedical Science, PhD—Advanced Entry	Biomedical Science	260102

P-CERTG-BPRA: Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biophamaceutical Reg Affairs	512099
CERTG-BIAS: Biopharmaceutical Analytical Sciences, Graduate Certificate	Biopharm Analytical Sci	400599
P-CERTG-BPQI: International Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biopharmacy Quality Intl	512099
CERTG-BIOT: Biotechnology, Graduate Certificate	Biotechnology	261201
MS-BIOT-SC: Biotechnology, MS	Biotechnology	261201
P-BS-BIOT: Biotechnology, BS	Biotechnology	261201
CERTG-BITE: Biotechnology Enterprise, Graduate Certificate	Biotechnology Enterprise	261201
CERTG-RESC: Biotechnology Regulatory Science, Graduate Certificate	Biotechnology Regulatory Sci	512004
CERTG-BLCE: Blockchain and Smart Contract Engineering, Graduate Certificate	Blockchain Smart Contr. Engr	140903
CERTG-BMGT: Brand Management, Graduate Certificate	Brand Management	521401
CERTG-TBWS: Broadband Wireless Systems, Graduate Certificate	Broadband Wireless Systems	110901
BS-BALW: Business Administration and Law, BS	Business Admin and Law	520101
BS-BACS: Business Administration and Communication Studies, BS	Business Admin/Comm Studies	520101
BS-BAPS: Business Administration and Psychology, BS	Business Admin/Psychology	520101
BS-BAPH: Business Administration and Public Health, BS	Business Admin/Public Health	520101
BSBA-BSAD: Bachelor of Science in Business Administration, BSBA	Business Administration	520101
CERTG-BSAD: Business Administration, Graduate Certificate	Business Administration	520101
CERTG-BSAD-O: Business Administration—Online Program, Graduate Certificate	Business Administration	520101
MBA-BSAD-E: Business Administration, MBA—Part-Time	Business Administration	520101
MBA-BSAD-F: Business Administration, MBA—Full-Time	Business Administration	520101
MBA-BSAD2-O: Business Administration, MBA—Online	Business Administration	520101
BS-BUDE: Business Administration and Design, BS	Business Administration/Design	520101
CERTG-BUSA: Business Analytics, Graduate Certificate	Business Analytics	521302
MS-BUSA: Business Analytics, MS	Business Analytics	521302
MS-BUSA-O: Business Analytics, MS—Online	Business Analytics	521302
CERTG-BLAW: Business Law, Graduate Certificate	Business Law	220205
CERTG-HECA: Business Management for Healthcare, Graduate Certificate	Business Mgmt for Healthcare	521099
MS-CGTH: Cell and Gene Therapies, MS	Cell and Gene Therapies	260806
BS-CMBI: Cell and Molecular Biology, BS	Cell and Molecular Biology	260406
BSCHE-CEBE: Chemical Engineering and Bioengineering, BSChE	Chem Engineer/Bioengineering	140701
BSCHE-CHOC: Chemical Engineering and Biochemistry, BSChE	Chem Engineering/ Biochemistry	140701
BSCHE-CHME: Chemical Engineering, BSChE	Chemical Engineering	140701
MSCHE-CHME: Chemical Engineering, MSChE	Chemical Engineering	140701
PHD-CHME: Chemical Engineering, PhD	Chemical Engineering	140701

PHD-CHME-A: Chemical Engineering, PhD—Advanced Entry	Chemical Engineering	140701
BSCHE-CHCS: Chemical Engineering and Computer Science, BSChE	Chemical Engineering/Comp Sci	140701
BSCHE-CEDS: Chemical Engineering and Data Science, BSChE	Chemical Engineering/Data Sci	140701
BSCHE-CEPH: Chemical Engineering and Physics, BSChE	Chemical Engineering/Physics	140701
BSCHE-CEEE: Chemical Engineering and Environmental Engineering, BSChE	Chemical Engr/Environ Engr	140701
BS-CHEM: Chemistry, BS	Chemistry	400501
MS-CHEM: Chemistry, MS	Chemistry	400501
PHD-CHEM: Chemistry, PhD	Chemistry	400501
PHD-CHEM-A: Chemistry, PhD-Advanced Entry	Chemistry	400501
PHD-CEEN: Civil and Environmental Engineering, PhD	Civil Environmental Engineer	140801
PHD-CEEN-A: Civil and Environmental Engineering, PhD—Advanced Entry	Civil Environmental Engineer	140801
BSCE-CEAS: Civil Engineering and Architectural Studies, BSCE	Civil Eng/Arch Studies	140801
BSCE-CIVE: Civil Engineering, BSCE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Construction Management, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Structures, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Transportation, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Data and Systems, MSCivE	Civil Engineering	140801
BSCE-CVCS: Civil Engineering and Computer Science, BSCE	Civil Engineering/Computer Sci	140801
CERTG-CLEN: Climate and Engineering, Graduate Certificate	Climate and Engineering	141401
MS-CLSE: Climate Science and Engineering, MS	Climate Sci and Engineering	141401
P-CERTG-CCAM: Cloud Computing Application and Management, Graduate Certificate	Cloud Computing App and Mgmt	110104
CERTG-CLSD: Cloud Software Development, Graduate Certificate	Cloud Software Development	110902
P-CERTG-CATH: Collegiate Athletics Administration, Graduate Certificate	Collegiate Athletics Admin	310504
BA-CMGR: Communication Studies and Graphic and Information Design, BA	Comm Stud/Graph Info Design	090101
BS-CMSL: Communication Studies and Speech-Language Pathology and Audiology	Comm Stud/Speech-Lang Path Aud	090101
BA-CMTH: Communication Studies and Theatre, BA	Comm Studies/Theatre	090199
P-MS-COED: Commerce and Economic Development, MS	Commerce Economic Developmnt	450603
BA-CMME: Communication and Media Studies, BA	Communication Media Studies	090199

BA-CMSO: Communication Studies and Sociology, BA	Communication Stud./Sociology	090199
BA-CMST: Communication Studies, BA	Communication Studies	090101
BS-CSBA: Computer Science and Business Administration, BS	Comp Sci/Business Admin	110101
BS-CSCP: Computer Science and Cognitive Psychology, BS	Comp Sci/Cognitive Psyc	110101
BS-CSES: Computer Science and Environmental and Sustainability Sciences, BS	Comp Sci/Environ and Sust Sci	110101
BS-CSMA: Computer Science and Mathematics, BS	Comp Sci/Mathematics	110101
BS-CSPP: Computer Science and Politics, Philosophy, and Economics, BS	Comp Sci/Politics, Phil Econ	110101
CERTG-COSS: Computational Social Science, Graduate Certificate	Computational Social Science	305202
BSCMPE-CMPE: Computer Engineering, BSCmpE	Computer Engineering	140901
PHD-CMPE: Computer Engineering, PhD	Computer Engineering	140901
PHD-CMPE-A: Computer Engineering, PhD-Advanced Entry	Computer Engineering	140901
BSCMPE-CMPH: Computer Engineering and Physics, BSCmpE	Computer Engineering/Physics	140901
BSCMPE-CECS: Computer Engineering and Computer Science, BSCmpE	Computer Engr/Computer Science	140901
BS-CSPO: Computer Science and Political Science, BS	Computer Sci./ Political Sci.	110101
BS-CSBN: Computer Science and Behavioral Neuroscience, BS	Computer Sci/Behavior Neurosci	110101
BS-CSCS: Computer Science and Communication Studies, BS	Computer Sci/Communication Stu	110101
BS-CSCJ: Computer Science and Criminal Justice, BS	Computer Sci/Criminal Justice	110101
BS-CGDV: Computer Science and Game Development, BS	Computer Sci/Game Development	110101
BS-CSMU-MUTE: Computer Science and Music with Concentration in Music Technology, BS	Computer Sci/Music	110101
BS-CSPL: Computer Science and Philosophy, BS	Computer Sci/Philosophy	110101
BS-CSPY: Computer Science and Physics, BS	Computer Sci/Physics	110101
BS-CSSO: Computer Science and Sociology, BS	Computer Sci/Sociology	110101
BACS-CSCI: Computer Science, BACS	Computer Science	110101
BSCS-CSCI: Computer Science, BSCS	Computer Science	110101
CERTG-CSCI: Computer Science, Graduate Certificate	Computer Science	110101
MSCS-CSCI: Computer Science, MSCS	Computer Science	110101
MSCS-CSCI-AL: Computer Science, MSCS—Align	Computer Science	110101
PHD-CSCI: Computer Science, PhD	Computer Science	110101
PHD-CSCI-A: Computer Science, PhD—Advanced Entry	Computer Science	110101
BS-CSBI: Computer Science and Biology, BS	Computer Science/Biology	110101
BS-CSDE: Computer Science and Design, BS	Computer Science/Design	110101
BS-CSEC: Computer Science and Economics, BS	Computer Science/Economics	110101
BS-CSEG: Computer Science and English, BS	Computer Science/English	110101
BS-CSHI: Computer Science and History, BS	Computer Science/History	110101
BS-CSJO: Computer Science and Journalism, BS	Computer Science/Journalism	110101
BS-CSLI: Computer Science and Linguistics, BS	Computer Science/Linguistics	110101
BS-CSME: Computer Science and Media Arts, BS	Computer Science/Media Arts	110101
BS-CSTH: Computer Science and Theatre, BS	Computer Science/Theatre	110101

BS-CPLW: Computing and Law, BS	Computing and Law	110101
P-CERTG-CONM: Construction Management, Graduate Certificate	Construction Management	460412
P-MS-CORC: Corporate and Organizational Communication, MS	Corporate Org Communication	090101
CERTG-COFN: Corporate Finance, Graduate Certificate	Corporate Finance	520801
CERTG-COIN: Corporate Innovation, Graduate Certificate	Corporate Innovation	520210
CERTG-CPRN: Corporate Renewal, Graduate Certificate	Corporate Renewal	520799
MSCP-COPS: Counseling Psychology, MSCP	Counseling Psychology	422803
PHD-COPS-MSE: Counseling Psychology, PhD	Counseling Psychology	422803
MS-CCMD: Creative Collaboration and Multidisciplinary Design, MS	Creatv Collab Multidisc Dsgn	501099
BS-CRJO: Criminal Justice and Journalism, BS	Criminal Justice/Journalism	430104
BS-CJPH: Criminal Justice and Philosophy, BS	Criminal Justice/Philosophy	430104
BS-CRPO: Criminal Justice and Political Science, BS	Criminal Justice/Political Sci	430104
BS-CJPS: Criminal Justice and Psychology, BS	Criminal Justice/Psychology	430199
BS-CRSO: Criminal Justice and Sociology, BS	Criminal Justice/Sociology	430104
BS-CRCJ: Criminology and Criminal Justice, BS	Criminology Criminal Justice	430104
MS-CRCJ: Criminology and Criminal Justice, MS	Criminology Criminal Justice	430104
PHD-CRJP: Criminology and Justice Policy, PhD	Criminology and Justice Policy	430104
PHD-CRJP-A: Criminology and Justice Policy, PhD—Advanced Entry	Criminology and Justice Policy	430104
P-CERTG-CCCM: Cross-Cultural Communication, Graduate Certificate	Cross-Cultural Communication	090100
BA-CAPH: Cultural Anthropology and Philosophy, BA	Cultural Anthro/Philosophy	450204
BA-CARS: Cultural Anthropology and Religious Studies, BA	Cultural Anthro/Religious Stud	450204
BA-CUAN: Cultural Anthropology, BA	Cultural Anthropology	451101
BS-CUAN: Cultural Anthropology, BS	Cultural Anthropology	451101
BA-CUTH: Cultural Anthropology and Theatre, BA	Cultural Anthropology/Theatre	451101
CERTG-CUEN: Cultural Entrepreneurship, Graduate Certificate	Cultural Entrepreneurship	501099
MS-CYPS: Cyber-Physical Systems, MS	Cyber-Physical Systems	140903
BS-CYBS: Cybersecurity, BS	Cybersecurity	111003
CERTG-CYBS: Cybersecurity, Graduate Certificate	Cybersecurity	111003
MS-CYBS: Cybersecurity, MS	Cybersecurity	111003
MS-CYBS-AL: Cybersecurity, MS—Align Program	Cybersecurity	111003
PHD-CYBS: Cybersecurity, PhD	Cybersecurity	111003
PHD-CYBS-A: Cybersecurity, PhD—Advanced Entry	Cybersecurity	111003
BS-CYBB: Cybersecurity and Business Administration, BS	Cybersecurity/Business Admin	111003
BS-CYCJ: Cybersecurity and Criminal Justice, BS	Cybersecurity/Criminal Justice	111003
BS-CYEC: Cybersecurity and Economics, BS	Cybersecurity/Economics	111003
CERTG-DAAN: Data Analytics, Graduate Certificate	Data Analytics	110802
CERTG-DAAE: Data Analytics Engineering, Graduate Certificate	Data Analytics Engineering	149999
MS-DAAE: Data Analytics Engineering, MS	Data Analytics Engineering	149999
MS-DAMG: Data Architecture and Management, MS	Data Architecture Management	110802

BS-DSBA: Data Science and Business Administration, BS	Data Sci/Business Admin	110802
BS-DSEE: Data Science and Ecology and Evolutionary Biology, BS	Data Sci/Ecology Evol Bio	110802
BS-DSES: Data Science and Environmental and Sustainability Sciences, BS	Data Sci/Environ and Sust Sci	110802
BS-DASC: Data Science, BS	Data Science	110802
MS-DASC: Data Science, MS	Data Science	110802
MS-DASC-AL: Data Science, MS—Align Program	Data Science	110802
BS-DSBN: Data Science and Behavioral Neuroscience, BS	Data Science/Behavioral Neuro	110802
BS-DSBC: Data Science and Biochemistry, BS	Data Science/Biochemistry	110802
BS-DSBL: Data Science and Biology, BS	Data Science/Biology	110802
BS-DSCH: Data Science and Chemistry, BS	Data Science/Chemistry	110802
BS-DSCJ: Data Science and Criminal Justice, BS	Data Science/Criminal Justice	110802
BS-DSEC: Data Science and Economics, BS	Data Science/Economics	110802
BS-DSHS: Data Science and Health Science, BS	Data Science/Health Science	110802
BS-DSIA: Data Science and International Affairs, BS	Data Science/Intl Affairs	110802
BS-DSJO: Data Science and Journalism, BS	Data Science/Journalism	110802
BS-DSLI: Data Science and Linguistics, BS	Data Science/Linguistics	110802
BS-DSMA: Data Science and Mathematics, BS	Data Science/Mathematics	110802
BS-DSPL: Data Science and Philosophy, BS	Data Science/Philosophy	110802
BS-DSPH: Data Science and Physics, BS	Data Science/Physics	110802
BS-DSPS: Data Science and Psychology, BS	Data Science/Psychology	110802
BFA-DESN: Design, BFA	Design	500409
P-BS-DIME: Digital Communication and Media, BS	Digital Communication Media	090702
CERTG-DHUM: Digital Humanities, Graduate Certificate	Digital Humanities	240103
P-MPS-DGM-AL: Digital Media, MPS—Connect	Digital Media	090702
P-MPS-DGME: Digital Media, MPS	Digital Media	090702
P-CERTG-DGMM: Digital Media Management, Graduate Certificate	Digital Media Management	100105
P-CERTG-DGVD: Digital Video, Graduate Certificate	Digital Video	500602
CERTG-EINT: Early Intervention, Graduate Certificate	Early Intervention	131099
BS-EEBI: Ecology and Evolutionary Biology, BS	Ecology Evolutionary Biology	261310
BA-ECON: Economics, BA	Economics	450603
BS-ECON: Economics, BS	Economics	450603
MS-ECON: Economics, MS	Economics	450603
PHD-ECON: Economics, PhD	Economics	450603
PHD-ECON-A: Economics, PhD—Advanced Entry	Economics	450603
BS-ECBA: Economics and Business Administration, BS	Economics/Business Admin	450603
BS-ECHS: Economics and Human Services, BS	Economics/Human Services	450603
BS-ECIB: Economics and International Business, BS	Economics/Intl Business	450603
BS-ECJO: Economics and Journalism, BS	Economics/Journalism	450603
BS-ECMA: Economics and Mathematics, BS	Economics/Mathematics	450603
BS-ECPH: Economics and Philosophy, BS	Economics/Philosophy	450603
BS-ECPS: Economics and Psychology, BS	Economics/Psychology	450603
P-EDD-EDUC: Education, EdD	Education	130101
P-MED-EDUC: Education, MEd	Education	130101

P-CAGS-EDLM: Education Leadership Management, CAGS	Education Leadership Mgmt	130401
MSECEL-ECEL: Electrical and Computer Engineering Leadership, MSECEL	Elec and Comp Engr Leadership	141001
BSEE-ELCE: Electrical and Computer Engineering, BSEE or BSCmpE	Electrical and Computer Engr	141001
BSEE-ELEE: Electrical Engineering, BSEE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Power Systems, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE	Electrical Engineering	141001
PHD-ELEE: Electrical Engineering, PhD	Electrical Engineering	141001
PHD-ELEE-A: Electrical Engineering, PhD—Advanced Entry	Electrical Engineering	141001
BSEE-EEMU: Electrical Engineering and Music with Concentration in Music Technology, BSEE	Electrical Engineering/Music	141001
BSEE-EEPH: Electrical Engineering and Physics, BSEE	Electrical Engineering/Physics	141001
P-MAT-ELED: Elementary Education, MAT	Elementary Education	131202
CERTG-ENES: Energy Systems, Graduate Certificate	Energy Systems	142701
MSENES-AL: Energy Systems, MSEneS—Academic Link Program	Energy Systems	142701
MSENES-ENES: Energy Systems, MSEneS	Energy Systems	142701
CERTG-ENSY: Energy Systems Management, Graduate Certificate	Energy Systems Management	142701
MS-CEPP: Engineering and Public Policy, MS	Engineering and Public Policy	140899
CERTG-ENBU: Engineering Business, Graduate Certificate	Engineering Business	140101
CERTG-EEDM: Engineering Economic Decision Making, Graduate Certificate	Engineering Economic Decision	140101
CERTG-ENLR: Engineering Leadership, Graduate Certificate	Engineering Leadership	141001
CERTG-ENGM: Engineering Management, Graduate Certificate	Engineering Management	140101
MSEM-ENGM: Engineering Management, MSEM	Engineering Management	140101

CERTG-ETSM: Technology Systems Management, Graduate Certificate	Engineering Tech Systems Mgmt	140101
BA-ENGL: English, BA	English	230101
MA-ENGL: English, MA	English	230101
PHD-ENGL: English, PhD	English	230101
PHD-ENGL-A: English, PhD—Advanced Entry	English	230101
BA-ENTH: English and Theatre, BA	English/ Theatre	230101
BA-ENCO: English and Communication Studies, BA	English/Communication Studies	230101
BA-ENCJ: English and Criminal Justice, BA	English/Criminal Justice	230101
BA-ENCA: English and Cultural Anthropology, BA	English/Cultural Anthropology	230101
BA-ENGD: English and Graphic and Information Design, BA	English/Graphic Info Design	230101
BA-EPHI: English and Philosophy, BA	English/Philosophy	230101
BA-ENPS: English and Political Science, BA	English/Political Science	230101
CERTG-ENTR: Entrepreneurship, Graduate Certificate	Entrepreneurship	520701
BS-ESJO: Environmental and Sustainability Sciences and Journalism, BS	Environ Sust Sci/Journalism	030104
BS-ESCH: Environmental and Sustainability Sciences and Chemistry, BS	Environ and Sust Sci/Chemistry	030104
BS-ESEC: Environmental and Sustainability Sciences and Economics, BS	Environ and Sust Sci/Economics	030104
BS-ESLA: Environmental and Sustainability Sciences and Landscape Architecture, BS	Environ and Sust Sci/Land Arch	030104
BSENVE-ENHS: Environmental Engineering and Health Science, BSEnvE	Environmental Eng/Health Sci	140801
BSENVE-ENVI: Environmental Engineering, BSEnvE	Environmental Engineering	140801
MSENVE-ENVI: Environmental Engineering, MSEnvE	Environmental Engineering	140801
MS-ENPP. Environmental Science and Policy, MS	Environmental Science Policy	030103
BA-ENVS: Environmental Studies, BA	Environmental Studies	030103
BS-ENSS: Environmental and Sustainability Sciences, BS	Environmtl Sustain Sciences	030104
BSENVE-EELA: Environmental Engineering and Landscape Architecture, BSEnvE	Environmtl Eng/Landscape Arch	140801
BA-ENHI: Environmental Studies and History, BA	Environmtl Studies/History	030103
BA-ENIA: Environmental Studies and International Affairs, BA	Environmtl Studies/Intl Affair	030103
BA-ENPH: Environmental Studies and Philosophy, BA	Environmtl Studies/Philosophy	030103
BA-ENPO: Environmental Studies and Political Science, BA	Environmtl Studies/Politic Sci	030103
P-CERTG-ESPT: eSports, Graduate Certificate	eSports	310504
MS-EXSC-O: Exercise Science, MS—Online	Exercise Science, MS	310505
CERTG-EXPD: Experience Design, Graduate Certificate	Experience Design	500499
MFA-EXPD: Experience Design, MFA	Experience Design	500499
MS-EXPD: Experience Design, MS	Experience Design	500499
CERTG-EPHD: Experiential PhD Leadership, Graduate Certificate	Experiential PhD Leadership	520210
P-CERTG-EXTL: Experiential Teaching and Learning, Graduate Certificate	Experiential Teach and Learn	130301
CERTG-EBIO: Experimental Biotechnology, Graduate Certificate	Experimental Biotechnology	261201
MS-EXRL: Extended Realities, MS	Extended Realities	500411

CERTG-EXMD: Extreme Medicine, Graduate Certificate	Extreme Medicine	519999
MSF-FINA: Finance, MSF	Finance	520801
P-BS-FIAM: Finance and Accounting Management, BS	Finance and Accounting Mgmt	520801
MSFMBA-E: Finance and Business Administration, MSFMBA—Part-Time	Finance/Business Admin	520801
MSFMBA-FIBA: Finance and Business Administration, MSFMBA	Finance/Business Admin	520801
MSFMBA-O: Finance and Business Administration, MSFMBA—Online	Finance/Business Admin	520801
P-CERTG-FIMI: Financial Markets and Institutions, Graduate Certificate	Financial Mkts and Inst	520899
P-CERTG-FACC: Forensic Accounting, Graduate Certificate	Forensic Accounting	430406
P-CERTG-FDDV: Fundraising and Development, Graduate Certificate	Fundraising and Development	520206
BFA-GAAN: Game Art and Animation, BFA	Game Art and Animation	500605
BFA-GAME: Game Design, BFA	Game Design	100304
P-CERTG-GMDS: Game Design, Graduate Certificate	Game Design	100304
BS-GDMT: Game Design and Music with Concentration in Music Technology, BS	Game Design/Music	100304
CERTG-GMED: Game Experience Design, Graduate Certificate	Game Experience Design	100304
CERTG-GMSC: Game Science, Graduate Certificate	Game Science	100304
MS-GSAD: Game Science and Design, MS	Game Science and Design	100304
P-CERTG-GINT: Geographic Information Systems, Graduate Certificate	Geographic Information Tech	110103
P-MPS-GSPS: Geospatial Services, MPS	Geospatial Services	110103
BA-GLAS: Global Asian Studies, BA	Global Asian Studies	050103
P-CERTG-GSIR: Global Studies and International Relations, Graduate Certificate	Global Stu and Intl Relations	302001
P-MS-GSIR: Global Studies and International Relations, MS	Global Stu and Intl Relations	302001
BS-GIDM: Graphic and Information Design and Mathematics, BS	Graphic and Info. Design/Math	500499
CERTG-HIME: Health Informatics Management and Exchange, Graduate Certificate	Health Info Mgmt Exchange	512706
CERTG-HISP. Health Informatics Privacy and Security, Graduate Certificate	Health Info Privacy Secu	512706
CERTG-HISE: Health Informatics Software Engineering, Graduate Certificate	Health Info Software Eng	512706
MS-HEIN: Health Informatics, MS	Health Informatics	512706
CERTG-HLAW: Health Law, Graduate Certificate	Health Law	220208
CERTG-HLAP. Health Law and Policy, Graduate Certificate	Health Law and Policy	220208
P-CERTG-HLMG: Health Management, Graduate Certificate	Health Management	510799
BS-HLSC: Health Science, BS	Health Science	510799
P-BS-HLSC: Health Science, BS	Health Science	510799
BS-HSBA: Health Science and Business Administration, BS	Health Science/Business Admin	510799
BS-HLCM: Health Science and Communication Studies, BS	Health Science/Comm Studies	510799
BS-HSPS: Health Science and Psychology, BS	Health Science/Psychology	510799

BS-HSSO: Health Science and Sociology, BS	Health Science/Sociology	510799
P-BS-HCAD: Healthcare Administration, BS	Healthcare Administration	510701
P-CERTU-HCAD: Healthcare Administration, Undergraduate Certificate	Healthcare Administration	510701
CERTG-CLAW: Healthcare Compliance, Graduate Certificate	Healthcare Compliance	220208
DMSC-HCLD: Healthcare Leadership, DMSc	Healthcare Leadership, DMSc	510701
P-CERTG-HEDA: Higher Education Administration, Graduate Certificate	Higher Education Admin	130406
P-MED-HEDA: Higher Education Administration, MEd	Higher Education Admin	130406
BA-HIST: History, BA	History	540101
BS-HIST: History, BS	History	540101
MA-HIST: History, MA	History	540101
PHD-HIST: History, PhD	History	540101
PHD-HIST-A: History, PhD—Advanced Entry	History	540101
BA-HICL: History, Culture, and Law, BA	History, Culture, and Law	220000
BA-HIAS: History and Asian Studies, BA	History/Asian Studies	540101
BA-HICJ: History and Criminal Justice, BA	History/Criminal Justice	540101
BA-HICA: History and Cultural Anthropology, BA	History/Cultural Anthrop	540101
BA-HIEC: History and Economics, BA	History/Economics	540101
BS-HIEC: History and Economics, BS	History/Economics	540101
BA-HIEN: History and English, BA	History/English	540101
BA-HIPH: History and Philosophy, BA	History/Philosophy	540101
BA-HIPS: History and Political Science, BA	History/Political Science	540101
BA-HIRS: History and Religious Studies, BA	History/Religious Studies	540101
BS-HHHS: Health Humanities and Health Science, BS	Hlth Humanities/Hlth Science	513204
BA-HHPH: Health Humanities and Public Health, BA	Hlth Humanities/Public Hlth	513204
PHD-HBSS: Human Behavior and Sustainability Sciences, PhD	Human Behavior and Sustain Sci	300601
P-CERTG-HUIN: Human-Centered Informatics, Graduate Certificate	Human Centered Informatics	110104
MS-HUFA: Human Factors, MS	Human Factors	142701
MS-HMRS: Human Movement and Rehabilitation Sciences, MS	Human Movement Rehab Science	512314
PHD-HMRS: Human Movement and Rehabilitation Sciences, PhD	Human Movement Rehab Science	512314
PHD-HMRS-A: Human Movement and Rehabilitation Sciences, PhD—Advanced Entry	Human Movement Rehab Science	512314
CERTG-HURL: Human Resources Law, Graduate Certificate	Human Resources Law	220299
P-CERTG-HRMG: Human Resources Management, Graduate Certificate	Human Resources Management	521001
P-MS-HRMG: Human Resources Management, MS	Human Resources Management	521001
CERTG-HMRL: Human Rights Law, Graduate Certificate	Human Rights Law	220209
BA-HSVC: Human Services, BA	Human Services	440000
BS-HSVC: Human Services, BS	Human Services	440000
BA-HUSO: Human Services and Sociology, BA	Human Services / Sociology	449999
BS-HUSO: Human Services and Sociology, BS	Human Services / Sociology	449999
BA-HSCM: Human Services and Communication Studies, BA	Human Services/Comm. Studies	440000

BS-HSCJ: Human Services and Criminal Justice, BS	Human Services/Crim Justice	430199
BA-HSIA: Human Services and International Affairs, BA	Human Services/Intl Affairs	440000
BS-HUPS: Human Services and Psychology, BS	Human Services/Psychology	440000
CERTG-ICSE: Inclusive Computer Science Education, Graduate Certificate	Inclusive Computer Sci Educ	131321
BSIE-INDE: Industrial Engineering, BSIE	Industrial Engineering	143501
MSIE-INDE: Industrial Engineering, MSIE	Industrial Engineering	143501
PHD-INDE: Industrial Engineering, PhD	Industrial Engineering	143501
PHD-INDE-A: Industrial Engineering, PhD—Advanced Entry	Industrial Engineering	143501
CERTG-IDEV: Information Design and Visualization, Graduate Certificate	Info Design and Visualization	500401
MFA-IDDV: Information Design and Data Visualization, MFA	Info Dsgn Data Visualization	303101
MS-IDDV: Information Design and Data Visualization, MS	Info Dsgn Data Visualization	303101
P-CERTG-INSM: Information Security Management, Graduate Certificate	Info Security Management	439999
P-MPS-INFM: Informatics, MPS	Informatics	110104
CERTG-INET: Information Ethics, Graduate Certificate	Information Ethics	380104
MSIS-INSY: Information Systems, MSIS	Information Systems	140903
MSIS-INSY-B: Information Systems, MSIS—Bridge	Information Systems	140903
P-BS-INFT: Information Technology, BS	Information Technology	110103
P-CERTG-IAMG: Insurance Analytics and Management, Graduate Certificate	Insurance Analytics and Mgmt	521701
P-MPS-IAMG: Insurance Analytics and Management, MPS	Insurance Analytics and Mgmt	521701
P-CERTG-INHW: Integrative Health and Wellness, Graduate Certificate	Integrative Health Wellness	510001
CERTG-PLAW: Intellectual Property Law, Graduate Certificate	Intellectual Property Law	220212
P-CERTG-INDS: Interactive Design, Graduate Certificate	Interactive Design	110801
PHD-INTY: Interdisciplinary, PhD	Interdisciplinary	300000
PHD-INTY-A: Interdisciplinary, PhD—Advanced Entry	Interdisciplinary	300000
PHD-IDSM: Interdisciplinary Design and Media, PhD	Interdisciplinary Dsgn Media	500401
PHD-IDSM-A: Interdisciplinary Design and Media, PhD—Advanced Entry	Interdisciplinary Dsgn Media	500401
PHD-INTE: Interdisciplinary Engineering, PhD	Interdisciplinary Engineering	140101
PHD-INTE-A: Interdisciplinary Engineering, PhD—Advanced Entry	Interdisciplinary Engineering	140101
P-BS-INST: Interdisciplinary Studies, BS	Interdisciplinary Studies	240101
BA-INAF: International Affairs, BA	International Affairs	450901
MA-INAF: International Affairs, MA	International Affairs	450901
BA-IAHI: International Affairs and History, BA	International Affairs/History	450901
BSIB-INBU-NX: International Business, BSIB	International Business	521101
BSIB-INBU-X: International Business, BSIB	International Business	521101
CERTG-INBU: International Business, Graduate Certificate	International Business	521101
MS-INMA: International Management, MS	International Management	520101
MS-INOT: Internet of Things, MS	Internet of Things	140999

BA-IARS: International Affairs and Religious Studies, BA	Interntl Affairs/Religious Stu	450901
BA-IACJ: International Affairs and Criminal Justice, BA	Intl Affairs/Criminal Justice	450901
BA-IACA: International Affairs and Cultural Anthropology, BA	Intl Affairs/Cultural Anthro	450901
BA-IAEC: International Affairs and Economics, BA	Intl Affairs/Economics	450604
BS-IAIB: International Affairs and International Business, BS	Intl Affairs/Intl Business	450901
CERTG-INVS: Investments, Graduate Certificate	Investments	520807
CERTG-TIPS: IP Telephony Systems, Graduate Certificate	IP/Telephony Systems	110901
BA-JESR: Jewish Studies and Religion, BA	Jewish Studies/Religion	380206
BA-JOUR: Journalism, BA	Journalism	090401
MA-JOUR: Journalism, MA	Journalism	090401
BA-JOEN: Journalism and English, BA	Journalism/ English	090401
BA-JOCM: Journalism and Communication Studies, BA	Journalism/Comm Studies	090401
BS-JLID: Journalism and Interaction Design, BS	Journalism/Interaction Design	090401
BA-JOIA: Journalism and International Affairs, BA	Journalism/Intl Affairs	090401
BA-JOPO: Journalism and Political Science, BA	Journalism/Political Science	090401
BLA-LARC: Landscape Architecture, BLA	Landscape Architecture	040601
JD-LAW: Law, JD	Law	220101
JD-LAW-P: Law, JD—Part-Time Program	Law	220101
LLM-LAW: Law, LLM—Experiential	Law	220101
LLM-LAW-O: Law, LLM—Online	Law	220101
LLM-LAW-T: Law, LLM	Law	220101
P-DLP-LAPO: Law And Policy, DLP	Law and Policy	229999
P-CERTG-LEAD: Leadership, Graduate Certificate	Leadership	520213
CERTG-LEPO: Leading People and Organizations, Graduate Certificate	Leading People Organizations	521099
P-CERTG-PMTE: Leading and Managing Technical Projects, Graduate Certificate	Leadng Managng Tech Projects	520211
CERTG-LEAN: Lean Six Sigma, Graduate Certificate	Lean Six Sigma	140101
P-CERTG-LXDT: Learning Experience Design and Technology, Graduate Certificate	Learning Exp Design Tech	130501
P-MPS-LXDT: Learning Experience Design and Technology, MPS	Learning Exp Design Tech	130501
CERTG-LEDS: Legal Design, Graduate Certificate	Legal Design	220299
MLS-LEGS: Legal Studies, MLS—Online	Legal Studies	229999
BS-LING: Linguistics, BS	Linguistics	160102
BS-LICA: Linguistics and Cultural Anthropology, BS	Linguistics / Cultural Anthro	450204
BA-LIEN: Linguistics and English, BA	Linguistics / English	160102
BS-LIPS: Linguistics and Psychology, BS	Linguistics / Psychology	160102
BA-LICS: Linguistics and Communication Studies, BA	Linguistics/Comm Studies	160102
BS-LISL: Linguistics and Speech-Language Pathology and Audiology, BS	Linguistics/Speech-Lng Pth Aud	160102
MS-MGMT: Management, MS	Management	520201
P-BS-MGMT: Management, BS	Management	520201
CERTG-MQOB: Manufacturing and Quality Operations in Biotechnology, Graduate Certificate	Manuf Qual Oper in Biotech	512010
MS-MRES: Marine and Environmental Sciences, MS	Marine Environment Sciences	030104

PHD-MRES: Marine and Environmental Sciences, PhD	Marine Environment Sciences	030104
PHD-MRES-A: Marine and Environmental Sciences, PhD—Advanced Entry	Marine Environment Sciences	030104
BS-MARB: Marine Biology, BS	Marine Biology	261302
MS-MARB: Marine Biology, MS	Marine Biology	261302
CERTG-MKTG: Marketing, Graduate Certificate	Marketing	521401
CERTG-MKAN: Marketing Analytics, Graduate Certificate	Marketing Analytics	521402
BA-MATH: Mathematics, BA	Mathematics	270101
BS-MATH: Mathematics, BS	Mathematics	270101
MS-MATH: Mathematics, MS	Mathematics	270101
PHD-MATH: Mathematics, PhD	Mathematics	270101
PHD-MATH-A: Mathematics, PhD—Advanced Entry	Mathematics	270101
BS-MABA: Mathematics and Business Administration, BS	Mathematics/Business Admin	270101
BS-MAPL: Mathematics and Philosophy, BS	Mathematics/Philosophy	270101
BS-MAPH: Mathematics and Physics, BS	Mathematics/Physics	270101
BS-MAPO: Mathematics and Political Science, BS	Mathematics/Political Science	270101
BS-MAPY: Mathematics and Psychology, BS	Mathematics/Psychology	270101
BS-MASO: Mathematics and Sociology, BS	Mathematics/Sociology	270101
BSME-MECE: Mechanical Engineering, BSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in General Mechanical Engineering, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Materials Science, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechanics and Design, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechatronics, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Thermofluids, MSME	Mechanical Engineering	141901
PHD-MECE: Mechanical Engineering, PhD	Mechanical Engineering	141901
PHD-MECE-A: Mechanical Engineering, PhD—Advanced Entry	Mechanical Engineering	141901
BSME-MEDS: Mechanical Engineering and Design, BSME	Mechanical Engineering/Design	141901
BSME-MEHI: Mechanical Engineering and History, BSME	Mechanical Engineering/History	141901
BSME-MEPH: Mechanical Engineering and Physics, BSME	Mechanical Engineering/Physics	141901
BSME-MEBE: Mechanical Engineering and Bioengineering, BSME	Mechanical Engr/Bioengineering	141901
P-BS-MTRO: Mechatronics, BS	Mechatronics	144201
BA-MSPH: Media and Screen Studies and Philosophy, BA	Media Screen Stud/Philosophy	090199
BA-MSHI: Media and Screen Studies and History, BA	Media Screen Studies/History	090199
MS-MEDA: Media Advocacy, MS	Media Advocacy	099999
BA-MSST: Media and Screen Studies, BA	Media and Screen Studies	090199
BFA-MART: Media Arts, BFA	Media Arts	500102
BA-MACM: Media Arts and Communication Studies, BA	Media Arts/Communication Stud.	500102
MS-MIDC: Media Innovation and Data Communication, MS	Media Innovation and Data Comm	090702

BA-MSJO: Media and Screen Studies and Journalism, BA	Media Screen Stu/Journalism	090199
BA-MSPO: Media and Screen Studies and Political Science, BA	Media Screen Stu/Political Sci	090199
BA-MSSO: Media and Screen Studies and Sociology, BA	Media Screen Stu/Sociology	090199
BA-MSTH: Media and Screen Studies and Theatre, BA	Media Screen Stu/Theatre	090199
BS-MSTH: Media and Screen Studies and Theatre, BS	Media Screen Stu/Theatre	090199
BA-MSMA: Media and Screen Studies and Media Arts, BA	Media Screen Stud./Media Arts	090199
BA-MSEN: Media and Screen Studies and English, BA	Media Screen Studies/English	090199
P-CERTG-MDRA: Medical Device Regulatory Affairs, Graduate Certificate	Medical Device Regulatory Aff.	512799
MS-MCDD: Medicinal Chemistry Drug Discovery, MS	Medicinal Chem Drug Discov	512004
PHD-MCDD: Medicinal Chemistry and Drug Discovery, PhD	Medicinal Chem Drug Discov	512004
PHD-MCDD-A: Medicinal Chemistry and Drug Discovery, PhD—Advanced Entry	Medicinal Chem Drug Discov	512004
CERTG-MOBI: Molecular Biotechnology, Graduate Certificate	Molecular Biotechnology	261201
BA-MUSI: Music, BA	Music	500901
BS-MUSI-MUID: Music with Concentration in Music Industry, BS	Music	500901
BS-MUSI-MUTE: Music with Concentration in Music Technology, BS	Music	500901
BS-MUCM: Music and Communication Studies with Concentration in Music Industry, BS	Music/Communication Studies	500901
CERTG-MFMG: Mutual Fund Management, Graduate Certificate	Mutual Fund Management	520807
CERTG-NNMD: Nanomedicine, Graduate Certificate	Nanomedicine	300101
MS-NNMD: Nanomedicine, MS	Nanomedicine	300101
MS-NETS: Network Science, MS	Network Science	300601
PHD-NETS: Network Science, PhD (BV, CS, SC, SH)	Network Science	300601
P-CERTG-NCBR: Nonclinical Biomedical Product Regulation, Graduate Certificate	Nonclinical Biomed Product Reg	512002
CERTG-NPSC: Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate	Nonprof-Philanth-Social Change	520206
P-CERTG-NPMG: Nonprofit Management, Graduate Certificate	Nonprofit Management	520206
P-MS-NPMG: Nonprofit Management, MS	Nonprofit Management	520206
DNP-NUAN: Nurse Anesthesia, DNP	Nurse Anesthesia	513804
BSN-NURS: Nursing, BSN	Nursing	513801
BSN-NURS-2: Nursing, BSN—Accelerated Program for Second-Degree Students	Nursing	513801
BSN-NURS-T: Nursing, BSN—Transfer Track	Nursing	513801
CAGS-CCAC: Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-CCNN: Nursing—Neonatal Nurse Practitioner, CAGS	Nursing	513801
CAGS-PCAN: Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS	Nursing	513801

CAGS-PEAC: Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-PEPA: Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS	Nursing	513801
CAGS-PEPC: Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS	Nursing	513801
CAGS-PSMH: Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS	Nursing	513801
DNP-NURS: Nursing, DNP (Post-Master's)	Nursing	513801
MS-NURS: Nursing, MS	Nursing	513801
MS-NURS-DE: Nursing, MS—Direct Entry	Nursing	513801
PHD-NURS: Nursing, PhD	Nursing	513801
PHD-NURS-MSE: Nursing, PhD—Advanced Entry (Post-MSN)	Nursing	513801
CERTG-OMIC: Omics, Graduate Certificate	Omics	261103
MSOR-OPRE: Operations Research, MSOR	Operations Research	143701
MSOR-OPRE-AS: Operations Research, MSOR	Operations Research	143701
P-CERTG-ORGC: Organizational Communication, Graduate Certificate	Organizational Communication	090101
P-MS-ORLD: Organizational Leadership, MS	Organizational Leadership	520213
CERTG-PTSF: Patient Safety, Graduate Certificate	Patient Safety	512213
CERTG-PEAC: Pediatric Nurse Practitioner, Acute Care, Graduate Certificate	Pediatric Acute Care PNP	513814
PHD-PHEI: Personal Health Informatics, PhD	Personal Health Informatics	512706
MS-PHEN: Pharmaceutical Engineering, MS	Pharmaceutical Engineering	140702
BS-PHSC: Pharmaceutical Sciences, BS	Pharmaceutical Sciences	512010
CERTG-PHTE: Pharmaceutical Technologies, Graduate Certificate	Pharmaceutical Technologies	261201
MS-PHDD: Pharmaceutics and Drug Delivery, MS	Pharmaceutics Drug Delivery	512010
PHD-PHDD: Pharmaceutics and Drug Delivery, PhD	Pharmaceutics Drug Delivery	512010
PHD-PHDD-A: Pharmaceutics and Drug Delivery, PhD—Advanced Entry	Pharmaceutics Drug Delivery	512010
MS-PHAC: Pharmacology, MS	Pharmacology	261001
PHD-PHAC: Pharmacology, PhD	Pharmacology	261001
PHD-PHAC-A: Pharmacology, PhD—Advanced Entry	Pharmacology	261001
PHARMD-G: Pharmacy, PharmD	Pharmacy	512001
PHARMD-G-DE: Pharmacy, PharmD—Direct Entry	Pharmacy	512001
PHARMD-U: Pharmacy, PharmD	Pharmacy	512001
BS-PHST: Pharmacy Studies, BS	Pharmacy Studies	512001
BA-PHIL: Philosophy, BA	Philosophy	380101
BS-PHIL: Philosophy, BS	Philosophy	380101
DPT-PHTH-DE: Physical Therapy, DPT—Postbaccalaureate Entry	Physical Therapy	512308
DPT-PHTH-G: Physical Therapy, DPT—Graduate	Physical Therapy	512308
MS-PHAS: Physician Assistant, MS	Physician Assistant	510912
BS-PHYS: Physics, BS	Physics	400801
MS-PHYS: Physics, MS	Physics	400801
PHD-PHYS: Physics, PhD	Physics	400801
PHD-PHYS-A: Physics, PhD—Advanced Entry	Physics	400801
BS-PHMU: Physics and Music with Concentration in Music Technology, BS	Physics/Music	400801
BS-PHPH: Physics and Philosophy, BS	Physics/Philosophy	400801
BA-POLI: Political Science, BA	Political Science	451001
BS-POLI: Political Science, BS	Political Science	451001

MA-POLI: Political Science, MA	Political Science	451001
PHD-POLI: Political Science, PhD	Political Science	451001
PHD-POLI-A: Political Science, PhD—Advanced Entry	Political Science	451001
BS-POBA: Political Science and Business Administration, BS	Political Science/Business Adm	451001
BA-POCM: Political Science and Communication Studies, BA	Political Science/Comm Studies	451001
BS-POCM: Political Science and Communication Studies, BS	Political Science/Comm Studies	451001
BA-POEC: Political Science and Economics, BA	Political Science/Economics	451001
BS-POEC: Political Science and Economics, BS	Political Science/Economics	450603
BA-POHS: Political Science and Human Services, BA	Political Science/HumanService	451001
BS-POHS: Political Science and Human Services, BS	Political Science/HumanService	451001
BA-POIA: Political Science and International Affairs, BA	Political Science/Intl Affairs	451001
BA-POPL: Political Science and Philosophy, BA	Political Science/Philosophy	451001
BS-POPL: Political Science and Philosophy, BS	Political Science/Philosophy	451001
BS-PPBA: Politics, Philosophy, and Economics and Business Administration, BS	Politics, Phil Econ/Bus Adm	451099
BS-PSPE: Politics, Philosophy, and Economics, BS	Politics, Philosophy, and Econ	451099
MS-POHE: Population Health, MS	Population Health	512299
PHD-POHE: Population Health, PhD	Population Health	512299
PHD-POHE-A: Population Health, PhD—Advanced Entry	Population Health	512299
CERTG-PSTE: Postsecondary Teaching, Graduate Certificate	Postsecondary Teaching	131214
CERTG-PLEJ: Poverty Law and Economic Justice, Graduate Certificate	Poverty Law Economic Justice	220299
P-CERTU-PMED: Premedical Studies, Postbaccalaureate Undergraduate Certificate	Pre-Medical Studies	511102
P-CERTU-PRMA: Principles of Manufacturing, Undergraduate Certificate	Principles of Manufacturing	150613
CERTG-PRVL: Privacy Law, Graduate Certificate	Privacy Law	220299
CERTG-PSEN: Process Safety Engineering, Graduate Certificate	Process Safety Engineering	140799
CERTG-PRSC: Process Science, Graduate Certificate	Process Science	261201
MS-PRDV: Product Development, MS	Product Development	142701
MSAMBA-PRAC: Accounting and Business Administration, MSAMBA	Professional Accounting	520301
P-CERTG-PSAD: Professional Sports Administration, Graduate Certificate	Professional Sports Administra	310504
P-CERTG-PBUA: Project Business Analysis, Graduate Certificate	Project Business Analysis	521302
P-BS-PMGT: Project Management, BS	Project Management	521301
P-CERTG-PMGT: Project Management, Graduate Certificate	Project Management	521301
P-CERTU-PMGT: Project Management, Undergraduate Certificate	Project Management	521301
P-MS-PMGT: Project Management, MS	Project Management	521301
BS-PSYC: Psychology, BS	Psychology	422799
MS-PSYC: Psychology, MS	Psychology	422799
P-BS-PSYC: Psychology, BS	Psychology	422799

PHD-PSYC: Psychology, PhD	Psychology	422799
PHD-PSYC-A: Psychology, PhD—Advanced Entry	Psychology	422799
BS-PSMU: Psychology and Music, BS	Psychology/Music	422799
BS-PSTH: Psychology and Theatre, BS	Psychology/Theatre	422799
MPA-PUAD: Public Administration, MPA	Public Administration	440401
P-CERTG-PUMR: Public and Media Relations, Graduate Certificate	Public and Media Relations	090102
BA-PUHE: Public Health, BA	Public Health	512201
MPH-PUHE: Public Health, MPH	Public Health	512201
MPH-PUHE-EX: Public Health, MPH—Accelerated	Public Health	512201
BA-PHCM: Public Health and Communication Studies, BA	Public Health/Comm Studies	512201
BA-PHCA: Public Health and Cultural Anthropology, BA	Public Health/Cultural Anthro	512201
BA-PHJO: Public Health and Journalism, BA	Public Health/Journalism	512201
BA-PHSO: Public Health and Sociology, BA	Public Health/Sociology	512201
CERTG-PUHI: Public History, Graduate Certificate	Public History	540105
MPP-PUPL: Public Policy, MPP	Public Policy	440401
PHD-PUPL: Public Policy, PhD	Public Policy	440401
PHD-PUPL-A: Public Policy, PhD—Advanced Entry	Public Policy	440401
CERTG-PUPA: Public Policy Analysis, Graduate Certificate	Public Policy Analysis	440501
BA-PUBR: Public Relations, BA	Public Relations	090902
P-CERTG-QASC: Quality Assurance Compliance, Graduate Certificate	Quality Assurance Compliance	510720
MSFMBA-QFBA: Quantitative Finance and Business Administration, MSFMBA	Quant Finance/Business Admin	270305
MSF-QFIN: Quantitative Finance, MSF	Quantitative Finance	270305
P-MS-REAF: Regulatory Affairs, MS	Regulatory Affairs	512009
BA-REST: Religious Studies, BA	Religious Studies	380201
BA-RSAS: Religious Studies and Africana Studies, BA	Religious Studies/Africana St.	380201
P-CERTG-RESE: Remote Sensing, Graduate Certificate	Remote Sensing	450799
CERTG-ERES: Renewable Energy, Graduate Certificate	Renewable Energy Systems	142701
MS-ROBO: Robotics, MS	Robotics	144201
MS-RWEH: Real-World Evidence in Healthcare and Life Sciences, MS	RWE in Healthcare and Life Sci	300601
P-CERTG-SMGT: Sales Management, Graduate Certificate	Sales Management	521804
CAGS-SCPS: School Psychology, CAGS	School Psychology	422805
PHD-SCPS-BSE: School Psychology, PhD	School Psychology	422805
PHD-SCPS-MSE: School Psychology, PhD—Advanced Entry	School Psychology	422805
P-MAT-SCED: Secondary Education, MAT	Secondary Education	131205
CERTG-SERE: Security and Resilience Studies, Graduate Certificate	Security Resilience Studies	450999
MS-SERE: Security and Resilience Studies, MS	Security Resilience Studies	450999
P-MA-SCIS: Security and Intelligence Studies, MA	Security and Intelligence Stud	430399
P-CERTG-SMOP. Social Media for Organizational Performance, Graduate Certificate	Social Media for Org Perform	090101
BA-SOCI: Sociology, BA	Sociology	451101
BS-SOCI: Sociology, BS	Sociology	451101
MA-SOCI: Sociology, MA	Sociology	451101
PHD-SOCI: Sociology, PhD	Sociology	451101

PHD-SOCI-A: Sociology, PhD—Advanced Entry	Sociology	451101
BA-SOCA: Sociology and Cultural Anthropology, BA	Sociology/Cultural Anthrop	451101
BS-SOCA: Sociology and Cultural Anthropology, BS	Sociology/Cultural Anthrop	451101
BA-SOES: Sociology and Environmental Studies, BA	Sociology/Envr. Studies	451101
BA-SOIA: Sociology and International Affairs, BA	Sociology/Int'l Affairs	451101
BA-SOPH: Sociology and Philosophy, BA	Sociology/Philosophy	451101
BA-SOPO: Sociology and Political Science, BA	Sociology/Political Science	459999
BA-SORL: Sociology and Religious Studies, BA	Sociology/Religious Studies	451101
CERTG-SWES: Software Engineering Systems, Graduate Certificate	Software Engineering Systems	140903
MS-SWES: Software Engineering Systems, MS	Software Engineering Systems	140903
BA-SPAN: Spanish, BA	Spanish	160905
BA-SPIA: Spanish and International Affairs, BA	Spanish/ Interntional Affairs	160905
BA-SPLI: Spanish and Linguistics, BA	Spanish/Linguistics	160905
BS-SLPA: Speech-Language Pathology and Audiology, BS	Speech-Lang Pathol/Audiology	510204
MS-SLPT: Speech-Language Pathology, MS	Speech-Language Pathology	510204
P-MSLD-SPLE: Sports Leadership, MSLD	Sports Leadership	310504
BFA-STAR: Studio Art, BFA	Studio Art	500702
CERTG-SCEM: Supply Chain Engineering Management, Graduate Certificate	Supply Chain Engineering Mgmt	140101
CERTG-SUPC: Supply Chain Management, Graduate Certificate	Supply Chain Management	520203
CERTG-SUCP. Sustainability and Climate Change Policy, Graduate Certificate	Sustain Climate Chnge Policy	440501
CERTG-SUBE: Sustainability and Business, Graduate Certificate	Sustainability and Business	520704
CERTG-STEN: Sustainability Engineering, Graduate Certificate	Sustainability Engineering	144801
CERTG-SUSC: Sustainability Sciences, Graduate Certificate	Sustainability Sciences	030104
MSSBS-SUBS: Sustainable Building Systems, MSSBS	Sustainable Building Systems	149999
CERTG-SESY: Sustainable Energy Systems, Graduate Certificate	Sustainable Energy Systems	142701
MDES-SUEN: Sustainable Urban Environments, MDes—Two-Year Program	Sustainable Urban Environments	040401
MDES-SUEN1: Sustainable Urban Environments, MDes—One-Year Program	Sustainable Urban Environments	040401
CERTG-TELD: Technology Leadership, Graduate Certificate	Technology Leadership	520216
MS-TNET: Telecommunication Networks, MS	Telecommunication Networks	110901
BA-THEA: Theatre, BA	Theatre	500501
BS-THEA: Theatre, BS	Theatre	500501
BA-THID: Theatre and Interaction Design, BA	Theatre/Interaction Design	500501
BS-THID: Theatre and Interaction Design, BS	Theatre/Interaction Design	500501
BA-THJO: Theatre and Journalism, BA	Theatre/Journalism	500501
CERTG-USLW: United States Law, Graduate Certificate	United States Law	220203
CERTG-URBA: Urban Analytics, Graduate Certificate	Urban Analytics	451201
MS-URBI: Urban Informatics, MS	Urban Informatics	111099
MS-URPP. Urban Planning and Policy, MS	Urban Planning and Policy	451201

CERTG-URBN: Urban Studies, Graduate Certificate	Urban Studies	451201
P-CERTG-USAB: Usability, Graduate Certificate	Usability	111004
CERTG-VCDV: Vaccine Development, Graduate Certificate	Vaccine Development	512006
MS-WNEN: Wireless and Network Engineering, MS	Wireless Network Engineering	141004
CERTG-WOST: Women's, Gender, and Sexuality Studies, Graduate Certificate	Women's Gender Sexuality Stu	050207
CERTG-WGSL: Women, Gender, Sexuality, and the Law, Graduate Certificate	Women, Gender, Sexuality Law	220299

Resources

Online Resources

The following online resources supplement this catalog:

- Academic Calendars (http://www.northeastern.edu/registrar/calendars.html)
- Campus Maps (http://www.northeastern.edu/campusmap/)
- Class Schedules (https://registrar.northeastern.edu/article/schedule-of-classes/)
- University Events (http://calendar.northeastern.edu/)

Index

3D Animation, Graduate Certificate 880

Absenteeism 258
Academic Affairs Appeals Process 579
Academic Appeals Policies 924
Academic Appeals Policies and Procedures 70
Academic Appeals Procedures 1043
Academic Calendars 73
Academic Dismissal 581
Academic Dismissal Policy 336
Academic Integrity 259
Academic Integrity Policy 74
Academic Integrity Policy 337
Academic Policies 335
Academic Policies and Procedures 44
Academic Policies and Procedures 110
Academic Policies and Procedures 257
Academic Policies and Procedures 569
Academic Policies and Procedures 744
Academic Policies and Procedures 784
Academic Policies and Procedures 923
Academic Probation and Dismissal 260
Academic Probation Policy 582
Academic Progression 583
Academic Progression Standards 785
Academic Resources 18
Academic Resources 786
Academic Standing 584
Academic Standing Policy 338
Accelerated Degrees 774
Accommodations for Students with Disabilities 45
Accounting and Business Administration, MSAMBA 209
Accounting and Financial Decision Making, Graduate Certificate 236
Accounting, MSA 185
Accreditation 1243
Active-Duty Military Personnel 787
Additional Programs 1151
Advanced and Intelligent Manufacturing, MS 481
Advising 576
Agile Project Management, Graduate Certificate 881

Analytics, MPS 827
Appeals Policy 339
Applied Analytics, Graduate Certificate 882
Applied Behavior Analysis, MS 639
Applied Educational Psychology, MS 641
Applied Logistics, MPS 829
Applied Machine Intelligence, MPS 831
Applied Mathematics, Graduate Certificate 1003
Applied Mathematics, MS 998
Applied Nutrition, MS 848
Applied Physics and Engineering, MS 421
Applied Physics and Engineering, MS 421
Applied Psychology, MS 642
Applied Quantitative Methods and Social Analysis, MS 1136
Art + Design 125
Artificial Intelligence, MS 277
Arts Administration and Cultural Entrepreneurship, MS 152
Arts Administration, Graduate Certificate 167
Attendance Policy 340
Attendance Requirements 46
Attendance Verification 788
Audit Policy 75
Authorizations 1247
Awards 927

Background Checks 570
Bill Payment 32
Biodefense and Biosecurity, Graduate Certificate 963
Bioengineering 348
Bioengineering, MSBioE 360
Bioengineering, PhD 349
Bioinformatics, Graduate Certificate 948
Bioinformatics, MS 942
Biology 939
Biology, PhD 940
Biomedical Science, MS 726
Biomedical Science, PhD 694
Biopharmaceutical Analytical Sciences, Graduate Certificate 964
Biopharmaceutical Regulatory Affairs, Graduate Certificate 883
Biotechnology Enterprise, Graduate Certificate 966
Biotechnology, Graduate Certificate 965
Biotechnology, MS 955
Biotechnology, MS—Experiential 961

Biotechnology Regulatory Science, Graduate Certificate 967
Blockchain and Smart Contract Engineering, Graduate Certificate 549
Bouvé College of Health Sciences 568
Brand Management, Graduate Certificate 237
Broadband Wireless Systems, Graduate Certificate 550
Business Administration, Graduate Certificate 238
Business Administration, Graduate Certificate—Online 240
Business Administration, MBA—Full-Time 191
Business Administration, MBA—Online 200
Business Administration, MBA—Part-Time 202
Business Analytics, Graduate Certificate 242
Business Analytics, MS 171
Business Analytics, MS—Online 172
Business Law, Graduate Certificate 759
Business Management for Healthcare, Graduate Certificate 243

Campus Resources 21
Campus Transfer and Campus Location Change 47
Cell and Gene Therapies, MS 946
Center for Advancing Teaching and Learning Through Research 22
Certificates 261
Changes in Requirements 928
Chemical Engineering 364
Chemical Engineering, MSChE 376
Chemical Engineering, PhD 366
Chemistry and Chemical Biology 951
Chemistry, MS 962
Chemistry, PhD 953
Civil and Environmental Engineering 380
Civil and Environmental Engineering, PhD 382
Civil Engineering with Concentration in Construction Management, MSCivE 393
Civil Engineering with Concentration in Data and Systems, MSCivE 390
Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE 395
Civil Engineering with Concentration in Structures, MSCivE 397
Civil Engineering with Concentration in Transportation, MSCivE 399
Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE 401
Clearing an Academic Deficiency 48
Climate and Engineering, Graduate Certificate 407
Climate Science and Engineering, MS 385
Climate Science and Engineering, MS 385
Climate Science and Engineering, MS 385
Cloud Computing Application and Management, Graduate Certificate 884
Cloud Software Development, Graduate Certificate 297

Code of Student Conduct 49
College of Arts, Media and Design 109
College of Engineering 334
College of Professional Studies 783
College of Science 922
College of Social Sciences and Humanities 1040
Collegiate Athletics Administration, Graduate Certificate 885
Combined Degrees 208
Commerce and Economic Development, MS 851
Completing Degree Requirements 789
Computational Social Science, Graduate Certificate 1139
Computer Engineering, PhD 411
Computer Science 264
Computer Science, Graduate Certificate 298
Computer Science, MSCS 293
Computer Science, MSCS—Align 295
Computer Science, PhD 267
Construction Management, Graduate Certificate 886
Cooperative Education 76
Cooperative Education Policies 929
Corporate and Organizational Communication, MS 853
Corporate Finance, Graduate Certificate 244
Corporate Innovation, Graduate Certificate 245
Corporate Renewal, Graduate Certificate 246
Counseling Psychology, MSCP 643
Counseling Psychology, PhD 634
Course Credit Guidelines 50
Course Numbering System 51
Course Registration 341
Course Registration 931
Course Selection 342
Course Substitution 577
Creative Collaboration and Multidisciplinary Design, MS 154
Creative Practice Leadership, MS 156
Criminology and Criminal Justice, MS 1055
Criminology and Justice Policy, PhD 1052
Cross-Cultural Communication, Graduate Certificate 887
Cultural Entrepreneurship, Graduate Certificate 168
Cyber-Physical Systems, MS 542
Cybersecurity 301
Cybersecurity, Graduate Certificate 313
Cybersecurity, MS 308
Cybersecurity, MS—Align 310

Cybersecurity, PhD ... 302
Cybersecurity, PhD ... 302
Cybersecurity, PhD ... 302

D'Amore-McKim School of Business ... 169
Data Analytics Engineering, Graduate Certificate ... 526
Data Analytics Engineering, MS ... 485
Data Analytics, Graduate Certificate ... 299
Data Analytics, Graduate Certificate ... 299
Data Analytics, Graduate Certificate ... 299
Data Architecture and Management, MS ... 544
Data Science, MS ... 279
Data Science, MS ... 279
Data Science, MS ... 279
Data Science, MS—Align ... 281
Definitions ... 102
Degrees, Majors, and Concentrations ... 790
Delivery of Services ... 35
Departmental Jurisdiction ... 78
Digital Humanities, Graduate Certificate ... 1072
Digital Media Management, Graduate Certificate ... 888
Digital Media, MPS ... 833
Digital Media, MPS—Connect ... 836
Digital Video, Graduate Certificate ... 889
Disability Resource Center ... 23
Dismissal from Class ... 79
Dissertation Committee ... 343
Doctor of Philosophy ... 1048
Doctoral Degree Programs ... 808
Dropping a Class ... 80
Dual Degrees ... 231
Dual Degrees ... 775

Early Intervention, Graduate Certificate ... 606
Early Intervention, Graduate Certificate ... 606
Economics ... 1059
Economics, MS ... 1064
Economics, PhD ... 1060
Education, EdD ... 809
Education, MEd ... 824
Electrical and Computer Engineering ... 409
Electrical and Computer Engineering Leadership, MSECEL ... 472
Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE ... 434
Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE ... 444

Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE 439
Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE 448
Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE 453
Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE 458
Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE 463
Electrical and Computer Engineering with Concentration in Power Systems, MSECE 467
Electrical Engineering, PhD 419
Elementary Education, MAT 819
Employer Engagement and Career Design 24
Energy Systems, Graduate Certificate 527
Energy Systems Management, Graduate Certificate 528
Energy Systems, MSEneS 504
Energy Systems, MSEneS—Academic Link Program 507
Engineering and Public Policy, MS 387
Engineering and Public Policy, MS 387
Engineering Business, Graduate Certificate 529
Engineering Economic Decision Making, Graduate Certificate 531
Engineering Leadership, Graduate Certificate 551
Engineering Leadership, Graduate Certificate 551
Engineering Management, Graduate Certificate 532
Engineering Management, MSEM 497
English 1066
English, MA 1070
English, PhD 1067
Entrepreneurship, Graduate Certificate 247
Environmental Engineering, MSEnvE 403
Environmental Science and Policy, MS 985
Environmental Science and Policy, MS 985
Environmental Science and Policy, MS 985
eSports, Graduate Certificate 889
Exercise Science, MS—Online 654
Experience Design, Graduate Certificate 137
Experience Design, MFA 126
Experience Design, MS 131
Experiential PhD 107
Experiential Teaching and Learning, Graduate Certificate 890
Experimental Biotechnology, Graduate Certificate 968
Extended Realities, MS 158
Extreme Medicine, Graduate Certificate 631

Family Educational Rights and Privacy Act (FERPA) 52
Final Examinations and Related Policies on Other Exams 81
Finance and Business Administration, MSFMBA 211

Finance and Business Administration, MSFMBA—Online ... 220
Finance and Business Administration, MSFMBA—Part-Time ... 221
Finance, MSF ... 187
Financial Aid Assistance ... 36
Financial Awards ... 575
Financial Information ... 31
Financial Markets and Institutions, Graduate Certificate ... 891
Forensic Accounting, Graduate Certificate ... 892
Full-Time Status ... 82
Full-Time Status ... 791
Fundraising and Development, Graduate Certificate ... 893

Game Design, Graduate Certificate ... 894
Game Experience Design, Graduate Certificate ... 138
Game Science and Design, MS ... 133
Game Science and Design, MS ... 133
Game Science and Design, MS ... 133
Game Science, Graduate Certificate ... 139
General Information ... 111
General Information ... 1042
General Information ... 1237
General Regulations ... 83
General Regulations ... 1041
Geographic Information Systems, Graduate Certificate ... 895
Geospatial Services, MPS ... 839
Global Partnership Programs ... 793
Global Studies and International Relations, Graduate Certificate ... 896
Global Studies and International Relations, MS ... 861
Gordon Institute of Engineering Leadership ... 1145
Governing Boards and Officers of Northeastern ... 1240
Grade Change Policy ... 54
Grade Table and GPA ... 55
Grades ... 745
Grading Policies ... 934
Graduate Campus ... 794
Graduate Catalog ... 16
Graduate Certificate Programs ... 567
Graduate Certificate Programs ... 879
Graduate Certificate Programs ... 1039
Graduate Certificates ... 235
Graduate Certificates ... 758
Graduate Student Classification ... 113
Graduate Student Grievance Policy ... 344

Graduation Policies ... 585
Graduation Requirements ... 87
Graduation Requirements ... 795

Health and Counseling ... 26
Health Informatics ... 314
Health Informatics Management and Exchange, Graduate Certificate ... 607
Health Informatics Management and Exchange, Graduate Certificate ... 665
Health Informatics, MS ... 314
Health Informatics, MS ... 314
Health Informatics, MS ... 314
Health Informatics, MS / Physician Assistant, MS ... 601
Health Informatics, MS / Physician Assistant, MS ... 601
Health Informatics Privacy and Security, Graduate Certificate ... 607
Health Informatics Privacy and Security, Graduate Certificate ... 666
Health Informatics Software Engineering, Graduate Certificate ... 607
Health Informatics Software Engineering, Graduate Certificate ... 667
Health Law and Policy, Graduate Certificate ... 762
Health Law, Graduate Certificate ... 761
Health Management, Graduate Certificate ... 897
Health Requirements ... 571
Healthcare Compliance, Graduate Certificate ... 760
Healthcare Leadership, DMSc ... 587
Healthcare Leadership, DMSc ... 587
Higher Education Administration, Graduate Certificate ... 898
Higher Education Administration, MEd ... 826
History ... 1074
History, MA ... 1078
History, PhD ... 1075
Human Behavior and Sustainability Sciences, PhD ... 980
Human Behavior and Sustainability Sciences, PhD ... 980
Human Factors, MS ... 490
Human Movement and Rehabilitation Sciences, MS ... 629
Human Movement and Rehabilitation Sciences, PhD ... 620
Human Resources Law, Graduate Certificate ... 764
Human Resources Management, Graduate Certificate ... 900
Human Resources Management, MS ... 857
Human Rights Law, Graduate Certificate ... 765
Human-Centered Informatics, Graduate Certificate ... 899

Inclusive Computer Science Education, Graduate Certificate ... 300
Industrial Engineering, MSIE ... 493
Industrial Engineering, PhD ... 475
Informatics, MPS ... 841

Information Design and Data Visualization, MFA ... 128
Information Design and Data Visualization, MS ... 135
Information Design and Visualization, Graduate Certificate ... 140
Information Ethics, Graduate Certificate ... 1141
Information for Entering Students ... 17
Information for International Students ... 28
Information Security Management, Graduate Certificate ... 901
Information Systems, MSIS ... 539
Information Systems, MSIS—Bridge ... 541
Information Technology Services ... 29
Insurance Analytics and Management, Graduate Certificate ... 902
Insurance Analytics and Management, MPS ... 844
Integrative Health and Wellness, Graduate Certificate ... 903
Intellectual Property Law, Graduate Certificate ... 766
Interactive Design, Graduate Certificate ... 904
Interdisciplinary Design and Media, PhD ... 147
Interdisciplinary Engineering, PhD ... 357
Interdisciplinary Engineering, PhD ... 357
Interdisciplinary Engineering, PhD ... 357
Interdisciplinary Graduate Programs ... 555
Interdisciplinary Programs ... 146
Interdisciplinary Programs ... 317
Interdisciplinary Programs ... 586
Interdisciplinary Programs ... 1028
Interdisciplinary Programs ... 1131
International Affairs, MA ... 1098
International Biopharmaceutical Regulatory Affairs, Graduate Certificate ... 905
International Business, Graduate Certificate ... 248
International Management, MS ... 173
Internet of Things, MS ... 286
Internet of Things, MS ... 286
Investments, Graduate Certificate ... 249
IP Telephony Systems, Graduate Certificate ... 553

Journalism, MA ... 142

Khoury College of Computer Sciences ... 256

Law and Policy, DLP ... 813
Law, JD ... 746
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Accounting and Business Administration, MSAMBA ... 232
Law, JD / Business Administration, MBA—Full-Time ... 233
Law, JD / Business Administration, MBA—Full-Time ... 233

Law, JD / Criminology and Criminal Justice, MS ... 779
Law, JD / Criminology and Criminal Justice, MS ... 779
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Criminology and Justice Policy, PhD ... 778
Law, JD / Public Health, MPH ... 602
Law, JD / Public Health, MPH ... 602
Law, JD / Public Health, MPH ... 602
Law, JD / Public Policy, MPP ... 781
Law, JD / Public Policy, MPP ... 781
Law, LLM ... 749
Law, LLM / Business Administration, MBA—Full-Time ... 234
Law, LLM / Business Administration, MBA—Full-Time ... 234
Law, LLM—Online ... 754
Leadership, Graduate Certificate ... 906
Leading and Managing Technical Projects, Graduate Certificate ... 907
Leading People and Organizations, Graduate Certificate ... 250
Lean Six Sigma, Graduate Certificate ... 533
Learning Experience Design and Technology, Graduate Certificate ... 908
Learning Experience Design and Technology, MPS ... 846
Leaves of Absence and University Withdrawal ... 57
Legal Design, Graduate Certificate ... 767
Legal Studies, MLS—Online ... 755
Liability Insurance ... 572
Libraries ... 19

Major CIP Codes ... 1251
Management, MS ... 174
Manufacturing and Quality Operations in Biotechnology, Graduate Certificate ... 969
Marine and Environmental Sciences ... 974
Marine and Environmental Sciences, PhD ... 975
Marine Biology, MS ... 987
Marketing Analytics, Graduate Certificate ... 252
Marketing, Graduate Certificate ... 251
Master of Architecture—One-Year Program ... 115
Master of Architecture—Three-Year Program ... 118
Master of Architecture—Three-Year Program—Advanced Degree Entrance ... 120
Master of Architecture—Two-Year Program ... 116
Master of Business Administration ... 190
Master of Science ... 170
Master's Degree Admission Requirements ... 796
Master's Degree Policies ... 112
Master's Degree Programs ... 816
Master's Degrees ... 1050

Mathematics ... 990
Mathematics, MS ... 1000
Mathematics, PhD ... 991
Mechanical and Industrial Engineering ... 473
Mechanical Engineering, PhD ... 478
Mechanical Engineering with Concentration in General Mechanical Engineering, MSME ... 509
Mechanical Engineering with Concentration in Materials Science, MSME ... 512
Mechanical Engineering with Concentration in Mechanics and Design, MSME ... 514
Mechanical Engineering with Concentration in Mechatronics, MSME ... 517
Mechanical Engineering with Concentration in Thermofluids, MSME ... 520
Media Advocacy, MS ... 143
Media Advocacy, MS ... 143
Media Innovation and Data Communication, MS ... 144
Medical Device Regulatory Affairs, Graduate Certificate ... 909
Medicinal Chemistry and Drug Discovery, MS ... 729
Medicinal Chemistry and Drug Discovery, PhD ... 701
Mills College at Northeastern ... 1144
Minimum Cumulative GPA ... 88
Molecular Biotechnology, Graduate Certificate ... 970
Multidisciplinary Programs ... 538
Mutual Fund Management, Graduate Certificate ... 253

Nanomedicine, Graduate Certificate ... 1019
Nanomedicine, MS ... 1012
Network Science, PhD ... 273
Network Science, PhD ... 273
Network Science, PhD ... 273
Network Science, PhD ... 273
Network Science, PhD ... 273
New Student Orientation (On-Ground and Online) ... 797
Nonclinical Biomedical Product Regulation, Graduate Certificate ... 910
Nonprofit Management, Graduate Certificate ... 911
Nonprofit Management, MS ... 864
Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate ... 1120
Notifications and Disclosures ... 1238
Nurse Anesthesia, DNP ... 672
Nursing, DNP—Post-Master's ... 674
Nursing, MS ... 682
Nursing, MS—Direct Entry ... 686
Nursing, PhD ... 669
Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS ... 675
Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS ... 676
Nursing—Neonatal Nurse Practitioner, CAGS ... 678

Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS ... 680
Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS ... 679
Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS ... 681
Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS ... 677

Off Campus Engagement and Support ... 30
Office of the University Registrar ... 20
Office of the University Registrar ... 20
Omics, Graduate Certificate ... 950
Operations Research, MSOR ... 523
Operations Research, MSOR ... 1001
Organizational Communication, Graduate Certificate ... 912
Organizational Leadership, MS ... 868
Overload Conditions for Graduate Assistants ... 89

Pass / Fail Policy ... 262
Pass/Fail (Satisfactory/Unsatisfactory) Grading ... 90
Patient Safety, Graduate Certificate ... 607
Patient Safety, Graduate Certificate ... 607
Pediatric Nurse Practitioner, Acute Care, Graduate Certificate ... 692
Personal Health Informatics, PhD ... 314
Personal Health Informatics, PhD ... 322
Personal Health Informatics, PhD ... 314
Personal Health Informatics, PhD ... 314
Personal Information ... 60
Personal Professional Enrichment (PPE) ... 798
Pharmaceutical Engineering, MS ... 374
Pharmaceutical Engineering, MS ... 374
Pharmaceutical Engineering, MS ... 374
Pharmaceutical Technologies, Graduate Certificate ... 971
Pharmaceutics and Drug Delivery, MS ... 734
Pharmaceutics and Drug Delivery, PhD ... 707
Pharmacology, MS ... 738
Pharmacology, PhD ... 713
Pharmacy, PharmD ... 719
Pharmacy, PharmD—Direct Entry ... 720
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
Pharmacy, PharmD—Direct Entry / Public Health, MPH ... 603
PhD Programs ... 103
PhD Student Progress and Review ... 345
Physical Therapy, DPT—Postbaccalaureate Entry ... 623
Physician Assistant, MS ... 616
Physician Assistant, MS / Public Health, MPH ... 604

Physician Assistant, MS / Public Health, MPH 604
Physician Assistant, MS / Public Health, MPH 604
Physics 1004
Physics, MS 1016
Physics, PhD 1005
Political Science 1081
Political Science, MA 1085
Political Science, PhD 1082
Population Health, PhD 646
Postsecondary Teaching, Graduate Certificate 1152
Poverty Law and Economic Justice, Graduate Certificate 769
Privacy Law, Graduate Certificate 771
Process Safety Engineering, Graduate Certificate 379
Process Science, Graduate Certificate 972
Product Development, MS 565
Professional Sports Administration, Graduate Certificate 913
Program Completion 346
Project Business Analysis, Graduate Certificate 914
Project Management, Graduate Certificate 915
Project Management, MS 871
Psychology 1020
Psychology, PhD 1024
Public Administration, MPA 1100
Public and Media Relations, Graduate Certificate 916
Public Health, MPH 650
Public Health, MPH / Health Informatics, MS 605
Public Health, MPH / Health Informatics, MS 605
Public Health, MPH—Accelerated 652
Public History, Graduate Certificate 1080
Public Policy Analysis, Graduate Certificate 1121
Public Policy, MPP 1103
Public Policy, PhD 1093
Public Safety 25

Quality Assurance Compliance, Graduate Certificate 917
Quantitative Finance and Business Administration, MSFMBA 227
Quantitative Finance, MSF 188

Readmission to Program 799
Real-World Evidence in Healthcare and Life Sciences, MS 599
Real-World Evidence in Healthcare and Life Sciences, MS 599
Reenrollment Policy for Full-time Students 347
Reentry to Program 800
Registration and Taking Courses 801

Regulations and Requirements for All Graduate Degree Programs ... 91
Regulations and Requirements for Doctor of Philosophy (PhD) Programs ... 99
Regulations and Requirements for Graduate Certificate Programs ... 93
Regulations and Requirements for Interdisciplinary Graduate Degrees ... 101
Regulations and Requirements for PlusOne Degree Combinations ... 95
Regulations and Requirements for Professional Doctorate Degree Programs ... 96
Regulations and Requirements for the Certificate of Advanced Graduate Study ... 98
Regulations and Requirements for the Master's Degree ... 94
Regulations for All Students ... 1046
Regulatory Affairs, MS ... 874
Reinstatement after Academic Dismissal ... 803
Remote Sensing, Graduate Certificate ... 918
Renewable Energy, Graduate Certificate ... 534
Requesting and Clearing An Incomplete Grade ... 61
Requirements for Clinical, Internships, and Practicum Courses ... 573
Resources ... 1271
Retaking Courses ... 62
Robotics, MS ... 290
Robotics, MS ... 290
Robotics, MS ... 290

Sales Management, Graduate Certificate ... 919
Satisfactory Progress ... 936
School of Architecture ... 114
School of Clinical and Rehabilitation Sciences ... 608
School of Community Health and Behavioral Sciences ... 632
School of Criminology and Criminal Justice ... 1051
School of Journalism ... 141
School of Law ... 742
School of Nursing ... 668
School of Pharmacy and Pharmaceutical Sciences ... 693
School of Public Policy and Urban Affairs ... 1092
School Psychology, CAGS ... 638
School Psychology, PhD ... 636
Secondary Education, MAT ... 821
Security and Intelligence Studies, MA ... 817
Security and Resilience Studies, Graduate Certificate ... 1091
Security and Resilience Studies, MS ... 1088
Seeking More than One Certificate or Degree ... 804
Social Media for Organizational Performance, Graduate Certificate ... 920
Sociology ... 1125
Sociology, PhD ... 1126
Software Engineering Systems, Graduate Certificate ... 554

Software Engineering Systems, MS ... 545
Special Student Status ... 805
Speech-Language Pathology, MS ... 611
Sports Leadership, MSLD ... 877
Student Bill of Academic Rights and Responsibilities ... 63
Student Evaluation of Courses ... 806
Student Refunds ... 39
Student Responsibility Statement ... 66
Student Right-to-Know Act ... 67
Substituting Courses ... 68
Supply Chain Engineering Management, Graduate Certificate ... 536
Supply Chain Management, Graduate Certificate ... 254
Sustainability and Business, Graduate Certificate ... 255
Sustainability and Climate Change Policy, Graduate Certificate ... 1122
Sustainability Engineering, Graduate Certificate ... 408
Sustainability Sciences, Graduate Certificate ... 989
Sustainable Building Systems, MSSBS ... 405
Sustainable Energy Systems, Graduate Certificate ... 535
Sustainable Urban Environments, MDes—One-Year Program ... 122
Sustainable Urban Environments, MDes—Two-Year Program ... 123

Technology Leadership, Graduate Certificate ... 1149
Technology Systems Management, Graduate Certificate ... 537
Telecommunication Networks, MS ... 547
The Doctor of Philosophy Degree (PhD) ... 932
The Master's Degree Academic Requirements ... 935
Time Limitation ... 937
Transfer Credit ... 938
Transfer Credit Policies ... 807
Transfer of Credit ... 263
Transfer of Credit ... 578
Transitional Doctor of Physical Therapy, DPT ... 814
Tuition and Fees ... 40

United States Law, Graduate Certificate ... 772
University Faculty ... 1153
University Leadership ... 1242
University-Sponsored Travel ... 69
Urban Analytics, Graduate Certificate ... 1123
Urban Informatics, MS ... 1111
Urban Planning and Policy, MS ... 163
Urban Planning and Policy, MS ... 163
Urban Studies, Graduate Certificate ... 1124
Usability, Graduate Certificate ... 921

Vaccine Development, Graduate Certificate 973

We Care 27
Wireless and Network Engineering, MS 432
Women, Gender, Sexuality, and the Law, Graduate Certificate 773
Women's, Gender, and Sexuality Studies, Graduate Certificate 1142

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Thursday, August 24, 2023	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half fall classes
Monday, August 28, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Tuesday, August 29, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Wednesday, August 30, 2023	School of Law (LW)	LW: First day of fall classes for first-year students
Thursday, August 31, 2023	Undergraduate (UG)	UG: First day of "I Am Here" for fall classes
Thursday, August 31, 2023	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half fall classes
Monday, September 4, 2023	Holidays, United States (USA)	USA: Labor Day, no classes
Monday, September 4, 2023	Holidays, Canada (CAN)	CAN: Labour Day, no classes
Tuesday, September 5, 2023	School of Law (LW)	LW: First day of full-semester and first-half fall classes
Tuesday, September 5, 2023	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: First day of fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Last day of "I Am Here" for fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Fall classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Wednesday, September 6, 2023	Graduate (GR)	GR: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half fall classes
Wednesday, September 13, 2023	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half fall classes will be dropped for students who do not complete "I Am Here"
Thursday, September 14, 2023	Undergraduate (UG)	UG: Last day of online class add for fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day of online class add for full-semester and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	Undergraduate (UG)	UG: Last day to elect pass/fail for fall classes (may be extended by instructor to October 27)
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day of online class add for full-semester and first-half fall classes
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester fall classes
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half fall class without a W grade
Wednesday, September 20, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class without a W grade (with administrative approval)
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half fall classes
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half fall classes
Monday, September 25, 2023	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half fall classes will be dropped for students who do not complete "I Am Here"
Monday, September 25, 2023	School of Law (LW)	LW: Yom Kippur observed by School of Law only, no classes
Tuesday, September 26, 2023	Undergraduate (UG)	UG: Last day to drop a fall class without a W grade
Tuesday, September 26, 2023	Graduate (GR)	GR: Last day to drop a full-semester fall class without a W grade
Tuesday, September 26, 2023	School of Law (LW)	LW: Last day to drop a full-semester fall class without a W grade
Friday, September 29, 2023	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for fall classes
Saturday, September 30, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation, no classes (Vancouver only)
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter fall classes
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half fall class without a W grade
Monday, October 2, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation observed, no classes (Vancouver only)
Monday, October 9, 2023	Holidays, United States (USA)	USA: Indigenous Peoples Day, no classes
Monday, October 9, 2023	Holidays, Canada (CAN)	CAN: Thanksgiving Day, no classes
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Friday, October 13, 2023	Graduate (GR)	GR: Optional makeup day
Sunday, October 15, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class with a W grade
Sunday, October 15, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class with a W grade
Monday, October 16, 2023	Graduate (GR)	GR: First day of final exams for first-half fall classes
Tuesday, October 17, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Tuesday, October 17, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half fall class with a W grade
Wednesday, October 18, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Wednesday, October 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half fall classes
Thursday, October 19, 2023	Graduate (GR)	GR: First day of "I Am Here" for second-half fall classes
Thursday, October 19, 2023	School of Law (LW)	LW: First day of "I Am Here" for second-half fall classes
Saturday, October 21, 2023	Graduate (GR)	GR: Last day of first-half fall classes/final exams
Saturday, October 21, 2023	School of Law (LW)	LW: Last day of first-half fall classes
Sunday, October 22, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half fall class with a W grade
Monday, October 23, 2023	Undergraduate (UG)	UG: Spring class offerings posted on web
Monday, October 23, 2023	Graduate (GR)	GR: First day of second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Last day of "I Am Here" for second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Undergraduate (UC)	UC: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half fall classes
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: Winter class offerings posted on web
Monday, October 23, 2023	School of Law (LW)	LW: First day of second-half fall classes
Monday, October 23, 2023	School of Law (LW)	LW: Last day of "I Am Here" for second-half fall classes

Date	Calendar	Event
Monday, October 23, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 24, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half fall classes/final exams
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of second-half fall classes
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half fall classes
Thursday, October 26, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Saturday, October 28, 2023	College of Professional Studies Graduate (GP)	GP: Last day of first-half fall classes/final exams
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half fall classes
Wednesday, November 1, 2023	College of Professional Studies Undergraduate (UC)	UC: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Sunday, November 5, 2023	Graduate (GR)	GR: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	Graduate (GR)	GR: Last day to drop a second-half fall class without a W grade
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half fall classes
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day to drop a second-half fall class without a W grade
Monday, November 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of registration for spring classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: First day of registration for winter classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Tuesday, November 7, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half fall class without a W grade
Friday, November 10, 2023	Graduate (GR)	GR: First day of spring class registration
Saturday, November 11, 2023	Holidays, United States (USA)	USA: Veterans Day, no classes
Saturday, November 11, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day, no classes (Vancouver only)
Sunday, November 12, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half fall class without a W grade
Monday, November 13, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day observed, no classes (Vancouver only)
Monday, November 13, 2023	Undergraduate (UG)	UG: First day of spring class registration for continuing students
Monday, November 13, 2023	School of Law (LW)	LW: First day of spring registration
Monday, November 20, 2023	College of Professional Studies Graduate (GP)	GP: First day of fall break
Wednesday, November 22, 2023	Undergraduate (UG)	UG: First day of fall break
Wednesday, November 22, 2023	Graduate (GR)	GR: First day of fall break
Wednesday, November 22, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break for first-year students
Monday, November 27, 2023	Undergraduate (UG)	UG: Classes resume
Monday, November 27, 2023	Graduate (GR)	GR: Classes resume
Monday, November 27, 2023	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, November 27, 2023	College of Professional Studies Graduate (GP)	GP: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume for first-year students
Wednesday, December 6, 2023	Undergraduate (UG)	UG: Last day of fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Reading day for fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Last day to drop a fall class with a W grade
Friday, December 8, 2023	Undergraduate (UG)	UG: First day of final exams for fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of full-semester fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of fall classes for first-year students
Sunday, December 10, 2023	Graduate (GR)	GR: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class with a W grade (with administrative approval)
Monday, December 11, 2023	Graduate (GR)	GR: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of final exams for full-semester fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of reading period/final exams for fall classes for first-year students
Friday, December 15, 2023	Undergraduate (UG)	UG: Last day of final exams for fall classes
Saturday, December 16, 2023	Undergraduate (UG)	UG: Final exam makeup day for fall classes if needed
Saturday, December 16, 2023	Undergraduate (UG)	UG: Fall degree conferral date
Saturday, December 16, 2023	Graduate (GR)	GR: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	Graduate (GR)	GR: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Fall degree conferral date
Saturday, December 16, 2023	School of Law (LW)	LW: Last day of second-half fall classes
Monday, December 18, 2023	Undergraduate (UG)	UG: First day of winter break
Monday, December 18, 2023	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for fall classes
Monday, December 18, 2023	Graduate (GR)	GR: First day of winter break

Date	Calendar	Event
Monday, December 18, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of winter break
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of winter break
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half fall classes
Monday, December 18, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for full-semester fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Fall degree conferral date
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for fall classes for first-year students
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes if needed
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes for first-year students if needed
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break for first-year students
Thursday, January 4, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for spring classes
Thursday, January 4, 2024	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half spring classes
Thursday, January 4, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	Undergraduate (UG)	UG: First day of spring classes
Monday, January 8, 2024	Graduate (GR)	GR: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half winter classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half winter classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of spring classes for first-year students
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for spring classes
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Spring classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Tuesday, January 9, 2024	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half winter classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half winter classes
Monday, January 15, 2024	Holidays, United States (USA)	USA: Martin Luther King, Jr. Day, no classes
Tuesday, January 16, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, January 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, January 17, 2024	Undergraduate (UG)	UG: Last day of online class add for spring classes
Friday, January 19, 2024	Graduate (GR)	GR: Optional makeup day
Monday, January 22, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for spring classes (may be extended by instructor to March 1)
Monday, January 22, 2024	Graduate (GR)	GR: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester spring classes
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer class offerings posted on web
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter winter classes
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half winter class without a W grade
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Spring class offerings posted on web
Monday, January 22, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester fall classes
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline for fall classes for first-year students
Monday, January 29, 2024	Undergraduate (UG)	UG: Last day to drop a spring class without a W grade
Monday, January 29, 2024	Undergraduate (UG)	UG: Summer class offerings posted on web
Monday, January 29, 2024	Graduate (GR)	GR: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	Graduate (GR)	GR: Summer class offerings posted on web
Monday, January 29, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class without a W grade (with administrative approval)
Thursday, February 1, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for spring classes
Monday, February 5, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for summer classes
Monday, February 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for spring classes
Friday, February 9, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, February 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half winter class with a W grade
Monday, February 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half winter classes
Friday, February 16, 2024	Graduate (GR)	GR: First day of summer class registration
Friday, February 16, 2024	Graduate (GR)	GR: Optional makeup day
Saturday, February 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half winter classes/final exams
Monday, February 19, 2024	Holidays, United States (USA)	USA: Presidents Day, no classes
Monday, February 19, 2024	Holidays, Canada (CAN)	CAN: Family Day, no classes
Monday, February 19, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class with a W grade
Monday, February 19, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	Undergraduate (UG)	UG: First day of summer class registration for continuing students

Date	Calendar	Event
Tuesday, February 20, 2024	Graduate (GR)	GR: First day of final exams for first-half spring classes
Tuesday, February 20, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half winter classes
Wednesday, February 21, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half spring classes
Thursday, February 22, 2024	Graduate (GR)	GR: First day of "I Am Here" for second-half spring classes
Thursday, February 22, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half spring classes
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Saturday, February 24, 2024	Graduate (GR)	GR: Last day of first-half spring classes/final exams
Saturday, February 24, 2024	School of Law (LW)	LW: Last day of first-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: First day of second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half winter classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half winter classes
Monday, February 26, 2024	School of Law (LW)	LW: First day of second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Tuesday, February 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half spring classes/final exams
Tuesday, February 27, 2024	College of Professional Studies Graduate (GP)	GP: Second-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half spring classes
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half spring classes
Thursday, February 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, March 4, 2024	Undergraduate (UG)	UG: First day of spring break
Monday, March 4, 2024	Graduate (GR)	GR: First day of spring break
Monday, March 4, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of spring break
Monday, March 4, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half winter class without a W grade
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break for first-year students
Friday, March 8, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Monday, March 11, 2024	Undergraduate (UG)	UG: Classes resume
Monday, March 11, 2024	Graduate (GR)	GR: Classes resume
Monday, March 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume for first-year students
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half spring classes
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half spring classes
Wednesday, March 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Sunday, March 17, 2024	Graduate (GR)	GR: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	Graduate (GR)	GR: Last day to drop a second-half spring class without a W grade
Sunday, March 17, 2024	School of Law (LW)	LW: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class without a W grade
Monday, March 18, 2024	Undergraduate (UG)	UG: Fall class offerings posted on web
Monday, March 18, 2024	Graduate (GR)	GR: Fall class offerings posted on web
Tuesday, March 19, 2024	Undergraduate (UG)	UG: Experiential Trek Day (Oakland only)
Tuesday, March 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half spring class without a W grade
Friday, March 22, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, March 24, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half winter class with a W grade
Monday, March 25, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half winter classes
Friday, March 29, 2024	Holidays, United States (USA)	USA: Good Friday, no classes (Charlotte only)
Friday, March 29, 2024	Holidays, Canada (CAN)	CAN: Good Friday, no classes
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half winter classes/final exams
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Winter degree conferral date
Sunday, March 31, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day observed, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of spring break
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half winter classes
Monday, April 1, 2024	School of Law (LW)	LW: First day of summer registration
Friday, April 5, 2024	Graduate (GR)	GR: First day of fall class registration for continuing students
Monday, April 8, 2024	Undergraduate (UG)	UG: First day of fall class registration for continuing students
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: Summer class offerings posted on web
Friday, April 12, 2024	School of Law (LW)	LW: Last day of full-semester spring classes
Friday, April 12, 2024	School of Law (LW)	LW: Last day of spring classes for first-year students
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half spring classes
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half spring classes
Monday, April 15, 2024	Holidays, United States (USA)	USA: Patriots Day, no classes (Boston & Portland only)

Date	Calendar	Event
Monday, April 15, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class with a W grade
Monday, April 15, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class with a W grade (with administrative approval)
Tuesday, April 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of final exams for full-semester spring classes
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of reading period/final exams for spring classes for first-year students
Wednesday, April 17, 2024	Undergraduate (UG)	UG: Last day of spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Reading day for spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Last day to drop a spring class with a W grade
Friday, April 19, 2024	Undergraduate (UG)	UG: First day of final exams for spring classes
Friday, April 19, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, April 21, 2024	Graduate (GR)	GR: Last day to drop a full-semester or second-half spring class with a W grade
Sunday, April 21, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester and second-half spring class with a W grade
Sunday, April 21, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class with a W grade
Monday, April 22, 2024	Graduate (GR)	GR: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for summer classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half spring class without a W grade
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for full-semester spring classes
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for spring classes for first-year students
Friday, April 26, 2024	Undergraduate (UG)	UG: Last day of final exams for spring classes
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes if needed
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes for first-year students if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Final exam makeup day for spring classes if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Spring degree conferral date
Saturday, April 27, 2024	Graduate (GR)	GR: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	Graduate (GR)	GR: Spring degree conferral date
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Spring degree conferral date
Saturday, April 27, 2024	School of Law (LW)	LW: Last day of second-half spring classes
Saturday, April 27, 2024	School of Law (LW)	LW: Spring degree conferral date
Monday, April 29, 2024	Undergraduate (UG)	UG: First day of summer break
Monday, April 29, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for spring classes
Monday, April 29, 2024	Graduate (GR)	GR: First day of summer break
Monday, April 29, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of summer break
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	School of Law (LW)	LW: First day of summer break
Monday, April 29, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half spring classes
Thursday, May 2, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: First day of summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Summer 1 and full summer classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, May 6, 2024	Graduate (GR)	GR: First day of summer 1 and full summer classes
Monday, May 6, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: First day of full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half summer classes
Wednesday, May 8, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 1 classes
Wednesday, May 8, 2024	Graduate (GR)	GR: First day of fall class registration for new students
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half spring class with a W grade
Monday, May 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half summer classes will be dropped for students who do not complete "I Am Here"
Monday, May 13, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half spring classes
Tuesday, May 14, 2024	Undergraduate (UG)	UG: Last day of online class add for full summer classes
Saturday, May 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half spring classes/final exams
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 1 classes (may be extended by instructor to June 7)
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for full summer classes (may be extended by instructor to June 28)
Sunday, May 19, 2024	Graduate (GR)	GR: Last day of online class add for summer 1 and full summer classes
Sunday, May 19, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester summer classes
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half summer class without a W grade
Sunday, May 19, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half summer classes
Sunday, May 19, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class without a W grade
Monday, May 20, 2024	Holidays, Canada (CAN)	CAN: Victoria Day, no classes

Date	Calendar	Event
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Thursday, May 23, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 1 classes
Sunday, May 26, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	Graduate (GR)	GR: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half spring classes
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half spring classes
Sunday, May 26, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class without a W grade
Monday, May 27, 2024	Holidays, United States (USA)	USA: Memorial Day, no classes
Tuesday, May 28, 2024	College of Professional Studies Graduate (GP)	GP: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester spring classes
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline for spring classes for first-year students
Wednesday, May 29, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for full summer classes
Friday, May 31, 2024	Graduate (GR)	GR: Optional makeup day
Monday, June 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Fall class offerings posted on web
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half spring class without a W grade
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Fall class offerings posted on web
Monday, June 17, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for fall classes
Monday, June 17, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for fall classes
Wednesday, June 19, 2024	Holidays, United States (USA)	USA: Juneteenth, no classes
Wednesday, June 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half summer class with a W grade
Thursday, June 20, 2024	Undergraduate (UG)	UG: Last day of summer 1 classes
Thursday, June 20, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half summer classes
Friday, June 21, 2024	Undergraduate (UG)	UG: Reading day for summer 1 classes
Friday, June 21, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, June 23, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half spring class with a W grade
Sunday, June 23, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class with a W grade
Monday, June 24, 2024	Undergraduate (UG)	UG: First day of final exams for summer 1 classes
Monday, June 24, 2024	Graduate (GR)	GR: First day of final exams for summer 1 classes
Monday, June 24, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half spring classes
Tuesday, June 25, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 1 classes
Tuesday, June 25, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half summer classes/final exams
Wednesday, June 26, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 1 classes if needed
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half summer classes
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half summer classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Thursday, June 27, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Thursday, June 27, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half summer classes
Saturday, June 29, 2024	Graduate (GR)	GR: Last day of summer 1 classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half spring classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Spring degree conferral date
Saturday, June 29, 2024	School of Law (LW)	LW: Last day of first-half summer classes
Monday, July 1, 2024	Holidays, Canada (CAN)	CAN: Canada Day, no classes
Monday, July 1, 2024	Undergraduate (UG)	UG: First day of summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Summer 2 classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, July 1, 2024	Graduate (GR)	GR: First day of summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of summer break
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half spring classes
Monday, July 1, 2024	School of Law (LW)	LW: First day of second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half summer classes
Wednesday, July 3, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 2 classes
Wednesday, July 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, July 4, 2024	Holidays, United States (USA)	USA: Independence Day, no classes
Friday, July 5, 2024	Graduate (GR)	GR: Optional makeup day
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter, first-half, and six-week summer classes
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter, first-half, and six-week summer classes
Tuesday, July 9, 2024	School of Law (LW)	LW: Classes will follow a Thursday schedule
Wednesday, July 10, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half summer class without a W grade
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter, first-half, and six-week summer classes

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half and six-week summer classes
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 2 classes (may be extended by instructor to August 2)
Monday, July 15, 2024	Graduate (GR)	GR: Last day of online class add for summer 2 classes
Monday, July 15, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter, first-half, and six-week summer classes will be dropped for students who do not complete "I Am Here"
Monday, July 15, 2024	School of Law (LW)	LW: Last day of online class add for second-half summer classes
Monday, July 15, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class without a W grade
Thursday, July 18, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 2 classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter summer classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter, first-half, or six-week summer class without a W grade
Sunday, July 28, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half summer class with a W grade
Monday, July 29, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half summer classes
Monday, July 29, 2024	School of Law (LW)	LW: First day of fall registration
Saturday, August 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half summer classes/final exams
Monday, August 5, 2024	Holidays, Canada (CAN)	CAN: Civic Holiday, no classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day of full-semester summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class with a W grade
Thursday, August 8, 2024	Undergraduate (UG)	UG: Last day of full summer classes
Thursday, August 8, 2024	School of Law (LW)	LW: First day of final exams for full-semester summer classes
Friday, August 9, 2024	Undergraduate (UG)	UG: Reading day for full summer classes
Sunday, August 11, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	Graduate (GR)	GR: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a six-week summer class with a W grade
Monday, August 12, 2024	Undergraduate (UG)	UG: First day of final exams for full summer classes
Monday, August 12, 2024	Graduate (GR)	GR: First day of final exams for full summer classes
Monday, August 12, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for six-week summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of final exams for full summer classes
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of summer 2 classes
Friday, August 16, 2024	Undergraduate (UG)	UG: Final exam makeup day for full summer classes if needed
Friday, August 16, 2024	Undergraduate (UG)	UG: Reading day for summer 2 classes
Saturday, August 17, 2024	Graduate (GR)	GR: Last day of full summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of six-week summer classes/final exams
Sunday, August 18, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half summer class without a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for six-week summer classes
Sunday, August 18, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class with a W grade
Monday, August 19, 2024	Undergraduate (UG)	UG: First day of final exams for summer 2 classes
Monday, August 19, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	Graduate (GR)	GR: First day of final exams for summer 2 classes
Monday, August 19, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half summer classes
Tuesday, August 20, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 2 classes
Tuesday, August 20, 2024	School of Law (LW)	LW: Last day of final exams for full-semester summer classes
Wednesday, August 21, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 2 classes if needed
Wednesday, August 21, 2024	School of Law (LW)	LW: Final exam makeup day for summer classes if needed
Thursday, August 22, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Saturday, August 24, 2024	Undergraduate (UG)	UG: Summer degree conferral date
Saturday, August 24, 2024	Graduate (GR)	GR: Last day of summer 2 classes/final exams
Saturday, August 24, 2024	Graduate (GR)	GR: Summer degree conferral date
Saturday, August 24, 2024	School of Law (LW)	LW: Last day of second-half summer classes
Saturday, August 24, 2024	School of Law (LW)	LW: Summer degree conferral date
Sunday, August 25, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half summer class with a W grade
Monday, August 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Monday, August 26, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half summer classes
Monday, August 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half summer classes
Saturday, August 31, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer degree conferral date
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half summer classes/final exams
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Summer degree conferral date
Tuesday, September 3, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half summer classes

Date	Calendar	Event
Thursday, September 19, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester summer classes

Northeastern University

Matthew Modoono for Northeastern University

Undergraduate Catalog

Full-Time Day Programs

2023-2024

Table of Contents

Undergraduate Catalog 21
- Admission 22
  - Admission Policy and Entrance Requirements 23
  - Conditional Admission 28
  - Merit Scholarships 29
  - Specialized Entry Programs 30
    - Foundation Year 31
  - University Honors Program 33
- Information for Entering Students 34
  - Accommodations for Students with Disabilities 35
  - Immunization Requirements 36
  - Information Technology Services 37
  - Information for International Students 38
  - Office of the University Registrar 39
  - Family Programs 40
  - Public Safety 41
  - Housing and Residential Life 42
  - Student Orientation 43
  - We Care 44
- Financial Information 45
  - Bill Payment 46
  - Delivery of Services 49
  - Financial Aid 50
  - Financing Options 52
  - Tuition, Room, Board, and Fees Per Semester 53
- Academic Policies and Procedures 58
  - Accommodations for Students with Disabilities 59
  - Attendance Requirements 60
  - Campus Transfer and Campus Location Change 61
  - Clearing an Academic Deficiency 62
  - Code of Student Conduct 63
  - Course Credit Guidelines 64
  - Course Numbering System 65
  - Family Educational Rights and Privacy Act (FERPA) 66
  - Grade Change Policy 68
  - Grade Table and GPA 69
  - Leaves of Absence and University Withdrawal 71
  - Personal Information 74
  - Requesting and Clearing An Incomplete Grade 75
  - Retaking Courses 76

Student Bill of Academic Rights and Responsibilities ... 77
Student Responsibility Statement ... 80
Student Right-to-Know Act ... 81
Substituting Courses ... 82
University-Sponsored Travel ... 83
Academic Appeals Policies and Procedures ... 84
Academic Honors ... 86
Academic Integrity Policy ... 87
Academic Progression Standards ... 88
Cooperative Education ... 89
Degrees, Majors, and Minors ... 91
Final Examinations and Related Policies on Other Exams and Final Term Papers/Projects ... 94
Graduation Requirements ... 95
Registration and Taking Courses ... 96
Student Evaluation of Courses (TRACE) ... 100
University Academics ... 101
Army, Air Force, and Navy Reserve Officers' Training Corps (ROTC) Programs ... 102
Education ... 104
Experiential Learning ... 105
Explore Program ... 106
General Studies Program ... 107
Global Experience ... 108
Living Learning Communities ... 110
NUpath ... 111
NUpath Requirements ... 112
NUpath Learning Goals ... 114
Writing-Intensive Courses ... 118
Additional Requirements for BA Students ... 119
Pre-Law Advising ... 120
PreMed and PreHealth Advising ... 121
Research and Creative Activity ... 123
Service-Learning ... 124
Undergraduate Degrees ... 125
Undergraduate Internships ... 126
University Honors Program ... 127
Universitywide Requirements ... 128
World Languages Center ... 129
College of Arts, Media and Design ... 130
School of Architecture ... 131
Architecture, BS ... 133
Architectural Studies, BS ... 139
Architectural Studies and Design, BS ... 142
Architecture and English, BS ... 145

Civil Engineering and Architectural Studies, BSCE ... 149
Environmental and Sustainability Sciences and Landscape Architecture, BS ... 155
Environmental Engineering and Landscape Architecture, BSEnvE ... 158
Landscape Architecture, BLA ... 163
Architectural and Urban History, Minor ... 165
Architectural Design, Minor ... 166
Architectural Science and Systems, Minor ... 167
Urban Landscape Studies, Minor ... 168
Art + Design ... 169
Art, BA ... 173
Design, BFA ... 178
Game Design, BFA ... 183
Media Arts, BFA ... 186
Studio Art, BFA ... 194
Behavioral Neuroscience and Design, BS ... 197
Business Administration and Design, BS ... 202
Computer Science and Design, BS ... 206
Computer Science and Game Development, BS ... 211
Computer Science and Media Arts, BS ... 214
Communication Studies and Graphic and Information Design, BA ... 219
English and Graphic and Information Design, BA ... 222
Game Art and Animation, BFA ... 226
Architectural Studies and Design, BS ... 142
Game Design and Music with Concentration in Music Technology, BS ... 233
Graphic and Information Design and Mathematics, BS ... 236
Journalism and Interaction Design, BS ... 239
Media and Screen Studies and Media Arts, BA ... 243
Media Arts and Communication Studies, BA ... 246
Theatre and Interaction Design, BA ... 249
Theatre and Interaction Design, BS ... 252
Mechanical Engineering and Design, BSME ... 255
Animation, Minor ... 262
Art, Minor ... 263
Art History, Minor ... 265
Creative Computing, Minor ... 266
Creative Fabrication, Minor ... 267
Experience Design, Minor ... 268
Game Art, Minor ... 270
Game Design, Minor ... 271
Graphic and Information Design, Minor ... 272
Immersive Media, Minor ... 274
Interaction Design, Minor ... 276
Photography, Minor ... 278

Photojournalism, Minor ... 279
Video Arts, Minor ... 280
Communication Studies ... 281
Communication Studies, BA ... 283
Communication and Media Studies, BA ... 286
Communication Studies and Graphic and Information Design, BA ... 219
Communication Studies and Sociology, BA ... 292
Communication Studies and Theatre, BA ... 295
English and Communication Studies, BA ... 299
Journalism and Communication Studies, BA ... 304
Linguistics and Communication Studies, BA ... 307
Political Science and Communication Studies, BA ... 311
Public Health and Communication Studies, BA ... 316
Media and Screen Studies, BA ... 321
Africana Studies and Media and Screen Studies, BA ... 324
Media and Screen Studies and English, BA ... 327
Media and Screen Studies and History, BA ... 332
Media and Screen Studies and Journalism, BA ... 335
Media and Screen Studies and Media Arts, BA ... 243
Media and Screen Studies and Philosophy, BA ... 341
Media and Screen Studies and Political Science, BA ... 344
Media and Screen Studies and Sociology, BA ... 349
Media and Screen Studies and Theatre, BA ... 352
Media Arts and Communication Studies, BA ... 246
Business Administration and Communication Studies, BS ... 359
Computer Science and Communication Studies, BS ... 363
Communication Studies and Speech-Language Pathology and Audiology, BS ... 368
Health Science and Communication Studies, BS ... 371
Media and Screen Studies and Theatre, BS ... 375
Music and Communication Studies with Concentration in Music Industry, BS ... 379
Political Science and Communication Studies, BS ... 383
Argumentation and Law, Minor ... 388
Cinema Studies, Minor ... 389
Communication Studies, Minor ... 390
Digital Communication, Minor ... 391
Film Production, Minor ... 392
Film Studies, Minor ... 393
Human Communication, Minor ... 394
Improvisation and Storytelling, Minor ... 395
Media and Screen Studies, Minor ... 396
Media Production, Minor ... 397
Oratory and Public Speaking, Minor ... 398
Political Communication, Minor ... 399

Rhetoric, Minor ... 400
Social Activism, Minor ... 401
Sports, Media, and Communication, Minor ... 402
School of Journalism ... 403
Journalism, BA ... 404
Journalism and Communication Studies, BA ... 304
Journalism and English, BA ... 410
Journalism and International Affairs, BA ... 414
Journalism and Political Science, BA ... 421
Media and Screen Studies and Journalism, BA ... 335
Public Health and Journalism, BA ... 429
Public Relations, BA ... 433
Theatre and Journalism, BA ... 436
Computer Science and Journalism, BS ... 440
Criminal Justice and Journalism, BS ... 444
Data Science and Journalism, BS ... 447
Economics and Journalism, BS ... 451
Environmental and Sustainability Sciences and Journalism, BS ... 239
Journalism and Interaction Design, BS ... 239
Journalism Practice, Minor ... 458
Journalism Studies, Minor ... 459
Photojournalism, Minor ... 279
Public Relations, Minor ... 461
Sports, Media, and Communication, Minor ... 402
Music ... 463
Music, BA ... 465
Music with Concentration in Music Industry, BS ... 470
Music with Concentration in Music Technology, BS ... 476
Computer Science and Music with Concentration in Music Technology, BS ... 481
Electrical Engineering and Music with concentration in Music Technology, BSEE ... 485
Game Design and Music with Concentration in Music Technology, BS ... 233
Music and Communication Studies with Concentration in Music Industry, BS ... 379
Physics and Music with Concentration in Music Technology, BS ... 498
Psychology and Music, BS ... 503
Ethnomusicology, Minor ... 507
Music, Minor ... 508
Music Composition, Minor ... 510
Music Industry, Minor ... 511
Music Performance, Minor ... 512
Music Recording, Minor ... 514
Music Technology, Minor ... 515
Performing Arts Administration, Minor ... 516
Songwriting, Minor ... 517

Theatre ... 518
Theatre, BA ... 519
Theatre, BS ... 524
American Sign Language and Theatre, BS ... 529
Communication Studies and Theatre, BA ... 295
Computer Science and Theatre, BS ... 536
Cultural Anthropology and Theatre, BA ... 541
English and Theatre, BA ... 544
Media and Screen Studies and Theatre, BA ... 352
Media and Screen Studies and Theatre, BS ... 375
Theatre and Interaction Design, BA ... 249
Theatre and Interaction Design, BS ... 252
Theatre and Journalism, BA ... 436
Global Fashion Studies, Minor ... 567
Improvisation and Storytelling, Minor ... 395
Performing Arts Administration, Minor ... 516
Playwriting, Minor ... 570
Theatre, Minor ... 571
Theatre, Performance, and Social Change, Minor ... 573
Theatrical Design, Minor ... 574
Interdisciplinary Programs ... 575
Creativity in Theory and Practice, Minor ... 576
Accelerated Bachelor/Graduate Degree Programs ... 578
D'Amore-McKim School of Business ... 579
Bachelor of Science in Business Administration, BSBA ... 582
Business Administration and Law, BS ... 586
International Business, BSIB ... 590
Combined Majors ... 594
Business Administration and Communication Studies, BS ... 359
Business Administration and Design, BS ... 202
Business Administration and Psychology, BS ... 603
Business Administration and Public Health, BS ... 607
Computer Science and Business Administration, BS ... 612
Cybersecurity and Business Administration, BS ... 617
Data Science and Business Administration, BS ... 621
Economics and Business Administration, BS ... 625
Economics and International Business, BS ... 628
Health Science and Business Administration, BS ... 632
International Affairs and International Business, BS ... 636
Mathematics and Business Administration, BS ... 641
Political Science and Business Administration, BS ... 644
Politics, Philosophy, and Economics and Business Administration, BS ... 649
Concentrations ... 653

Accounting ... 654
Accounting and Advisory Services ... 655
Brand Management ... 656
Business Analytics ... 657
Corporate Innovation ... 658
Entrepreneurial Startups ... 659
Family Business ... 660
Finance ... 661
Fintech ... 662
Global Business and Strategy ... 663
Healthcare Management and Consulting ... 664
International Business ... 665
Management ... 666
Management Information Systems ... 667
Marketing ... 668
Marketing Analytics ... 669
Social Innovation and Entrepreneurship ... 670
Supply Chain Management ... 671
Minors ... 672
Accounting and Advisory Services, Minor ... 673
Brand Management, Minor ... 674
Business Administration, Minor ... 675
Business Analytics, Minor ... 676
Consulting, Minor ... 677
Corporate Innovation, Minor ... 679
Emerging Markets, Minor ... 680
Entrepreneurial Startups, Minor ... 681
Family Business, Minor ... 682
Leadership and Human Capital, Minor ... 683
Management Information Systems, Minor ... 684
Marketing, Minor ... 685
Marketing Analytics, Minor ... 686
Social Innovation and Entrepreneurship, Minor ... 687
Strategy, Minor ... 688
Supply Chain Management, Minor ... 689
Sustainable Business Practices, Minor ... 690
Accelerated Bachelor/Graduate Degree Programs ... 691
Khoury College of Computer Sciences ... 692
Computer Science ... 694
Computer Science, BSCS ... 695
Computer Science, BACS ... 702
Computing and Law, BS ... 707
Computer Science, Minor ... 711

Cybersecurity 714
Cybersecurity, BS 715
Data Science 719
Data Science, BS 720
Data Science, Minor 724
Khoury Combined Majors 726
Chemical Engineering and Computer Science, BSChE 728
Chemical Engineering and Data Science, BSChE 733
Civil Engineering and Computer Science, BSCE 738
Computer Engineering and Computer Science, BSCmpE 743
Computer Science and Behavioral Neuroscience, BS 750
Computer Science and Biology, BS 755
Computer Science and Business Administration, BS 612
Computer Science and Cognitive Psychology, BS 765
Computer Science and Communication Studies, BS 363
Computer Science and Criminal Justice, BS 775
Computer Science and Design, BS 206
Computer Science and Economics, BS 785
Computer Science and English, BS 790
Computer Science and Environmental and Sustainability Sciences, BS 796
Computer Science and Game Development, BS 211
Computer Science and History, BS 804
Computer Science and Journalism, BS 440
Computer Science and Linguistics, BS 813
Computer Science and Mathematics, BS 817
Computer Science and Media Arts, BS 214
Computer Science and Music with Concentration in Music Technology, BS 481
Computer Science and Philosophy, BS 830
Computer Science and Physics, BS 834
Computer Science and Political Science, BS 839
Computer Science and Politics, Philosophy, and Economics, BS 845
Computer Science and Sociology, BS 849
Computer Science and Theatre, BS 536
Cybersecurity and Business Administration, BS 617
Cybersecurity and Criminal Justice, BS 862
Cybersecurity and Economics, BS 867
Data Science and Biochemistry, BS 871
Data Science and Biology, BS 875
Data Science and Behavioral Neuroscience, BS 879
Data Science and Business Administration, BS 621
Data Science and Chemistry, BS 887
Data Science and Criminal Justice, BS 891
Data Science and Ecology and Evolutionary Biology, BS 895

Data Science and Economics, BS ... 899
Data Science and Environmental and Sustainability Sciences, BS ... 903
Data Science and Health Science, BS ... 907
Data Science and International Affairs, BS ... 911
Data Science and Journalism, BS ... 447
Data Science and Linguistics, BS ... 922
Data Science and Mathematics, BS ... 926
Data Science and Philosophy, BS ... 929
Data Science and Physics, BS ... 932
Data Science and Psychology, BS ... 936
Accelerated Bachelor/Graduate Degree Programs ... 940
College of Engineering ... 941
General Engineering and First-Year Engineering ... 943
Interdisciplinary Minors ... 944
Design and Innovation in Engineering, Minor ... 945
Entrepreneurial Engineering, Minor ... 946
Global Perspectives in Engineering, Minor ... 947
Materials Science and Engineering, Minor ... 949
Sustainable Energy Systems, Minor ... 951
Bioengineering ... 953
Bioengineering, BSBioE ... 954
Bioengineering and Biochemistry, BSBioE ... 962
Chemical Engineering and Bioengineering, BSChE ... 968
Mechanical Engineering and Bioengineering, BSME ... 972
Chemical Engineering ... 977
Chemical Engineering, BSChE ... 979
Chemical Engineering and Biochemistry, BSChE ... 986
Chemical Engineering and Bioengineering, BSChE ... 968
Chemical Engineering and Computer Science, BSChE ... 728
Chemical Engineering and Data Science, BSChE ... 733
Chemical Engineering and Environmental Engineering, BSChE ... 1004
Chemical Engineering and Physics, BSChE ... 1009
Biochemical Engineering, Minor ... 1014
Civil and Environmental Engineering ... 1015
Civil Engineering, BSCE ... 1017
Civil Engineering and Architectural Studies, BSCE ... 149
Civil Engineering and Computer Science, BSCE ... 738
Chemical Engineering and Environmental Engineering, BSChE ... 1004
Environmental Engineering, BSEnvE ... 1040
Environmental Engineering and Health Science, BSEnvE ... 1046
Environmental Engineering and Landscape Architecture, BSEnvE ... 158
Architectural Engineering, Minor ... 1056
Civil Engineering, Minor ... 1058

Environmental Chemistry, Minor 1060
Environmental Engineering, Minor 1062
Electrical and Computer Engineering 1063
Computer Engineering, BSCmpE 1065
Computer Engineering and Physics, BSCmpE 1071
Computer Engineering and Computer Science, BSCmpE 743
Electrical Engineering, BSEE 1084
Electrical Engineering and Physics, BSEE 1090
Electrical Engineering and Music with concentration in Music Technology, BSEE 485
Electrical and Computer Engineering, BSEE or BSCmpE 1101
Biomedical Engineering, Minor 1106
Computer Engineering, Minor 1108
Computational Data Analytics, Minor 1109
Electrical Engineering, Minor 1110
Robotics, Minor 1111
Mechanical and Industrial Engineering 1112
Industrial Engineering, BSIE 1114
Mechanical Engineering, BSME 1120
Mechanical Engineering and Bioengineering, BSME 972
Mechanical Engineering and Design, BSME 255
Mechanical Engineering and History, BSME 1139
Mechanical Engineering and Physics, BSME 1144
Aerospace, Minor 1149
Biomechanical Engineering, Minor 1150
Healthcare System Operations, Minor 1151
Industrial Engineering, Minor 1152
Mechanical Engineering, Minor 1153
Robotics, Minor 1111
Accelerated Bachelor/Graduate Degree Programs 1155
Bouvé College of Health Sciences 1156
Interdisciplinary Programs 1160
Business Administration and Public Health, BS 607
Communication Studies and Speech-Language Pathology and Audiology, BS 368
Data Science and Health Science, BS 907
Environmental Engineering and Health Science, BSEnvE 1046
Health Humanities and Health Science, BS 1178
Health Science and Business Administration, BS 632
Health Science and Communication Studies, BS 371
Health Science and Psychology, BS 1190
Health Science and Sociology, BS 1195
Linguistics and Speech-Language Pathology and Audiology, BS 1199
Health Humanities and Public Health, BA 1202
Public Health and Communication Studies, BA 316

Public Health and Cultural Anthropology, BA ... 1212
Public Health and Journalism, BA ... 429
Public Health and Sociology, BA ... 1221
Communication Sciences and Disorders, Minor ... 1226
Early Intervention, Minor ... 1227
Exercise Science, Minor ... 1228
Health Psychology, Minor ... 1229
Health Sciences Entrepreneurship, Minor ... 1230
Health, Humanities, and Society, Minor ... 1231
Healthcare System Operations, Minor ... 1151
Mindfulness Studies, Minor ... 1234
Nutrition, Minor ... 1235
Pharmaceutical Sciences, Minor ... 1236
Public Health, Minor ... 1237
Speech-Language Pathology and Audiology, Minor ... 1239
Wellness Studies, Minor ... 1240
School of Clinical and Rehabilitation Sciences ... 1241
Speech-Language Pathology and Audiology, BS ... 1244
Communication Studies and Speech-Language Pathology and Audiology, BS ... 368
Linguistics and Speech-Language Pathology and Audiology, BS ... 1199
Communication Sciences and Disorders, Minor ... 1226
Human Movement Science, Minor ... 1254
Speech-Language Pathology and Audiology, Minor ... 1239
School of Community Health and Behavioral Sciences ... 1256
Public Health, BA ... 1258
Health Science, BS ... 1263
Business Administration and Public Health, BS ... 607
Data Science and Health Science, BS ... 907
Environmental Engineering and Health Science, BSEnvE ... 1046
Health Humanities and Health Science, BS ... 1178
Health Science and Business Administration, BS ... 632
Health Science and Communication Studies, BS ... 371
Health Science and Psychology, BS ... 1190
Health Science and Sociology, BS ... 1195
Health Humanities and Public Health, BA ... 1202
Public Health and Communication Studies, BA ... 316
Public Health and Cultural Anthropology, BA ... 1212
Public Health and Journalism, BA ... 429
Public Health and Sociology, BA ... 1221
Early Intervention, Minor ... 1227
Exercise Science, Minor ... 1228
Global Health, Minor ... 1329
Health Psychology, Minor ... 1229

Health, Humanities, and Society, Minor ... 1231
Healthcare System Operations, Minor ... 1151
Mindfulness Studies, Minor ... 1234
Nutrition, Minor ... 1235
Public Health, Minor ... 1237
School of Nursing ... 1339
Nursing, BSN ... 1340
Nursing, BSN—Accelerated Program for Second-Degree Students ... 1348
Nursing, BSN—Transfer Track ... 1353
Wellness Studies, Minor ... 1240
School of Pharmacy and Pharmaceutical Sciences ... 1360
Pharmacy, PharmD ... 1361
Pharmacy Studies, BS ... 1361
Pharmaceutical Sciences, BS ... 1369
Health Sciences Entrepreneurship, Minor ... 1230
Pharmaceutical Sciences, Minor ... 1236
Accelerated Bachelor/Graduate Degree Programs ... 1375
College of Science ... 1376
Biology ... 1378
Biology, BS ... 1379
Cell and Molecular Biology, BS ... 1386
Biology and English, BS ... 1391
Biology and Mathematics, BS ... 1397
Biology and Political Science, BS ... 1401
Computer Science and Biology, BS ... 755
Data Science and Biology, BS ... 875
Cell and Molecular Biology, Minor ... 1416
Biology, Minor ... 1418
Chemistry and Chemical Biology ... 1420
Chemistry, BS ... 1421
Data Science and Chemistry, BS ... 887
Environmental and Sustainability Sciences and Chemistry, BS ... 1430
Chemistry, Minor ... 1434
Environmental Chemistry, Minor ... 1060
Marine and Environmental Sciences ... 1437
Ecology and Evolutionary Biology, BS ... 1439
Environmental and Sustainability Sciences, BS ... 1443
Environmental Studies, BA ... 1450
Marine Biology, BS ... 1455
Computer Science and Environmental and Sustainability Sciences, BS ... 796
Data Science and Ecology and Evolutionary Biology, BS ... 895
Data Science and Environmental and Sustainability Sciences, BS ... 903
Environmental and Sustainability Sciences and Chemistry, BS ... 1430

Environmental and Sustainability Sciences and Economics, BS 1477
Environmental and Sustainability Sciences and Journalism, BS 1481
Environmental and Sustainability Sciences and Landscape Architecture, BS 155
Environmental Studies and History, BA 1487
Environmental Studies and International Affairs, BA 1490
Environmental Studies and Philosophy, BA 1497
Environmental Studies and Political Science, BA 1500
Sociology and Environmental Studies, BA 1506
Ecology and Evolutionary Biology, Minor 1509
Environmental and Sustainability Sciences, Minor 1510
Environmental Studies, Minor 1511
Geosciences, Minor 1512
Marine Sciences, Minor 1513
Mathematics 1514
Mathematics, BA 1515
Mathematics, BS 1519
Biology and Mathematics, BS 1397
Computer Science and Mathematics, BS 817
Data Science and Mathematics, BS 926
Economics and Mathematics, BS 1533
Graphic and Information Design and Mathematics, BS 236
Mathematics and Business Administration, BS 641
Mathematics and Philosophy, BS 1542
Mathematics and Physics, BS 1545
Mathematics and Political Science, BS 1548
Mathematics and Psychology, BS 1552
Mathematics and Sociology, BS 1555
Mathematics, Minor 1557
Physics 1558
Physics, BS 1560
Applied Physics, BS 1564
Biomedical Physics, BS 1568
Mathematics and Physics, BS 1545
Computer Science and Physics, BS 834
Data Science and Physics, BS 932
Physics and Music with Concentration in Music Technology, BS 498
Physics and Philosophy, BS 1589
Chemical Engineering and Physics, BSChE 1009
Computer Engineering and Physics, BSCmpE 1071
Electrical Engineering and Physics, BSEE 1090
Mechanical Engineering and Physics, BSME 1144
Astrophysics, Minor 1614
Physics, Minor 1615

Psychology 1616
Psychology, BS 1617
American Sign Language and Psychology, BS 1625
Business Administration and Psychology, BS 603
Computer Science and Cognitive Psychology, BS 765
Criminal Justice and Psychology, BS 1637
Data Science and Psychology, BS 936
Economics and Psychology, BS 1645
Health Science and Psychology, BS 1190
Human Services and Psychology, BS 1653
Linguistics and Psychology, BS 1656
Mathematics and Psychology, BS 1552
Psychology and Music, BS 503
Psychology and Theatre, BS 1667
Psychology, Minor 1671
Interdisciplinary Programs 1672
Behavioral Neuroscience, BS 1675
Behavioral Neuroscience and Design, BS 197
Behavioral Neuroscience and Philosophy, BS 1685
Biochemistry, BS 1690
Linguistics, BS 1697
Linguistics and Communication Studies, BA 307
Linguistics and Cultural Anthropology, BS 1704
Linguistics and English, BA 1707
Linguistics and Psychology, BS 1656
Linguistics and Speech-Language Pathology and Audiology, BS 1199
Behavioral Neuroscience, Minor 1718
Biochemistry, Minor 1719
Environmental Chemistry, Minor 1060
Linguistics, Minor 1723
Network Science, Minor 1724
Accelerated Bachelor/Graduate Degree Programs 1725
College of Social Sciences and Humanities 1726
Interdisciplinary Programs 1728
Computer Science and Politics, Philosophy, and Economics, BS 845
Global Asian Studies, BA 1733
Health Humanities and Health Science, BS 1178
Health Humanities and Public Health, BA 1202
History and Asian Studies, BA 1745
History, Culture, and Law, BA 1748
Human Services, BA 1753
Human Services, BS 1755
Human Services and Communication Studies, BA 1757

Human Services and Criminal Justice, BS ... 1760
Human Services and International Affairs, BA ... 1763
Human Services and Psychology, BS ... 1653
Human Services and Sociology, BA ... 1772
Human Services and Sociology, BS ... 1775
Jewish Studies and Religion, BA ... 1778
Politics, Philosophy, and Economics, BS ... 1782
Politics, Philosophy, and Economics and Business Administration, BS ... 649
Black Feminist Studies, Minor ... 1793
Computational Social Science, Minor ... 1794
Digital Methods in the Humanities, Minor ... 1795
Food Systems Sustainability, Health, and Equity, Minor ... 1796
Global Asian Studies, Minor ... 1797
Global Health, Minor ... 1329
Health, Humanities, and Society, Minor ... 1231
Human Services, Minor ... 1803
Jewish Studies, Minor ... 1804
Latino/a, Latin American and Caribbean Studies, Minor ... 1806
Law and Public Policy, Minor ... 1807
Urban Studies, Minor ... 1810
Women's, Gender, and Sexuality Studies, Minor ... 1811
School of Criminology and Criminal Justice ... 1814
English and Criminal Justice, BA ... 1816
History and Criminal Justice, BA ... 1821
International Affairs and Criminal Justice, BA ... 1824
Criminology and Criminal Justice, BS ... 1831
Computer Science and Criminal Justice, BS ... 775
Criminal Justice and Journalism, BS ... 444
Criminal Justice and Philosophy, BS ... 1843
Criminal Justice and Political Science, BS ... 1847
Criminal Justice and Psychology, BS ... 1637
Criminal Justice and Sociology, BS ... 1857
Cybersecurity and Criminal Justice, BS ... 862
Data Science and Criminal Justice, BS ... 891
Human Services and Criminal Justice, BS ... 1760
Criminal Justice, Minor ... 1872
Cultures, Societies, and Global Studies ... 1873
Africana Studies, BA ... 1874
Africana Studies and English, BA ... 1878
Africana Studies and Human Services, BA ... 1883
Africana Studies and Media and Screen Studies, BA ... 324
Africana Studies and Political Science, BA ... 1889
History, Culture, and Law, BA ... 1748

Religious Studies and Africana Studies, BA 1899
Spanish, BA 1902
Spanish and International Affairs, BA 1904
Spanish and Linguistics, BA 1910
Africana Studies, BS 1913
American Sign Language—English Interpreting, BS 1917
American Sign Language and Human Services, BS 1920
American Sign Language and Linguistics, BS 1923
American Sign Language and Psychology, BS 1625
American Sign Language and Theatre, BS 529
African American Studies, Minor 1932
African Studies, Minor 1933
Africana Studies, Minor 1934
American Sign Language, Minor 1935
Arabic, Minor 1936
Black Feminist Studies, Minor 1793
Chinese, Minor 1938
Film and International Cultures, Minor 1939
German, Minor 1940
Global Health, Minor 1329
Italian, Minor 1943
Japanese, Minor 1944
French, Minor 1945
Portuguese, Minor 1946
Russian, Minor 1947
Spanish, Minor 1948
Economics 1949
Economics, BA 1951
History and Economics, BA 1954
International Affairs and Economics, BA 1957
Political Science and Economics, BA 1964
Economics, BS 1970
Computer Science and Economics, BS 785
Cybersecurity and Economics, BS 867
Data Science and Economics, BS 899
Economics and Business Administration, BS 625
Economics and Human Services, BS 1989
Economics and International Business, BS 628
Economics and Journalism, BS 451
Economics and Mathematics, BS 1533
Economics and Philosophy, BS 2002
Economics and Psychology, BS 1645
Environmental and Sustainability Sciences and Economics, BS 1477

History and Economics, BS ... 2012
Political Science and Economics, BS ... 2016
Economics, Minor ... 2021
English ... 2022
English, BA ... 2024
Africana Studies and English, BA ... 1878
English and Communication Studies, BA ... 299
English and Criminal Justice, BA ... 1816
English and Cultural Anthropology, BA ... 2044
English and Graphic and Information Design, BA ... 222
English and Philosophy, BA ... 2052
English and Political Science, BA ... 2056
English and Theatre, BA ... 544
History and English, BA ... 2069
Journalism and English, BA ... 410
Linguistics and English, BA ... 1707
Media and Screen Studies and English, BA ... 327
Architecture and English, BS ... 145
Biology and English, BS ... 1391
Computer Science and English, BS ... 790
English, Minor ... 2102
Rhetoric, Minor ... 400
Writing, Minor ... 2104
History ... 2105
History, BA ... 2107
Environmental Studies and History, BA ... 1487
History and Asian Studies, BA ... 1745
History and Criminal Justice, BA ... 1821
History and Cultural Anthropology, BA ... 2120
History and Economics, BA ... 1954
History and English, BA ... 2069
History and Philosophy, BA ... 2130
History and Political Science, BA ... 2133
History and Religious Studies, BA ... 2138
International Affairs and History, BA ... 2142
Media and Screen Studies and History, BA ... 332
History, BS ... 2152
Computer Science and History, BS ... 804
History and Economics, BS ... 2012
Mechanical Engineering and History, BSME ... 1139
History, Minor ... 2170
International Affairs ... 2171
International Affairs, BA ... 2172

Data Science and International Affairs, BS ... 911
Environmental Studies and International Affairs, BA ... 1490
Human Services and International Affairs, BA ... 1763
International Affairs and Criminal Justice, BA ... 1824
International Affairs and Cultural Anthropology, BA ... 2207
International Affairs and Economics, BA ... 1957
International Affairs and History, BA ... 2142
International Affairs and International Business, BS ... 636
International Affairs and Religious Studies, BA ... 2233
Journalism and International Affairs, BA ... 414
Political Science and International Affairs, BA ... 2248
Sociology and International Affairs, BA ... 2257
Spanish and International Affairs, BA ... 1904
International Affairs, Minor ... 2270
Middle East and Mediterranean Studies, Minor ... 2274
Philosophy and Religion ... 2275
Philosophy, BA ... 2277
Religious Studies, BA ... 2288
Cultural Anthropology and Philosophy, BA ... 2292
Cultural Anthropology and Religious Studies, BA ... 2295
English and Philosophy, BA ... 2052
Environmental Studies and Philosophy, BA ... 1497
History and Philosophy, BA ... 2130
History and Religious Studies, BA ... 2138
International Affairs and Religious Studies, BA ... 2233
Jewish Studies and Religion, BA ... 1778
Media and Screen Studies and Philosophy, BA ... 341
Political Science and Philosophy, BA ... 2327
Religious Studies and Africana Studies, BA ... 1899
Sociology and Philosophy, BA ... 2335
Sociology and Religious Studies, BA ... 2338
Philosophy, BS ... 2341
Behavioral Neuroscience and Philosophy, BS ... 1685
Computer Science and Philosophy, BS ... 830
Computer Science and Politics, Philosophy, and Economics, BS ... 845
Criminal Justice and Philosophy, BS ... 1843
Data Science and Philosophy, BS ... 929
Economics and Philosophy, BS ... 2002
Physics and Philosophy, BS ... 1589
Political Science and Philosophy, BS ... 2378
Politics, Philosophy, and Economics, BS ... 1782
Ethics, Minor ... 2390
Information Ethics, Minor ... 2392

Philosophy, Minor 2394
Religious Studies, Minor 2395
Political Science 2396
Political Science, BA 2398
Africana Studies and Political Science, BA 1889
English and Political Science, BA 2056
Environmental Studies and Political Science, BA 1500
History and Political Science, BA 2133
Journalism and Political Science, BA 421
Political Science and Communication Studies, BA 311
Media and Screen Studies and Political Science, BA 344
Political Science and Economics, BA 1964
Political Science and Human Services, BA 2448
Political Science and International Affairs, BA 2248
Political Science and Philosophy, BA 2327
Sociology and Political Science, BA 2467
Political Science, BS 2472
Biology and Political Science, BS 1401
Computer Science and Political Science, BS 839
Computer Science and Politics, Philosophy, and Economics, BS 845
Criminal Justice and Political Science, BS 1847
Mathematics and Political Science, BS 1548
Political Science and Business Administration, BS 644
Political Science and Communication Studies, BS 383
Political Science and Economics, BS 2016
Political Science and Human Services, BS 2519
Political Science and Philosophy, BS 2378
Political Science, Minor 2529
American Political Institutions, Minor 2530
International Security Studies, Minor 2531
Sociology and Anthropology 2532
Sociology, BA 2534
Cultural Anthropology, BA 2536
Communication Studies and Sociology, BA 292
Cultural Anthropology and Philosophy, BA 2292
Cultural Anthropology and Religious Studies, BA 2295
Cultural Anthropology and Theatre, BA 541
English and Cultural Anthropology, BA 2044
History and Cultural Anthropology, BA 2120
Human Services and Sociology, BA 1772
International Affairs and Cultural Anthropology, BA 2207
Media and Screen Studies and Sociology, BA 349
Public Health and Cultural Anthropology, BA 1212

Public Health and Sociology, BA ... 1221
Sociology and Cultural Anthropology, BA ... 2581
Sociology and Environmental Studies, BA ... 1506
Sociology and International Affairs, BA ... 2257
Sociology and Philosophy, BA ... 2335
Sociology and Political Science, BA ... 2467
Sociology and Religious Studies, BA ... 2338
Sociology, BS ... 2605
Cultural Anthropology, BS ... 2607
Computer Science and Sociology, BS ... 849
Criminal Justice and Sociology, BS ... 1857
Health Science and Sociology, BS ... 1195
Human Services and Sociology, BS ... 1775
Linguistics and Cultural Anthropology, BS ... 1704
Mathematics and Sociology, BS ... 1555
Sociology and Cultural Anthropology, BS ... 2629
Cultural Anthropology, Minor ... 2632
Science and Technology Studies, Minor ... 2633
Sociology, Minor ... 2634
Accelerated Bachelor/Graduate Degree Programs ... 2635
Student Handbook ... 2635
University Faculty ... 2635
General Information ... 2719
Notifications and Disclosures ... 2720
Governing Boards and Officers of Northeastern ... 2722
University Leadership ... 2724
Accreditation ... 2725
Authorizations ... 2729
Major CIP Codes ... 2733
Resources ... 2753
Index ... 2754

Undergraduate Catalog

Full-Time Day Programs

Matthew Modoono for Northeastern#University

Admission

- Admission Policy and Entrance Requirements (p. 23)
- Conditional Admission (p. 28)
- Merit Scholarships (p. 29)
- Specialized Entry Programs (p. 30)
- University Honors Program (p. 33)

Admission Policy and Entrance Requirements

Admission to Northeastern University is highly selective. Applicants are admitted either as first-year or transfer students. Candidates who bring diverse experiences, perspectives, and interests to our community are identified by the Admissions Committee following a holistic application evaluation. Students may be admitted to join the Northeastern community through a variety of programs, including traditional first-year and transfer entry in Boston, Oakland, and London, as well as through specialized entry programs (https://admissions.northeastern.edu/academics/specialized-entry-programs/).

In building a diverse and talented incoming class, the Admissions Committee seeks to enroll students who have been academically successful and who have been actively involved in their school and community.

When considering applicants for first-year admission, the committee considers what opportunities for advanced coursework are available and if the student has taken those courses—examples include honors, Advanced Placement, International Baccalaureate, or college-level courses. Typically, students admitted to Northeastern have been extremely successful with a challenging course load. Letters of recommendation, resumé, essay, and contributions to the community are also considered.

When reviewing transfer students, the committee considers the candidate's college and high school transcripts, letters of recommendation, resumé, essay, academic preparation for major of choice, and contributions to the community.

Northeastern accepts both the Common Application and the Coalition Application. Students may apply online via the Common Application or the Coalition Application. Northeastern does not have a preference for which application is submitted. Both the Common Application and the Coalition Application will be reviewed equally.

The committee will begin to evaluate an applicant's candidacy for admission when all application credentials have been received. Students are informed of their application information through the Application Status Check. Students are highly encouraged to verify that identification information (name, date of birth, and Northeastern ID) is on every item submitted to ensure timely and accurate processing.

Application Programs

Northeastern offers the following application programs.

FIRST-YEAR APPLICANTS

- Early Decision I (binding enrollment for fall admission)
- Early Action (nonbinding)
- Early Decision II (binding enrollment for fall admission)
- Regular Decision (nonbinding)

TRANSFER APPLICANTS*

- Application for fall start (apply in spring)
- Application for spring start (apply in fall)

*All transfer application options are dependent on space availability.

Required Materials

The committee will evaluate an applicant's candidacy for admission when all application credentials have been received. Students are informed of their application information through the Application Status Check. Students are highly encouraged to verify that identification information (name, date of birth, and Northeastern ID) is on every item submitted to ensure timely and accurate processing.

FIRST-YEAR APPLICANTS

More than 90,000 students apply for a space in the first-year class. The committee is responsible for admitting applicants believed to be contributors to Northeastern's diverse and vibrant academic and social community. In particular, the committee is interested in applicants who have challenged themselves academically; are highly motivated; and who have demonstrated qualities of leadership, creativity, diversity, engagement, global perspective, adaptability, and resiliency. Our students exhibit a commitment to involvement and to being a positive influence in their community and in the world. We encourage applicants to spend time to thoughtfully prepare their application in order to make sure their strengths and qualities resonate with the Admissions Committee.

First-Year applicants must submit the following:

- Completed Common Application or Coalition Application, including any Northeastern-specific questions. A complete application includes:
  - An application fee of $75 (or request for fee waiver through application question).
  - The Early Decision Agreement for students applying under the binding Early Decision I or II application options.
- Secondary school counselor and teacher recommendations.

- Secondary school report and transcripts with final junior-year grades. First-semester or first-trimester grades should be submitted when they are available; first-quarter grades are not required.
  - General Equivalency Diploma recipients should provide their official GED score reports and their most complete high school transcript.
  - Home-schooled applicants should submit an academic portfolio/transcript consistent with their state guidelines. This should include grades for each course. They must also provide proof that they will have met by the end of May of the year of graduation all requirements for an official high school diploma and submit a GED, or a certificate of completion from their local school district or state board of education, by the end of July of the year of matriculation. In addition to all other first-year requirements, home-schooled students must submit Northeastern's home-school supplement, which requires students to detail the rigor of their coursework.
  - Early high school graduates: Northeastern will review applications from students who will complete high school in three years or less. Before enrolling at the university, all applicants for early admission must have completed all units required for high school graduation or must have earned the GED. In addition to the required materials for first-year applicants, early high school graduate applicants must provide statements of support from the school principal or guidance counselor and the student's parents. The endorsements should speak directly to the applicant's academic readiness and emotional maturity for college. Early high school graduates will only be considered at Regular Decision or Early Decision II so first-semester/trimester grades from the current academic year can be considered.
  - Nontraditional grading policies: Students who attend schools where narrative evaluations are used instead of traditional letter grades are required to submit the narratives to complete their applications.
- Policy on standardized tests for classes entering through fall 2026:
  - Northeastern is test optional and does not require applicants to submit standardized testing to be considered for admission. (Please note English proficiency requirements.)
  - Any student may choose to submit SAT or ACT scores for consideration.
  - Students who choose not to submit standardized test scores will not be disadvantaged in the process.
  - If an applicant self-reports their scores through the Application Status Check, official scores must be sent to Northeastern upon submitting their enrollment deposit.
- English proficiency: As the primary instructional language at Northeastern is English, proficiency in English must be demonstrated in order to qualify for admission. Non-native English-speaking applicants, who were not educated entirely in English throughout the four consecutive academic years immediately prior to enrolling at Northeastern, will be required to submit valid and official results from an approved English Language Test. Please see the International Applicants (https://admissions.northeastern.edu/application-information/international-applicants/) page on the Undergraduate Admissions website for the most up-to-date information.
- International students are required to submit Northeastern's Declaration and Certification of Finances, which can be accessed and submitted through the Application Status Check.
- Portfolios are required for studio art and are highly encouraged for majors within the College of Arts, Media and Design. Northeastern uses SlideRoom for online portfolio submissions. See Admission Requirements for the College of Arts, Media and Design (p. 27) below.

TRANSFER APPLICANTS

Each year we receive more than 4,000 applications for transfer admission. Our most competitive candidates for transfer admission typically have a grade-point average of 3.500 or higher.

Transfer applicants must submit the following:

- Completed Common Application or Coalition Application.
- Application fee of $75.
- Official college transcript(s) for all institutions you have attended.
- College Report to be completed by the registrar's office or dean of your current/previous school.
- Academic evaluation from an academic advisor, professor, or employer.
- Final high school transcript or GED.
- Joint Service Transcript (if you are a veteran).
- Policy on standardized tests for classes entering through **2026**:
  - **Northeastern is test optional and does not require applicants to submit standardized testing to be considered for admission.** (Please note English proficiency requirements.)
  - Any student may choose to submit SAT or ACT scores for consideration.
  - Students who choose not to submit standardized test scores will not be disadvantaged in the process.
  - If an applicant self-reports their scores through the Application Status Check, official scores must be sent to Northeastern upon submitting their enrollment deposit.
- English proficiency: As the primary instructional language at Northeastern is English, proficiency in English must be demonstrated in order to qualify for admission. Non-native English-speaking applicants, who were not educated entirely in English throughout the four consecutive academic years immediately prior to enrolling at Northeastern, will be required to submit valid and official results from an approved English Language Test. Please see the International Applicants (https://www.northeastern.edu/admissions/application-information/international-student-admissions/) page on the Undergraduate Admissions website for the most up-to-date information.
- International students are required to submit Northeastern's Declaration and Certification of Finances, which can be accessed and submitted through the Application Status Check.

- Portfolios are required for studio art and are highly encouraged for majors within the College of Arts, Media and Design. Northeastern uses SlideRoom for online portfolio submissions. See Admission Requirements for the College of Arts, Media and Design (p. 27) below.

Transfer Credit

Students may transfer up to 60 semester hours of credit from a two-year college, or up to 80 semester hours from a four-year college, or a combination of the two types of colleges. If you have been admitted to the D'Amore-McKim School of Business and your college or university is not AACSB-accredited, the maximum number of credits that you can transfer to Northeastern is 60. See also Residency Requirement (p. 95).

College courses completed with a grade of C or better are considered for transfer credit by faculty evaluators. Liberal arts coursework taken more than 10 years ago and math and science coursework completed more than 5 years ago cannot be considered.

All transfer-credit documents should be received prior to matriculation and *must* be received within one semester of matriculation. These documents include, but are not limited to, Advanced Placement, International Baccalaureate, and International Matriculation Exam scores and official transcripts from colleges and universities. These documents should be submitted whether or not you wish to receive transfer credit from this work. Transfer credit *will not* be granted for work completed prior to matriculation if the official credential is received after the completion of the first semester. College coursework completed at an international institution must be translated into English and evaluated by a recognized credential agency.

Advanced Standing

Results from your AP exams, IB exams, and other international matriculation examinations (listed below) may enable you to receive advanced credits. You may also receive transfer credit if you successfully completed accredited college-level courses that were taken while you were in high school, before you enrolled at Northeastern. You may apply up to 32 semester hours of advanced credit toward your undergraduate degree. For consideration, you must submit official transcripts or test results before matriculation and must submit official score reports for credit.

Northeastern currently awards advanced credit for the following examinations:

- Advanced Placement
- International Baccalaureate
- Advanced Levels
- Abitur (Germany)
- Baccalauréat (France)
- Cambridge Pre-University
- Caribbean Advanced Proficiency Examinations
- Maturität/Maturité (Switzerland)
- All-India Senior School Certificate Examination (Standard XII)
- Indian School Certificate Examinations (Standard XII)

Additionally, if you completed a **Diplôme d'études collégiales** through a **Collège d'enseignement général et professionnel** in Quebec, you can apply up to 32 semester hours of transfer credit to your undergraduate degree. Northeastern will consider courses with grades equivalent to C or higher on the U.S. grading scale in courses completed in the second year. You can review the Transfer Equivalency Database (https://ugadmissions.northeastern.edu/transfercredit/TransferCreditevaluatedstudent2.asp) to determine which courses will transfer to Northeastern. Any course not listed in the database has not yet been evaluated. Once admitted, you can submit full syllabi through your Application Status Check for the academic departments to review and determine any transfer credit.

ADVANCED PLACEMENT EXAMINATIONS

- Credit is generally awarded for scores of 4 and 5.
- Visit the Transfer Equivalency Database (https://ugadmissions.northeastern.edu/transfercredit/TransferCreditevaluatedstudent2.asp) for an up-to-date listing.

INTERNATIONAL BACCALAUREATE EXAMINATIONS

- Credit is generally awarded for scores of 5, 6, or 7 on Higher Level exams.
- No credit is awarded for Standard Level exams, the Extended Essay, or Theory of Knowledge.
- Visit the Transfer Equivalency Database (https://ugadmissions.northeastern.edu/transfercredit/TransferCreditevaluatedstudent2.asp) for an up-to-date listing.

ADVANCED LEVEL EXAMINATIONS

- Credit is generally awarded for grades of C or better on General Certificate of Education Advanced Level examinations.
- No credit is awarded for Advanced Subsidiary Level exams, Ordinary Level exams, or the (International) General Certificate of Secondary Education.
- For Singapore-Cambridge GCE Advanced Level exams, credit is awarded for H2 exams. No credit is awarded for H1 exams. H3 credit is subject to review and only awarded if the student is not receiving credit from the H2 exam in the same subject.
- Northeastern will only award credit for exams that were administered by AQA, Cambridge Assessment (including OCR), CCEA, Pearson Edexcel, WJEC, or any subsidiaries.

INTERNATIONAL MATRICULATION EXAMINATIONS

- Abitur (Allgemeinen Hochschulreife): Credit is generally awarded for scores of 7 (out of 15) and higher on written (schriftlich) final exams (Abiturprüfung). No credit is awarded for oral (mündlich) exams.
- Baccalauréat (Baccalauréat Général, Diplôme de Bachelier de l'Enseignement du Second Degré, or Option Internationale du Baccalauréat): Credit is generally awarded for scores of 12 or higher (out of 20) on final written exams in subjects studied with coefficients of 10 or higher. No credit is awarded for oral exams.
- Cambridge Pre-University: Credit is generally awarded for scores of M3 or higher on Principal Subjects. No credit is awarded for Short Courses or Global Perspectives and Research.
- Caribbean Advanced Proficiency Examinations: Credit is generally awarded for grades of 3 or below (out of 7, with 1 being the highest) on two-unit subjects. No credit is awarded for one-unit courses.
- Maturität/Maturité: Credit is generally awarded for scores of 4.5 or higher (out of 6) on the main subject (Schwerpunktfach) or complementary subject (Ergänzungsfach) on either the Swiss Federal Maturity Certificate or federally recognized cantonal maturity certificates.
- All-India Senior School Certificate Examination (Standard XII): Credit is generally awarded for scores of 81 or higher (out of 100) for subjects completed in the general academic track on the All-India Senior School Certificate Examination administered by the Central Board of Secondary Education.
- Indian School Certificate Examinations (Standard XII): Credit is generally awarded for scores of 80 or higher (out of 100) for subjects completed in the general academic track on the Indian School Certificate examinations administered by the Council for the Indian School Certificate Examination.

Additional Information for International Applicants

In order to enroll at Northeastern, enrolling international students may be required to apply for either F-1 (student) or J-1 (exchange visitor) nonimmigrant status. To begin the process, each student must first request their certificate of eligibility from the Office of Global Services (https://international.northeastern.edu/ogs/). For the F-1 visa, students must request the Form I-20, while for the J-1 visa, students must request Form DS-2019. Both forms can be requested through myOGS, Northeastern's online portal for international students.

- Once an enrollment deposit is submitted, all international students will be able to access myOGS.
- International students must submit the appropriate request form in myOGS for either the Form I-20 or Form DS-2019.
- Once the student submits the request form and all required supporting documents (https://international.northeastern.edu/ogs/new-students/i-20-ds-2019-application/applying-for-your-initial-i-20/), the OGS team will review the request and generate the I-20 within 10 business days.
- Once students receive the I-20 or DS-2019, students can apply for the F-1 or J-1 visa at a nearby overseas U.S. embassy or consulate.
- If the visa is granted, students are permitted to enter the United States no more than 30 days before the start date of their academic program (which will be provided on the I-20 or DS-2019).

In order to maintain lawful student status in the United States, international students must be mindful of the rules and regulations that govern their nonimmigrant visa classification. Numerous U.S. federal mandates and regulations make it especially important for students with F-1 or J-1 visas to consult regularly with an international student advisor at the Office of Global Services (https://international.northeastern.edu/ogs/) before taking any action that might affect their immigration status and educational endeavors in the United States. Please note the following:

- International students in F-1 and J-1 status must register as full-time students (minimum of 12 credits) and on time (within the appropriate registration period) each term during the regular academic year. Any exceptions to full-time registration requirements must be preapproved by OGS in accordance with specified federal regulations.
- International students must not begin, extend, or resume any type of employment without first obtaining proper employment authorization or verification from the OGS.
- Some international students must apply and be approved for a change of status (e.g., from F-2 to F-1 nonimmigrant status) before beginning their academic program at Northeastern.
- For information on nonimmigrant statutes other than F-1 and J-1 (including eligibility to work in the United States or participate in co-op and other forms of experiential learning), contact OGS (https://international.northeastern.edu/ogs/contact/). Note that some academic programs at Northeastern have experiential learning requirements (e.g., co-op or study abroad). Not all visa categories allow for internships, co-ops, international travel, or other experiential learning opportunities and may impede the successful completion of your program of study.

Non-Native English-Speaking Applicants

All non-native English-speaking applicants, regardless of citizenship, must submit official results from one of the following proficiency tests: the Duolingo English Test, C1 Advanced or C2 Proficiency (Cambridge English: Advanced or Proficiency), the International English Language Testing System, the Pearson Test of English Academic, or the Test of English as a Foreign Language. Applicants who will complete four or more consecutive academic years of high school or university where academic or native English was the primary instructional language may contact the Office of Undergraduate Admissions in order to request a waiver. English-language learners or students enrolled in ESL courses in the four years preceding their application are strongly recommended to submit IELTS. Based on IELTS, some undergraduate applicants with substantial English proficiency but

insufficient proficiency for undertaking a full-time, degree-seeking academic program may instead be referred to NU Immerse, our structured English immersion program.

College, Major, and Length of Program Selection

Applicants to Northeastern apply to one of our seven undergraduate colleges or to the Explore Program for undeclared students.

We encourage students to select a major that reflects their current academic interests and aspirations; however, the Explore Program for undeclared students provides opportunities to explore our various disciplines and programs. Northeastern offers advisory programs for students interested in preprofessional programs, including medical, dental, law, and veterinary graduate school.

Northeastern offers a broad and deep curriculum that is flexible, and the academic calendar allows students to maximize experiential learning opportunities, including research, study abroad, and our signature co-op program. Students become architects of their own paths, charting their unique course that determines their time to degree. Students can build a program that is four years or five years and gain up to 18 months of full-time experiential learning. First-year students can participate in NUterm in Summer 1 of their first year, taking advantage of exciting and unique course offerings or regular classes during the May/June semester. By participating in NUterm, students take advantage of Northeastern's signature flexibility, beginning their sophomore year with an additional half term completed. Many colleges offer PlusOne programs, which link undergraduate work with graduate studies. See the detailed curricula in this catalog for more information.

ADMISSION REQUIREMENTS FOR THE COLLEGE OF ARTS, MEDIA AND DESIGN

Guidelines for Portfolio Submission

All portfolios should be submitted electronically via SlideRoom. Hard-copy portfolios will not be accepted and cannot be reviewed.

Studio Art

Applicants for the studio art major, a joint program of Northeastern and the School of the Museum of Fine Arts, Boston, are required to submit a portfolio through SlideRoom. This portfolio requires a minimum of 15 individual images of original artwork. The portfolio may include work in a variety of media; no particular subject matter or style is required. Rather, students should select work that best shows their personal style, creativity, and commitment to innovation. Check the Department of Art + Design website (https://camd.northeastern.edu/art-design/) for more information.

Music Composition and Technology

Beginning in spring 2018, portfolios are no longer required for students applying to music composition and technology.

Music Performance

Once enrolled, students in any music concentration may also audition to pursue a minor in musical performance. This program is highly competitive and therefore requires evaluation by the Department of Music. Auditions are typically scheduled during a student's first semester at Northeastern. For specific questions regarding the program or audition requirements, please reference the CAMD website (https://camd.northeastern.edu/music/academic-programs/minor-in-music-performance/#_ga=2.161629292190601096815220709 14-1696583984151785 1807).

Conditional Admission

Conditional Admission

Students who have not submitted required admissions documents, such as official transcripts, prior to admission must do so within 30 days of the start of the academic term. A student who has been admitted on condition to provide admissions documents will not be permitted to register for a future term.

Merit Scholarships

Northeastern University provides highly selective scholarship programs aimed at rewarding and recognizing outstanding academic achievement. All applicants who apply on time are considered for these scholarships. Please note that scholarship consideration is separate from the financial aid application process. International students are eligible for merit scholarship consideration, but Northeastern does not offer need-based assistance to international students. Please visit this page (https://studentfinance.northeastern.edu/applying-for-aid/undergraduate/types-of-aid/scholarships/first-year-scholarships/) to see the most current list of scholarship opportunities.

Northeastern Honors Program

Each year, the admissions office selects a group of students to join the University Honors Program at Northeastern University. Those invited into the Honors Program are among our most highly accomplished admitted students. There is no separate application process for the Honors Program, and students are considered at all decision deadlines. Decisions are rendered based on the undergraduate admissions application submitted to the university. The invitation to join the University Honors Program is included in the official admission letter. Visit the University Honors Program (https://undergraduate.northeastern.edu/honors/) for additional details regarding scholarships and grants for Honors Program students.

Phi Theta Kappa Scholarships (Transfer Students Only)

Award: A grant recognizing high levels of academic achievement in the beginning years of college. Recipients who maintain normal progress toward a degree, with a minimum grade-point average of 3.000, may renew the award.

Eligibility: Applicants for fall transfer admission who have earned a 3.500 grade-point average in 32 semester hours or equivalent quarter hours or units of college-level coursework. For eligibility, you must be a U.S. citizen or a permanent resident enrolling directly from a two-year institution of higher education.

Ujima Global Leaders Program

The Ujima Global Leaders Program is a scholarship program focused on developing leaders for tomorrow's diverse and complex world. Ujima Global Leaders from all academic disciplines will work collaboratively to develop intercultural competence and awareness by engaging with communities on campus, throughout Boston and the world. Working with staff and faculty, Ujima Global Leaders may choose to make an impact based on their interests and goals via community service involvement, experiential opportunities, and research and global experiences. Committed to excellence, academic achievement, service, and diversity, Ujima Global Leaders will be prepared to meet the challenges of tomorrow. The Ujima Global Leaders Program seeks to enroll academically talented first-year students with demonstrated leadership skills, community involvement, and/or an interest in issues related to serving underrepresented and underserved populations. Recipients receive a scholarship called the Ujima Global Leadership Award, and those with demonstrated financial need will have their full need met.

Contact the Office of Undergraduate Admissions if you have any questions about the application process. For more information, consult the admissions website (https://admissions.northeastern.edu/cost-financial-aid/merit-scholarships/).

Specialized Entry Programs

Northeastern University offers admission and enrollment programs and opportunities that advance the university's mission and help meet students' needs. Students who apply for admission to Northeastern may be automatically offered direct entry into some of these programs or, in some cases, may be referred to other specialized entry programs. These selections are based on a holistic review of students' applications. Northeastern continually assesses our specialized entry programs and opportunities, and additional programs and opportunities may become available while existing programs and opportunities may be modified. For a complete list of our specialized programs and opportunities, visit the Specialized Entry Programs web (https://www.northeastern.edu/admissions/academics/specialized-entry/)site (https://www.northeastern.edu/admissions/academics/specialized-entry/).

General Studies Program

General Studies is a first-year program designed to help students build skills for academic success in their freshman year and beyond. General Studies students spend their freshman year immersed in a combination of first-year requirements, NUpath courses, and introductory courses for their intended major. See additional information (https://catalog.northeastern.edu/undergraduate/university-academics/general-studies-program/).

Foundation Year

An innovative, first-year college program, Foundation Year supports City of Boston students as they develop the skills to be successful in their entire Northeastern experience. During their first year of college, students receive rigorous academics, extensive support services, real-world experience, and the privileges that come with being a Northeastern student. Foundation Year brings together the right resources for each student—maximizing the potential for success. Visit the Foundation Year page of this catalog (https://catalog.northeastern.edu/undergraduate/admission/specialized-entry/foundation-year/) for additional information.

Torch Scholars Program

The Torch Scholars (https://torch.northeastern.edu/) is a comprehensive scholarship and support program for first-generation college students. Students selected into the program have demonstrated exceptional leadership and community service throughout high school but have not yet reached their full academic potential. After a holistic review, which includes a thorough interview process, selected Torch Scholars receive a full scholarship that covers tuition, room and board, books, and fees for eight semesters, as well as coverage for a four-week Summer Immersion program. Torch alumni have continued their education in PhD and master's programs, founded startups, and begun careers in major corporations.

NU Immerse

NU Immerse is a transitional experience for non-native English-speaking students, which offers advanced English-language preparation and an introduction to college culture through a yearlong program in Boston through the College of Professional Studies. Students will improve language and academic skills through a specially designed two-semester curriculum. Please note, NU Immerse provides a conditional offer of admission to undergraduate degree programs at Northeastern upon successful completion of the program.

Foundation Year

An innovative first-year pathway program, Foundation Year supports City of Boston students as they begin their journey at Northeastern University. Launched in 2009, Foundation Year is designed for City of Boston high school graduates and GED/HiSET completers who could benefit from a more structured learning environment during their first year of college. Featuring rigorous academics, extensive support services, and all the privileges that come with being a Northeastern student, Foundation Year brings together the right resources for each student—maximizing the potential for success.

Accepted students are enrolled in Northeastern's College of Professional Studies where they may earn up to a full year of college credits upon program completion. To foster camaraderie and peer-to-peer learning, the program is built around the cohort model, in which Foundation Year students attend all classes together.

Upon completion, students are eligible to:

- Transfer to another college at Northeastern if progression standards are met
- Continue at Northeastern's College of Professional Studies in a bachelor's completion program

Application

To be considered for Foundation Year, students must be:

- Boston residents
- High school graduates or students holding GED/HiSET completion certificates
- Motivated and willing to work hard to achieve their goals and earn a college degree

PROCESS

1. Submit an application to Northeastern (https://www.northeastern.edu/admissions/application-information/apply/) using the Common Application or the Coalition Application.
2. Submit required materials (https://www.northeastern.edu/admissions/application-information/apply/).
3. Complete the Free Application for Federal Student Aid (FAFSA (https://studentaid.gov/h/apply-for-aid/fafsa/)) and CSS Profile (https://cssprofile.collegeboard.org/) online.

CONTACT INFORMATION

foundationyear@northeastern.edu

Program Requirements

Designed with the student in mind, Foundation Year's intensive curriculum includes courses in English, sociology, mathematics, and history. Students can also focus their studies by choosing from electives in business, science, or liberal arts. Foundation Year students can earn up to 32 semester hours of credit—equivalent to one year of college credits.

To help facilitate learning, Foundation Year provides all students with textbooks and laptops to use for the entire school year.

Complete all courses below unless otherwise indicated.

CORE COURSES

Note: Students are placed into math courses based on proficiency.

Code	Title	Hours
CDV 0220 The College Experience 1 (noncredit course)		0
CDV 0225 The College Experience 2 (noncredit course)		0
CMN 2310	Professional Speaking	3
ENG 1105	College Writing 1	3
ENG 1106	Lab for ENG 1105	1
ENG 1107	College Writing 2	3
ENG 1108	Lab for ENG 1107	1
SOC 1220	Engaging Difference and Diversity	3
Complete two of the following:		6
MTH 1100	College Algebra	
MTH 1200	Precalculus	
MTH 2100	Calculus 1	
MTH 2300	Business Statistics	

ELECTIVES

Code	Title	Hours
Liberal Arts Course Track		
HST 2425	Coming to America: The American Immigrant Experience	3
PHL 1100	Social and Political Philosophy	3
POL 1300	American Government	3
PSY 1100	Foundations of Psychology	3
SOC 2240	Death and Dying	3
Science Course Track		
BIO 1100	Principles of Biology 1	3
BIO 1101	Lab for BIO 1100	1
CHM 1100	General Chemistry 1	3
CHM 1101	Lab for CHM 1100	1
CHM 1200	General Chemistry 2	3
CHM 1201	Lab for CHM 1200	1
Business Course Track		
ECN 1100	Principles of Microeconomics	3
ECN 1200	Principles of Macroeconomics	3
MGT 2100	Principles of Management	3
MGT 2330	Business Law	3

University Honors Program

Becca Berkey
Director

Justin Silvestri
Associate Director

Brooke Tempesta
Associate Director

617.373.2333
617.373.5300 (fax)
honors@northeastern.edu

The University Honors Program is dedicated to empowering its students' ability to affect meaningful impact in their campus, local, and global communities during their undergraduate education. Our community of intellectually engaged students, faculty, and professional staff are committed to engagement with scholarship that enables students to confront critical societal issues and leverage the knowledge and expertise from these encounters to make a difference at Northeastern University and beyond. Students benefit from unique and enriched educational options that include stimulating courses, opportunities for research and creative endeavors, global experiences, service-learning, mentoring, and the development of competencies that will position them for lifelong learning and personal and professional success. Throughout their undergraduate experience, Honors students are guided and supported as they chart their unique educational plans through personalized developmental advising, engagement in diverse competency-based learning experiences, and participation in a set of networked communities that include Honors Living Learning Communities.

All applicants seeking freshman entry at Northeastern University (for fall semester entry) are considered for admission into the University Honors Program and are notified of their selection in their letter of admission. There is no separate application. Students matriculating in the fall 2023 semester will have opportunities for ongoing participation in the program at the conclusion of their first year.

Continuing students in their first, second, or third semesters who wish to be considered for entry may consult the University Honors Program's website (https://undergraduate.northeastern.edu/honors/) for application instructions.

Information for Entering Students

- Accommodations for Students with Disabilities (p. 35)
- Health Requirements—University Health and Counseling Services (UHCS) (p. 36)
- Information Technology Services (p. 37)
- Information for International Students (p. 38)
- Office of the University Registrar (p. 39)
- Parent/Family Programs (p. 40)
- Public Safety (p. 41)
- Residential Life (p. 42)
- Student Orientation (p. 43)
- We Care (p. 44)

Accommodations for Students with Disabilities

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Immunization Requirements

All students enrolled in Massachusetts, Oakland, and Global Scholars must submit proof of immunity to various diseases. The vaccinations required are set by the Massachusetts Department of Public Health and the California Department of Public Health. Students who fail to submit a completed health report will be unable to complete future course registration.Visit the UHCS website to learn about your campus requirements and how to submit proof of immunity.

Students in Massachusetts: All vaccination information will be entered into the Massachusetts Immunization and Information System. This system allows immunization information to be portable between providers, accessible during an emergency, and allows the patient to access the information as needed.

To learn about immunization requirements, visitUniversity Health Report, including how to opt out of the MIIS reporting.

Additional documentation of immunity is mandatory for students in Bouvé College of Health Sciences. Students should check with their program advisor or placement supervisor for more information. Students must meet the health clearance requirements of their academic program and any site-specific requirements prior to entering the clinical setting. This means that students must make arrangements for their physical exams and immunizations months before they are scheduled for a clinical course or rotation. Students who do not present the appropriate health certification will be blocked from registering for, or attending, a clinical course or rotation until satisfactory evidence is provided.

Nonresidential Campuses

Students enrolled at a nonresidential campus are not required to submit proof of immunity; however, we do recommend they have a copy in their files.

Information Technology Services

IT Services is the university's central group that provides technology services, solutions, and support to all Northeastern University students. Visit the Connect To Tech guide (https://connect-to-tech.northeastern.edu/students/) for information and key technology resources that are particularly helpful to students, including:

- Northeastern accounts
- Access to email
- Laptop recommendations and discounts
- Canvas learning management system
- Software such as Office 365 and Adobe Creative Cloud
- Frequently used websites and mobile apps

Technology Support and IT Service Desk

Technology support is available 24/7 online or by phone and email. Walk-up support is available at the Tech Bar on the Boston and Oakland campuses. G (https://service.northeastern.edu/tech/?id=its_contact_us)**et IT Support >**

service.northeastern.edu/tech (https://service.northeastern.edu/tech/)
617.373.HELP [4357]
help@northeastern.edu

Visit the Tech Service Portal (https://service.northeastern.edu/tech/) to search for how-tos and FAQs, borrow a laptop or other equipment, start a live chat, and search other resources.

Occasionally, interruptions to university systems, services, and tools can happen—when they do, get updates about them through Northeastern's IT status page (https://its.northeastern.edu/status/).

Information for International Students

Office of Global Services

Website (http://www.northeastern.edu/ogs/)
617.373.2310
617.373.8788 (fax)

The Office of Global Services provides advice and support services to over 20,000 international students and scholars who represent approximately 147 nations.

OGS serves as a "home away from home" for all international students and offers a wide array of **programs and services** to assist international students with their cultural adjustment, academic success, and professional growth. Throughout the year, OGS hosts cocurricular events that celebrate culture and the rich diversity of the campus. These events are encouraged as a way to gain familiarity with Northeastern University in a cross-cultural context while also facilitating the formation of friendships across cultures. OGS promotes meaningful interaction and intercultural understanding among citizens of all countries and their local peers, providing educational and cultural enrichment opportunities for all members of Northeastern. All students in the Northeastern community are welcome to participate in our events.

OGS provides **comprehensive immigration advising services** to assist international students in understanding the benefits and restrictions of being an international student, as governed by the federal immigration regulations set forth by the country of the student's study location within the Northeastern University Global Network. OGS advises students on the complexities of immigration compliance and interfaces with various government agencies.

During **international student orientation**, international students will receive an overview of the immigration compliance requirements along with information and resources to support academic success, student life, campus safety, and cultural adjustment.

During every required academic term, international students must maintain **full-time status and appropriate on-ground presence** at Northeastern to comply with federal immigration regulations. Note that timely registration for courses is especially important so that international students may remain in compliance with Northeastern's reporting requirements to the federal government about where they are studying. Because understanding federal regulations is complex and often nuanced, international students should consult with OGS if they have questions about their individual status.

OGS—United States (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students and scholars attending Northeastern in the United States, including I-20 (F-1) or DS-2019 (J-1) issuance, visa processing, general guidelines, orientation, events and programs, and support services. F-1 and J-1 students are encouraged to regularly review the guidelines on maintaining status (https://international.northeastern.edu/ogs/current-students/understanding-visa-requirements/guidelines-on-maintaining-status/).

OGS—Canada (https://international.northeastern.edu/ogs/student-support/global-campuses/canada/)

Information for international students attending the Northeastern program in Canada, including study permit compliance and extension, work eligibility, co-op work permit application, Post-Graduation Work Permit application, general guidelines, and support services.

Visa Immigration Compliance Team (https://www.nulondon.ac.uk/study/international-students/visa/visasupport/)—United Kingdom

The visa compliance team in London is committed to providing comprehensive support to international students throughout their CAS (Certificate of Acceptance for Studies) and UK student visa application processes. Their role encompasses assisting students in both pre- and postenrollment visa compliance activities.

The team also offers full support for an in-person enrollment on the first day at Northeastern University, London—which is a crucial process where the university verifies the information provided by international students and ensures their right to study in the UK. It is the university's responsibility to ensure that every international student possesses the correct visa to study in the UK. Once enrollment is successfully completed and all requested information is submitted, the visa compliance team issues a student ID card as a confirmation of the student's enrollment with Northeastern University, London.

The visa compliance team remains available throughout the student's enrollment life cycle to provide advice, guidance, and comprehensive support for any issues related to student visas. This includes addressing changes in program or any other matters related to visas or immigration, until the international student graduates.

Office of the University Registrar

The Office of the University Registrar provides an important link between the university's academic programs and policies and the student. It administers a number of specific services, including class scheduling, registration, record functions, verification of enrollment, reporting, and transcript services.

The Office of the University Registrar utilizes the Student Hub (https://me.northeastern.edu/) to provide students convenient access to information and services, including class schedules and registration, most recent grades, unofficial transcripts, and transcript and enrollment verification requests.

Office of the University Registrar website (https://registrar.northeastern.edu/)
registrar@northeastern.edu
617.373.2300
617.373.5351 (fax)

Maintenance of Student Records

The Office of the University Registrar is responsible for ensuring appropriate maintenance and safekeeping of student records. The transcript, which is stored electronically and maintained indefinitely, is the holistic record of student attendance and degree progress. In the event that the university discontinues operations, the archive of student records would be maintained by:

Massachusetts Department of Higher Education
One Ashburton Place
Room 1401
Boston, MA 02108

Family Programs

Office of Student Orientation and Family Programs
800.696.6516
parents@northeastern.edu

The **Office of Student Orientation and Family Programs** serves full-time undergraduates enrolled on the Boston campus.

Family Programs connects families to university resources, helping you navigate and build networks within Northeastern University's global community. We support families throughout their Northeastern experience—including academic, administrative, and personal matters.

Each year, the office hosts several programs for family engagement including Husky 101 Family Orientation and Family & Friends Weekend. Stay connected on Facebook!

Public Safety

Northeastern University Police Department

100 Columbus Place
617.373.3333 (EMERGENCY—police, fire, medical)
617.373.3934 (TTY emergency or nonemergency)
617.373.2121 (nonemergency regular business)

Website (https://nupd.northeastern.edu/)

Public Safety Division Administrative Offices
617.373.2696

Personal Safety
617.373.2121

The Public Safety Division is committed to working with Northeastern University faculty, students, staff, and neighbors to build relationships and keep our campus thriving. Our work extends far beyond Boston, as we support learners in their academic and experiential endeavors around the world. The Public Safety Division is comprised of three sections: Police Department, Emergency Management, and International Safety.

The Northeastern University Police Department (https://nupd.northeastern.edu/) is a full-service and accredited police agency that comprises patrol and investigative divisions providing 24-hour service. NUPD has developed robust crime-detection and prevention strategies centered on technology and campus community engagement. Our well-trained officers are ready and willing to assist all members of our community.

A personal safety escort (https://nupd.northeastern.edu/our-services/safety-escort-services/) can be provided from one on-campus location to another, any time of day, whenever personal safety is a concern. You'll need to provide your name, Northeastern ID number, and location. Safety escorts usually arrive in 10 to 15 minutes. A special, nighttime off-campus escort service, called the RedEye, runs from dusk to dawn to transport students to their residence within two miles from the center of campus. Every night from 7 p.m. until 6 a.m., the RedEye van will pick students up at the Snell Library. In order to use this escort, you must book a ride in advance using the RedEye app, or you can book a ride at the RedEye dispatch center located at the Northeast Security office in the Ruggles Substation.

SafeZone (https://nupd.northeastern.edu/safezone/) is a mobile safety app that is unique to Northeastern. SafeZone is a smartphone app that any student or staff member can download and use for free. This app will connect you directly to the NUPD should you need our assistance or emergency support while you are on campus.

NUPD encourages you to not only familiarize yourself with all of the services provided by NUPD but to also utilize the services and safety-related tips provided. If you see something that does not look or feel right, NUPD encourages you to say something by contacting NUPD at 617.373.2121 or utilizing the SafeZone app.

LOST AND FOUND (HTTPS://NUPD.NORTHEASTERN.EDU/OUR-SERVICES/LOST-AND-FOUND/)

If you have lost an item on Northeastern's Boston campus, call 617.373.3913. If your item has been turned in, we will contact you by telephone or email. If you have found an item on campus, return it to our headquarters located at 100 Columbus Place. If you suspect the item has been stolen, call the NUPD at 617.373.2121 to report the theft.

UNIVERSITY EMERGENCY INFORMATION (HTTP://WWW.NORTHEASTERN.EDU/EMERGENCY/)

617.373.2000 (snow emergencies)
617.373.3333 (police, medical, or fire emergencies)

Northeastern is committed to providing members of its community with a safe and secure place in which to live, work, and study.

The university is prepared to respond to emergencies and urgent situations that require immediate action. A trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals form a coordinated group that is able to manage a wide range of potential situations.

NU Alert, emergency broadcast communication messages, are sent to the email addresses and telephone numbers students, faculty, and staff have provided the university. For more information on NU Alert and Emergency Planning, visit the NUPD website (https://nupd.northeastern.edu/safety/emergency-planning/).

Housing and Residential Life

Website (https://www.northeastern.edu/housing/)
617-373-2814
housing@northeastern.edu

Traditionally entering first- and second-year students are required to live in university housing. The Offices of Housing and Residential Life are dedicated to working with Northeastern University students to help build safe and inclusive living environments that support personal development and academic success. We share the goal of preparing students to become lifelong learners who are holistically formed, experience growth alongside others, and are responsible contributors to local and global communities. Residential Life staff designs intentional experiences, programs, and activities to build a strong community environment that prioritizes this goal.

Residential Life Staff

Each residential community is supervised by a professional building staff member (residence director) and student resident assistants (RAs) who work together to maintain close contact with students to help make their experience living in university housing a positive one. Both Housing and Residential Life staff are trained in facilities management, community engagement, crisis response, conflict resolution, and interpersonal communications.

Living Learning Communities

A central component of the residential experience for first-year students is Living Learning Communities. LLCs bring together students with a shared personal or academic interest to learn and grow as a community during their first year at Northeastern.

Student Orientation

Office of Student Orientation and Family Programs
800.696.6516
orientation@northeastern.edu

The **Office of Student Orientation and Family Programs** serves full-time undergraduates enrolled on the Boston campus.

Husky 101 Orientation is **mandatory** for newly enrolled first-year, transfer, and military veteran students and is *highly encouraged* for families. Husky 101 and new student Welcome Week connect you to platforms to begin charting your Northeastern University path with global, research, and experiential opportunities and programs.

- Experience Husky Life
- Hear from university leadership and academic areas
- Learn about university resources and services
- Engage in student involvement programs
- Meet new classmates
- Explore campus and Boston

Once a new student officially commits to the university by paying the enrollment fee, they will receive Husky Happenings email communications from the Office of Student Orientation and Family Programs with critical information and next steps in the new student and family transition.

We Care

617.373.7591
wecare@northeastern.edu (we_care@northeastern.edu)

Website (http://www.northeastern.edu/wecare/)

We Care assists students who are experiencing unexpected challenges to maintain their academic progress. The staff works with students to coordinate among university offices, to offer appropriate referrals, and to help develop viable options to support their continued success at the university. We Care also provides guidance to faculty and staff in identifying Northeastern resources and policies to help students succeed.

Financial Information

Student Financial Services is available to assist you in developing a plan for financing a Northeastern University education. To learn more, visit the Student Financial Services website (https://studentfinance.northeastern.edu/).

- Bill Payment (p. 46)
- Delivery of Services (p. 49)
- Financial Aid (p. 50)
- Financing Options (p. 52)
- Tuition, Room, Board, and Fees Per Semester (p. 53)

Bill Payment

Full payment of tuition, residence hall fees, and other related charges are due prior to the start of the term as specified on the original bill. A past-due balance may result in late fees, prevention of registration, prevention of participation in global study programs, or withdrawal from the university.

Tuition bills are only generated electronically and are available via the Student Hub (https://me.northeastern.edu). Students will receive an email notification to their Northeastern University email account when their bill is available. Please note that paper bills are not generated.

For additional information regarding the e-bill, please visit the Billing & Payments Frequently Asked Questions webpage (https://studentfinance.northeastern.edu/billing-payments/billing-faq/).

Payment of Tuition

Accepted methods of payment are:

- **Checks and e-checks:** Payments can be made online via NUPay on the Student Hub. Payments may also be sent by mail or you may pay in person at Student Financial Services. If you are paying with a check or money order, please ensure that it is made payable to Northeastern University.
- **International payments using Flywire or CIBC:** Northeastern has partnered with Flywire and CIBC to streamline the international wire payment process to the university. This service provides students and their families a safe, cost-effective, and convenient method of making payments to Northeastern in foreign currencies. To learn more about international payments through Flywire and CIBC, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/payment-methods/#international-payments).
- **Monthly payment plan:** For additional information regarding the monthly payment plan, which is administered through Flywire, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).
- **Supplemental student and parent loans:** There are a number of supplemental educational loan programs available to assist students and families in financing their education. Review options on the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).

For additional information regarding available payment and financing options, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/).

Student Financial Responsibility Agreement

As compelled by federal law, all students who enroll in classes at Northeastern are required to complete and accept the Student Financial Responsibility Agreement (https://studentfinance.northeastern.edu/billing-payments/sfra/). This agreement must be completed once per academic year and is located on the Student Hub. Failure to complete the SFRA will result in a hold that prevents registration.

VA Education Benefits

In accordance with Title 38 USC 3679 (e), covered individuals utilizing Chapter 31 or Chapter 33 education benefits at Northeastern University will not have any penalty imposed on their account nor will they be required to take out additional funding due to pending or late payments from the Department of Veterans Affairs as long as the Dolce Center for the Advancement of Veterans and Servicemembers has a current Certificate of Eligibility or VRE Authorization on file AND a Request for VA Benefit Certification is submitted through the Student Hub (https://me.northeastern.edu) portal.

COEs must be submitted before the start of the student's first term but do not need to be resubmitted unless entitlement information changes. Students are also required to complete the Request for VA Benefit Certification form through the Student Hub (https://me.northeastern.edu) portal before the start of each term they wish to use VA benefits. Students may have a hold placed on the account if there is an outstanding balance after payment from the VA is received by Northeastern.

Discrepancies in Your Bill

Discrepancies in billing statements should be addressed in writing by the student to the Office of Financial Services at studentaccounts@northeastern.edu. Include the student's name, Northeastern ID, dollar amount in question, date of invoice, and any other information believed to be relevant.

Responses will be sent to the student's Northeastern email address. If there is a billing discrepancy, pay the undisputed portion of the bill to avoid responsibility for any late fees or financial holds.

Overloads and Reduced Loads

Undergraduate day tuition is charged on a flat per-term basis that includes the cost of each student's normal academic curriculum requirements for that term.

Adjustments for reduced loads are made only when the Undergraduate Petition to Reduce Load is approved by the academic department and the Office of the University Registrar, usually only in the final term. International students who wish to drop below 12 credits during the semester must obtain authorization from the Office of Global Services (http://www.northeastern.edu/ogs/). These students may be approved for a reduced course load of fewer than 12 credits but no fewer than 6 credits in accordance with federal regulations. Tuition adjustments will then be made if the course

load falls below 12 credits during full semesters and 6 credits during summer half sessions (calculated at the per-credit-hour rate). To receive an adjustment, the Undergraduate Petition to Reduce Load must be submitted prior to the start of the term. No rebate or credit is granted when a student voluntarily drops a course.

Financial adjustments for coursework greater than the prescribed curriculum for the term is calculated at the per-credit-hour rate for undergraduate full-time students. Students taking more than 8 credits (summer half session) or 16 credits (full semester) will be charged at the per-credit-hour rate.

Undergraduate full-time day students registered for co-op and taking a class will be billed at the per-credit-hour rate for the course. The flat undergraduate tuition rate will be charged for students on co-op enrolled in 12 credits or more.

Visit the Tuition and Fees webpage (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/) for a full listing of tuition rates. Also see “Overload Policy (p. 97)” and “Reduced Load Policies (p. 97).”

Delinquent Balances

In cases of student default on tuition payments, the student may be withdrawn from the university and is liable for the outstanding tuition, as well as for all reasonable collection costs and any legal fees incurred by the university during the collection process. Accounts may be subject to monthly interest charges. In adherence to university policy, transcripts and other academic records will typically be withheld until all financial obligations to the institution have been fulfilled. However, students enrolled in Washington, California, and Maine will receive their transcripts even if they have outstanding financial obligations, in accordance with state regulations.

Update: Starting May 3, 2024, the university will no longer withhold transcripts due to outstanding financial obligations for any student, regardless of their state of enrollment or campus affiliation.

Refunds on Credit Balances

The university automatically issues refunds for eligible students whose account reflects a credit balance.

Please note that if a credit card has been used to pay any portion of the amount due, the refund must be made first to that credit card. If the credit balance on the account exceeds the amount that was paid via credit card, these additional funds will be refunded by check or direct deposit.

If the credit balance in the student's account resulted from a Federal Direct Parent PLUS Loan, the funds will be automatically refunded to the borrower. Any additional credit not from this loan will be refunded to the student.

For additional information regarding student refunds, including Frequently Asked Questions, visit the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/student-refund-requests/).

Refunds for Withdrawal from the University—General Information

Tuition refunds are granted based on the date of the official withdrawal processed by the Office of the University Registrar. Nonattendance does not constitute official withdrawal. Credit policies vary according to the duration of the course. Typical tuition adjustments are made according to the schedules shown below.

The first week of class is the week containing the “Classes Begin” date listed in the online academic calendar (https://registrar.northeastern.edu/group/calendar/).

Payment options and credit policies may vary for courses that follow a schedule different from the regular full- or half-semester courses. If you are unsure about a course you are taking, contact the Office of Student Accounts.

All rates are subject to revision at the discretion of Northeastern’s Board of Trustees.

For information regarding policies that affect eligibility for federal grants and loans upon your withdrawal or adjustment to course enrollment, visit the Student Financial Services website (https://studentfinance.northeastern.edu/). Note that withdrawal policies vary for global study programs. For more information on study-abroad-related withdrawal policies, refer to the Global Experience webpage (http://www.northeastern.edu/geo/studyabroad/) .

Refunds for Course Withdrawals

Undergraduate day students should refer to the “Overload Policy (p. 97)” and “Reduced Load Policies (p. 97)” for information on adjustments for withdrawing from individual course(s). For withdrawals from a course after the third week of a full semester, contact studentaccounts@northeastern.edu.

Refunds for Complete Withdrawal from the University

FULL SEMESTERS

Official withdrawal during the first week	100% refund
Official withdrawal during the second week	100% refund
Official withdrawal during the third week	100% refund
Official withdrawal during the fourth week	60% refund
Official withdrawal during the fifth week	40% refund
Official withdrawal after the fifth week	No refund

SUMMER HALF SEMESTERS

Official withdrawal during the first week	100% refund
Official withdrawal during the second week	100% refund
Official withdrawal during the third week	50% refund
Official withdrawal during the fourth week	25% refund
Official withdrawal after the fourth week	No refund

Disability Resource Center Adjustments

Students who are registered with Northeastern's Disability Resource Center (https://drc.sites.northeastern.edu/) are eligible to petition to the center for tuition adjustments directly related to their documented disability. Students who drop below 12 credit hours may be affected by the loss of full-time-student status. Further information is available from the Disability Resource Center.

Delivery of Services

Northeastern University assumes no liability for delay or failure to provide educational or other services or facilities due to causes beyond its reasonable control. Causes include, without limitation, power failure, fire, strikes by university employees or others, damage by natural elements, and acts of public authorities. The university will, however, exert reasonable efforts, when it judges them to be appropriate, to provide comparable services, facilities, or performance; but its inability or failure to do so shall not subject the university to liability.

In the event that Northeastern determines it must suspend or alter its operations in whole or in part due to epidemic, pandemic, other public health emergency, extreme weather, natural disaster, acts or threatened acts of terrorism or war, or any single act or combination of events beyond the university's control, Northeastern may suspend, reduce, terminate and/or modify its operations in whole or in part, which may or may not include offering online or other alternative learning options, in its discretion. In any such event, Northeastern is under no obligation to refund or credit any portion of tuition, fees, or other charges paid or owed, but it may do so in its discretion.

Northeastern reserves the sole right to promulgate and change rules and regulations and to make changes of any nature in its program; calendar; admissions policies, procedures, and standards; degree requirements; fees; and academic schedule whenever necessary or desirable, including, without limitation, changes in course content and class schedule, the cancellation of scheduled classes and other academic activities, and the substitution of alternatives for scheduled classes and other academic activities. In any such case, the university will give whatever notice is reasonably practical.

Northeastern will endeavor to make available to its students a fine education and a stimulating and congenial environment. However, the quality and rate of progress of an individual's academic career and professional advancement upon completion of a degree or program are largely dependent on the individual's own abilities, commitment, and effort. In many professions and occupations, there are also requirements imposed by federal and state statutes and regulatory agencies for certification or entry into a particular field. These requirements may change while a student is enrolled in a program and may vary from state to state or country to country. Although the university stands ready to help its students find out about requirements and changes in them, it is the student's responsibility to initiate the inquiry.

Financial Aid

For many families, financial aid provides a foundation for success and is a key element in making a Northeastern University education affordable. Student Financial Services provides a full range of options that help students establish a comprehensive plan to finance their education.

How to Apply

To apply for federal financial aid, first-year and transfer students must submit the Free Application for Federal Student Aid (https://studentaid.gov/h/apply-for-aid/fafsa/). Additionally, for institutional aid consideration, first-year and transfer students must also complete the CSS Profile (https://cssprofile.collegeboard.org/). Returning students must submit the FAFSA (https://studentaid.gov/h/apply-for-aid/fafsa/) each academic year.

Students are encouraged to submit their financial aid application materials by the priority filing deadline date to ensure that they are considered for all available financial aid programs for which they qualify. To view the priority filing deadline dates and learn more about the financial aid application process, visit the Student Financial Services website (https://studentfinance.northeastern.edu/applying-for-aid/undergraduate/).

Satisfactory Academic Progress (SAP)

QUALITATIVE

Student grade-point averages are reviewed annually at the end of spring semester. First-year freshmen students must have at least a 1.800 GPA by the end of their first academic year and a 2.000 GPA or better thereafter to retain financial aid eligibility. For students completing their sophomore year and beyond, a GPA of 2.000 is required to retain eligibility.

QUANTITATIVE

Students must also meet certain quantitative requirements. Completed credits are reviewed as a percentage of attempted credits after each academic year. Students must earn at least 67% of their cumulative attempted credits to maintain SAP.

APPEALS

Students who have lost their eligibility for financial aid due to failure to meet qualitative or quantitative SAP standards have the right to submit a letter of appeal to Student Financial Services. Approval of an appeal will be based on extenuating circumstances that had an impact on the student's ability to achieve the minimum standards of SAP and the assurance that these circumstances will not be present going forward. If approved, appeals require a contractual agreement that must be signed by the student and a Student Financial Services representative.

For additional information regarding SAP, visit the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/satisfactory-academic-progress/).

Change in Enrollment Status

Students must notify Student Financial Services about any change in planned period of enrollment, whether due to withdrawal from a class, a leave of absence, a change in co-op or in class, an approved reduction in course load, or withdrawal from the university. Changes in enrollment may impact types and amounts of financial aid offered by Northeastern.

It is highly recommended, whenever possible, that students discuss the impact of such changes with a Student Financial Services representative before making them.

Outside Sources of Aid

Students must notify Student Financial Services of any aid received from outside sources, such as scholarships from outside organizations. A review and possible recalculation of a student's financial aid offer will occur.

Return of Title IV Aid

Northeastern is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a term. Recalculation is based on the percentage of earned aid using the Federal Return of Title IV funds formula. Federal regulations require students to obtain at least an A, B, C, D, S, or F in at least one course for the term; students who receive all unsuccessful grades for a term (NE, W, I, U) will be considered unofficially withdrawn from the term. For unofficial withdrawals, the withdrawal date used for aid recalculation is the midpoint of the term.

Verification

If a student is selected for verification (https://studentfinance.northeastern.edu/federal-verification-process/), Student Financial Services may be required to collect additional financial documents, including tax returns and other financial documents, to verify the information provided on the FAFSA. Aid cannot be determined, finalized, or disbursed until this process is completed.

Change in Circumstances

If a student believes that the aid process does not accurately reflect their financial situation, or if family circumstances change during the year, the student should notify Student Financial Services for further evaluation. For additional information regarding changes in financial circumstances,

please refer to the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/changes-in-financial-circumstances/).

Financing Options

Northeastern's Monthly Payment Plan

Northeastern University offers a monthly payment plan, administered through Flywire, which allows students and families to divide their educational costs each semester into smaller, more manageable installments. In using this plan, it can reduce your need to borrow, thereby reducing the overall cost of education. The monthly payment plan can be combined with awarded financial aid as well as other payment and financing options.

Student and Parent Loans

There are a number of educational loan programs available to assist eligible students and families in covering expenses over and above any financial aid that may be awarded from Student Financial Services. Most private lenders have credit and income requirements that students and/or parents must meet before being approved for these programs. When researching the loan and lender that best meet your needs, make sure you take into consideration the interest rate; the quality of customer service; as well as any origination, disbursement, and/or repayment fees.

Additional Information

To learn more about available financing options, including the monthly payment plan, the Federal Direct Parent PLUS Loan, and supplemental student or parent loans, visit the Student Financial Services website (https://studentfinance.northeastern.edu/billing-payments/financing-options/).

Tuition, Room, Board, and Fees Per Semester

Annual costs for upperclass students participating in co-op vary depending on their pattern of attendance. See "Patterns of Attendance" section below. The number of semesters a transfer student spends in school depends on the curriculum of the student's college. You are advised to verify your curriculum with your academic advisor so that you may plan accordingly.

Total Estimated Costs

The total, estimated costs for students living in university housing and enrolled in the 17-meal plan for the 2023–2024 academic year are as follows:

TUITION AND FEES

Tuition and Fees	Per Full Semester	Per Summer Half Semester
Tuition	$31,000	$15,500
Student Center Fee	$72	$36
Student Activity Fee	$163	
Campus Recreation Fee	$62	$36
Undergraduate Student Fee	$320	

ROOM, BOARD, AND FEES PER SEMESTER

Tuition and Fees	Per Full Semester	Per Summer Half Semester
Residential Student Fee	$35	$17
Housing	Rates begin at $5,125[1]	Approximately 1/2 of semester rate[1]
17-Meal Plan[2]	$4,090	$2,045

1 Rates vary depending on occupancy and assignment. Visit the Housing and Residential Life website (http://www.northeastern.edu/housing/) for a detailed list of housing rates.

2 See *Dining Services* below for additional meal plan options.

Undergraduate day students who take a graduate course as part of their undergraduate program will be charged the same rates that apply to undergraduate credits. (See "Overload Policy (p. 97)" and "Reduced Load Policies (p. 97).")

In addition to the expenses itemized above, families should plan on the normal costs of living that students incur for transportation, books, and personal expenses. While these expenses may vary, for the purpose of approximating a student budget, the university estimates these items at $2,800 per year.

Tuition rates, room and board charges, and fees are subject to revision by the Northeastern University Board of Trustees at any time.

Patterns of Attendance

To better plan for tuition and fees, students and parents should be aware that:

1. Tuition is charged when a student is taking classes/earning academic credit. Tuition is not charged for co-op; however, the student will pay room and board if they stay in a university residence hall while on co-op and will be assessed tuition if enrolled in a class.
2. Financial aid will be distributed to match the student's academic program and tuition bills.

Northeastern's calendar enables students to participate in six-month co-op assignments. Each academic year has two full semesters (fall semester, September–December, and spring semester, January–April) and two half semesters of about seven weeks each (summer 1, May–June, and summer 2, July–August). The six-month co-op assignments generally span either the spring plus summer 1 terms or the summer 2 plus fall terms.

The co-op schedule is flexible, but generally, students alternate periods in class with periods on co-op. All students are required to complete their program in the classroom, rather than on a co-op assignment, so their last semester will be in the classroom. For specific patterns of attendance for particular majors, consult the program plan for that major.

Fees Required of All Students

The following fees are required of all students:

APPLICATION FEE

A nonrefundable fee of $75 must accompany an application for admission.

ENROLLMENT DEPOSITS

A nonrefundable enrollment deposit, which is applicable toward the first semester's bill, must be paid by the due date indicated in the Application Status Check in order to reserve a place at Northeastern. This secures your enrollment and transition activities.

If you are an international student, your enrollment deposit includes a $375 International Student Fee. This fee supports programs and services provided by the Office of Global Services (https://www.northeastern.edu/ogs/) on campus.

UNDERGRADUATE STUDENT FEE

The mandatory undergraduate student fee supports enrollment-related services throughout the student's first year, including new student orientation and welcome week activities. Beyond the first year, the fee supports enrollment services and costs related to ongoing communication to students and parents. The undergraduate student fee, in the amount of $320 per full semester, is assessed each in-class or study-abroad term for undergraduate students. During the summer half semester, the fee is prorated.

STUDENT FEES

Students pay a student center fee of $72 per in-school full semester or $36 per in-school summer half semester. This fee supports the Curry Student Center. An annual student activity fee of $163 is charged to support student clubs.

CAMPUS RECREATION FEE

All undergraduate students at Northeastern will be assessed a campus recreation fee of $62 per in-school full semester or $36 per in-school summer half semester. This fee covers admission to home athletic events, use of the Marino Fitness Center, the SquashBusters athletic facility, and the Cabot Gym (fitness and pool). This fee will also support the future construction of athletic fields and facilities.

HUSKY CARD (PHOTO-IDENTIFICATION CARD)

This card is issued to new students at orientation and registration. Students must have a valid Husky Card to use at most university facilities. A replacement card costs $25.

NORTHEASTERN UNIVERSITY STUDENT HEALTH PLAN (NUSHP)

GENERAL INFORMATION

Since September 1989, Massachusetts law (M.G.L. c.15A, § 18) has required every full-time and part-time student enrolled in a certificate, diploma, or degree-granting program in a Massachusetts institution of higher learning to participate in a Student Health Plan or in a health benefit plan with comparable coverage.

The Northeastern University Student Health Plan defines a full-time student as having full-time student status and enrolled in any amount of credits of a full-time curriculum.

NUSHP defines a part-time student as having part-time student status and enrolled in at least 75% of credits of the full-time curriculum (CPS undergraduate students—9 credits, CPS graduate students—6 credits).

The health fee is assessed each term on a student's account based on these definitions unless the student has previously waived the health plan fee in the current academic year.

Students on co-op or on study abroad are considered active students and will be enrolled in and billed for NUSHP each year.

Students enrolled in prematriculation and online programs are not eligible for NUSHP.

HEALTH INSURANCE WAIVER

Eligible students are automatically enrolled in NUSHP each academic year and may waive NUSHP via the Student Hub (https://me.northeastern.edu) once they have been billed for NUSHP. In addition, to be eligible to waive, comparable coverage must be effective from the beginning of the term the student meets Student Health Program requirements.

The burden of proof that the alternative insurance is adequate falls upon the student choosing to waive. By submitting the waiver form, the student will be accepting responsibility for all medical expenses incurred, and neither Northeastern University nor its Student Health Plan will be responsible for these expenses.

Northeastern reserves the right to verify that the student's insurance meets the criteria indicated. Disciplinary action may be taken if a student knowingly waives NUSHP without comparable coverage.

Visit the NUSHP website (https://www.northeastern.edu/nushp/) for waiver deadlines.

Additional Fees

Other fees may include the following:

HOUSING APPLICATION/DEPOSIT

New students must submit a nonrefundable $600 enrollment deposit along with a completed housing application form to complete the housing application process. University housing is required for all first- and second-year students entering as new students through fall admission or the N.U.*in* Program. The upperclass housing deposit is $200 for each full semester and for each summer half semester.

RESIDENCE HALL ACTIVITIES FEE

All students living in the residence hall system pay a full-semester $32 fee or half-semester $16 fee for activities sponsored by the Residence Student Association.

LATE FEES

Payment (in full or by payment plan) is due prior to the start of the term. If payment is not made by the required due date, a $150 late fee will be applied to the student's account. In addition, a monthly service charge (equal to 1% of outstanding balance at that time) will be applied to the account.

If a student or payer wishes to dispute a late fee assessment, they must do so, in writing, to studentaccounts@northeastern.edu. Please be sure to include the student's name, Northeastern ID, and reason for the dispute in the email.

INTERNATIONAL STUDENT FEE

A onetime fee of $375 is charged to new undergraduate international students. The fee supports programs and services available at the Office of Global Services.

Room and Board

ROOM RATES PER SEMESTER

Visit the Housing and Residential Life website (https://www.northeastern.edu/housing/) for a complete display of room rates and residence halls.

Students are billed at the beginning of each term and must pay the full charge for the term in accordance with Student Financial Services policy.

The high demand for university housing makes it necessary for Housing and Residential Life to enforce its termination and cancellation policies strictly.

TERMINATION CHARGE AND ROOM RATE ADJUSTMENTS

A student whose License Agreement is revoked due to a separation from the university is subject to the Termination Charge Policy and the financial assessments outlined below. All housing deposits on file will be forfeited. Students who are suspended or expelled from the university, or on a medical leave of absence or withdrawn from the university, will have their current and any active future License Agreements, as well as any housing applications, revoked. Upon reentry to the university, the student must reapply for housing and will be considered for housing accordingly, based upon eligibility and availability.

Students who withdraw from the university will have their meal plan charges prorated to the end of the week they complete the University Withdrawal form in the Office of the University Registrar. Students must also remove all belongings from university housing and check out properly with Housing and Residential Life in order to be credited, if applicable.

Termination Charge Policy
Fall and Spring Semesters

Official Withdrawal from University	Room Charge Credited
Week 1	100%[1]
Week 2	90%[1]
Week 3	80%[1]
Week 4	60%[1]
Week 5	40%[1]
After week 5[2]	0%[2]

1 This credit may be prorated based on the daily charges of time used.
2 Students withdrawing after week 5 incur a 100% room charge for the term.

Summer Half Semesters

Official Withdrawal from University	Room Charge Credited
Week 1	100%[1]
Week 2	75%[1]
Week 3	50%[1]
Week 4	25%[1]
After week 4[2]	0%[2]

1 This credit may be prorated based on the daily charges of time used.
2 Students withdrawing after week 4 incur a 100% room charge for the term.

Cancellation Charge Policy

Cancellation charges apply if a student cancels or withdraws from a housing arrangement after the housing has been secured, as set forth in the tables below. Only students who are not required to live in university housing are permitted to cancel; first- and second-year students are required to

live in university housing. Students who cancel because of co-op outside of the Boston area, study abroad, or a medical leave of absence can cancel housing without cancellation charges, subject to providing acceptable written verification; housing charges for time of occupancy may apply. If the cancellation deadline has passed, students who can demonstrate a significant change in academic, co-op, or financial circumstances may petition for a waiver of this charge. See the following cancellation charge schedule:

Amount Charged	For Fall Semester	For Spring Semester	For Summer 1	For Summer 2
Deposit refunded; no charge	Before 5/15/23	Before 10/1/23	Before 3/15/24	Before 4/15/24
$1,000 ($500 half summer)charge[1]	After 5/15/23	After 10/1/23		After 4/15/24
$2,000 ($1,000 half summer) charge[1]	After 6/15/23	After 10/15/23	After 3/15/24	After 4/30/24
$3,000 ($1,500 half summer) charge[1]	After 7/15/23	After 11/1/23	After 4/1/24	After 5/15/24
100% of term room charge[1]	After 8/1/23	After 12/1/23	After 4/15/24	After 5/29/24

1 The student's deposit for the term is applied to the cancellation charge assessed.

NORTHEASTERN DINING SERVICES

All students residing in a traditional or suite-style university accommodation are required to participate in a meal plan.

First-Year Students residing in a traditional or suite-style university accommodation without a kitchen during their first two semesters are automatically assigned to the 17-Meal Plan. They have the option of enhancing to the Unlimited Plan or reducing to the 12-Meal Plan before the scheduled deadline. *

First-Year Students residing in university apartments with kitchen facilities will be automatically assigned to the 12-Meal Plan. They have the option of enhancing to the Unlimited Plan or 17-Meal Plan or reducing to the 7-Meal Plan before the scheduled deadline. *

Non-First-Year Students residing in a traditional or suite-style university accommodation without a kitchen will be automatically assigned to the 17-Meal Plan. They have the option of enhancing to the Unlimited Plan or reducing to the 12-Meal Plan or the 7-Meal Plan before the scheduled deadline. *

Non-First-Year Students residing in university apartments are not automatically assigned a meal plan. They have the option to enroll in a meal plan of their choice at any time.

For information about menus, dining locations, and hours of service, visit N (http://www.nudining.com/)ortheastern Dining (http://www.nudining.com/).

The traditional meal plan rates for 2023–2024 are shown below. For more information about meal plan rates, visit the Tuition and Fees webpage (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/).

Meals per Week	Full Semester	Summer Half Semester
Unlimited	$4,405	$2,203
17	$4,090	$2,045
12	$3,700	$1,850
7	$2,600	$1,300

PROFILER MEAL PLANS

The Profiler Meal Plan is a **block of meals that are provided in lump sum** and can be used at the student's discretion. Profiler options are available to all students. However, these plans cannot take the place of a required, traditional meal plan and are nonrefundable.

Profiler Meal Plans end in August at the end of Summer 2 semester. Students are advised to pay close attention to the end dates, as unused meals do not roll over and will not be refunded. Please visit Northeastern Dining (http://www.nudining.com) for the most up-to-date information.

Note: Dining locations are limited during the summer and intersession breaks.

The Profiler rates for 2023–2024 are shown below. For updated rates, visit the Tuition and Fees webpage (https://studentfinance.northeastern.edu/billing-payments/tuition-and-fees/).

Meals	Cost
25	$500
50	$975
86	$1,650
110	$2,100

Profiler plans are nonrefundable and cannot be modified.

Husky Dollars

Students can deposit funds into a Husky Dollar account (https://www.northeastern.edu/huskycard/husky-dollars/) and access these funds using their Husky Card at many restaurants and retail locations on and off campus, including the university's bookstore. Visit the Husky Dollar website for more information.

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* *Students have until the **second Friday of the semester** to make any meal plan changes or to enroll in a meal plan via the Student Hub (https://me.northeastern.edu/).
Visit the Husky Card website (http://www.northeastern.edu/huskycard/) for details.

Academic Policies and Procedures

Universitywide Academic Policies and Procedures

- Accommodations for Students with Disabilities (p. 59)
- Attendance Requirements (p. 60)
- Campus Transfer and Campus Location Change (p. 61)
- Clearing an Academic Deficiency (p. 62)
- Code of Student Conduct (p. 63)
- Course Credit Guidelines (p. 64)
- Course Numbering System (p. 65)
- Family Educational Rights and Privacy Act (FERPA) (p. 66)
- Grade Change Policy (p. 68)
- Grade Table and GPA (p. 69)
- Leaves of Absence and University Withdrawal (p. 71)
- Personal Information (p. 74)
- Requesting and Clearing An Incomplete Grade (p. 75)
- Retaking Courses (p. 76)
- Student Bill of Academic Rights and Responsibilities (p. 77)
- Student Responsibility Statement (p. 80)
- Student Right-to-Know Act (p. 81)
- Substituting Courses (p. 82)
- University-Sponsored Travel (p. 83)

Undergraduate Academic Policies and Procedures

- Academic Appeals Policies and Procedures (p. 84)
- Academic Honors (p. 86)
- Academic Integrity Policy (p. 87)
- Academic Progression Standards (p. 88)
- Cooperative Education (p. 89)
- Degrees, Majors, and Minors (p. 91)
- Final Examinations and Related Policies on Other Exams and Final Term Papers/Projects (p. 94)
- Graduation Requirements (p. 95)
- Registration and Taking Courses (p. 96)
- Student Evaluation of Courses (TRACE) (p. 100)

Accommodations for Students with Disabilities

617.373.2675
617.373.7800 (fax)
Website (http://www.northeastern.edu/drc/)

Northeastern University and the Disability Resource Center are committed to providing disability services that enable students who qualify under Section 504 of the Rehabilitation Act and the Americans with Disabilities Act Amendments Act to participate fully in the activities of the university. To receive accommodations through the DRC, students must provide appropriate documentation that substantiates a disability and demonstrates a current significant limitation. Accommodations are provided based on an evaluation of the information provided by students, and their clinicians, on a case-by-case basis. These services are available for, but not limited to, students with the following diagnoses:

- Learning disabilities and/or ADHD
- Autism spectrum disorders
- Chronic or degenerative disorders
- Hearing loss
- Mobility impairments
- Psychiatric disorders
- Traumatic or acquired brain injury
- Vision impairments

Students should provide documentation to the DRC at their earliest convenience to allow for sufficient time for review. After the documentation has been reviewed, a disability specialist will contact the student regarding appropriate next steps. Visit the DRC website (http://www.northeastern.edu/drc/) for additional information or contact staff at 617.373.2675.

Attendance Requirements

Class participation is essential to success no matter the course format or its delivery. Individual instructors may have course-specific attendance policies. It is the student's responsibility to ascertain what each instructor requires. Failure to meet attendance requirements may force a student to drop the applicable courses. Students should not make conflicting commitments until the class schedules for each semester are final. Permission to make up work may be granted by instructors for reasonable cause. Requests must be made immediately upon a student's return to class. Laboratory work can be made up only during the hours of regularly scheduled instruction.

Absence Because of University-Sponsored Activities

Participation in university-sponsored activities, where the students are representing their university, college, or department, may cause absences from class that qualify as excused absences. Excused absences, with appropriate prior arrangement, are not subject to penalty, and missed work may be satisfied through agreement between the student and the instructor. University-sponsored activities that may justify excused absences include athletic competition, performing arts events, and research or other presentations.

Students must discuss absence(s) with instructors at least two weeks in advance of the university-sponsored activity, or as soon as possible if the activity is at the beginning of the term or is the result of an unforeseen circumstance. Instructors may require a written statement from the administrator in charge of the activity. Instructors are expected to make reasonable accommodations for these class absences, including administration of makeup assignments and exams whenever possible. It is expected that students seeking an excused absence will develop a plan and timetable to make up the missed coursework with their instructor(s). Note, however, that the requirements of some courses or programs may preclude such accommodations.

Absence Because of Religious Beliefs

Any student who is unable, because of their religious beliefs, to attend classes or to participate in any examination, study, or work requirement should be provided with an opportunity to make up such examination, study, or work requirement that they may have missed because of such absence on any particular day, provided that such makeup examination or work does not create an unreasonable burden upon the university. Students should make appropriate arrangements with the instructor in advance of the absence, preferably at least two weeks before the religious observance.

Absence Because of Jury Duty

Members of the university community are expected to fulfill their obligations to serve on a jury if called upon. A student selected for jury duty should inform their instructors. They will provide a reasonable substitute or compensatory opportunities for any required work missed. A student with such an absence will not be penalized in any way.

Absence Because of Military Deployment

See "Leave of Absence Due to Military Deployment (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#military)."

Other Absences

Unforeseen events or circumstances, including illness, may cause a student to be absent from class. Students must notify their instructors and academic advisor, as appropriate, as soon as possible to apprise them of the circumstances leading to their absence, as well as how much time will be missed. Students must work with their instructors to develop a plan, with a timetable, to make up missed coursework. Students cannot be required to provide medical documentation. (Faculty and students should note that the University Health and Counseling Services does not provide sick notes or medical excuses except for long-term illness.) Instructors are expected to make reasonable accommodations for warranted class absences, including administration of makeup assignments and exams, whenever possible.

Extended Absences

A student who is absent from school for an extended period of time must inform their academic advisor by letter, email, or telephone. The expected length of the absence may determine whether the student should apply for a medical or emergency leave of absence (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/leaves-of-absence-withdrawal/#medical). It is strongly recommended that the student contact their academic advisor to discuss potential next steps, which could include incomplete grades; withdrawal from classes; or, in the event of an extended absence due to a chronic medical condition or disability, consultation with the Disability Resource Center to explore potential accommodation.

Nonattendance

Nonattendance does not constitute official course dropping or withdrawal, which means the student is fully responsible for the academic and financial consequences. Like all grades for courses attempted and/or completed, a grade earned due to nonattendance impacts a student's academic progression, an international student's visa eligibility, and a federal financial aid recipient's aid eligibility and award.

Campus Transfer and Campus Location Change

Campus Transfer

Students may request an official campus transfer from their school/college to complete their program. The program has to be approved by the school/college academically AND meet regulatory requirements (state/provincial licensure). If the student is an international student, the program has to be offered in compliance with F-1/study permit requirements at the requested new home campus location. International students should seek advice from the Office of Global Services (https://international.northeastern.edu/ogs/) before the final decision to transfer to another campus.

Campus Location Change

Students may request a campus location change to a new campus (the host campus) for a period no longer than one academic year (two consecutive semesters or three consecutive quarter terms) and no more than 50% of a degree program. It must be approved by the school/college academically, and courses must be offered that allow the student to make normal academic progress in compliance with regulatory requirements. In order for international students to change a campus location, the academic program has to be offered in compliance with F-1/study permit requirements at the requested host campus location.

Clearing an Academic Deficiency

An academic deficiency occurs when a student fails to complete a course with a satisfactory grade. The deficiency may occur because the student has failed the course or because the student has passed the course but with a grade that does not meet the minimum required by the student's program.

Students who have academic deficiencies may be required to clear them before progressing within the curriculum, especially if a given course is a prerequisite for future coursework. Deficiencies may affect the student's expected year of graduation.

With the approval of the appropriate program faculty and/or academic advisor, students can clear deficiencies in the following ways:

1. Retake the same course at one of Northeastern University's colleges, which will result in a "retake" grade (see "Retaking Courses" in this section of the catalog).
2. Substitute a comparable course at one of Northeastern's colleges, which will result in a "retake" grade (see "Substituting Courses" in this section of the catalog).
3. Under special circumstances, if the course is not currently offered at Northeastern, a student may be advised to take a preapproved course at another institution outside Northeastern. The original grade will remain on the student's Northeastern transcript and will still be used in the calculation of the GPA.

Code of Student Conduct

The Code of Student Conduct can be found on the Office of Student Conduct and Conflict Resolution (https://osccr.sites.northeastern.edu/code-of-student-conduct/).

Course Credit Guidelines

Guidelines for Assigning Credit to Courses

The primary standard for establishing course credit at Northeastern University is the semester/quarter hour, or Carnegie Unit, the standard used by the federal government. One hour of credit is awarded for a lecture/seminar class meeting 50 minutes each week during a 15-week semester or 12-week quarter and also requiring a minimum of two hours of outside preparation each week by the student. An hour of contact time in the rest of the document is based on this 50-minute session.

- 2 semester/quarter hours (100 minutes per week of instruction plus 4–6 hours homework, or equivalent)
- 3 semester/quarter hours (150 minutes per week of instruction plus 6–9 hours homework, or equivalent)
- 4 semester/quarter hours (200 minutes per week of instruction plus 8–12 hours homework, or equivalent)

The Office of the University Registrar (https://registrar.northeastern.edu/) maintains the official record for all courses. In the event of error in any publication, the academic record will reflect the correct semester/quarter hours applicable to any degree requirement.

On occasion, course titles change, while the course number remains the same. Despite such title changes, the course is still considered to be the same course. Students who have taken the course under the old title and then take the course again under the new title are considered to have repeated the course.

NOTE ABOUT HOMEWORK AND STUDENT PREPARATION FOR CLASS

The credit hour assumes a set proportion of two hours of student preparation or homework for every hour spent in class. Northeastern wishes to emphasize that the federal government has established this as the minimum amount of work expected, and assigning more work does not in itself justify an increase in the credit value of the course. We also wish to note that there is great variation in the amount of time each student will need to devote to each course or to a specific form of study (e.g., reading, writing, completing problem sets), and, therefore, it is not possible to enforce any exact accounting of student work outside of class.

CREDIT ASSIGNMENT PROCESS

Northeastern uses the Carnegie Unit to determine class meeting time requirements. The actual amount of academic work that goes into a single credit hour is calculated as follows:

- One lecture (taught) or seminar (discussion) credit hour represents one hour per week (50 minutes) of scheduled class/seminar time and two hours of student preparation time.
- One laboratory or studio credit hour represents one hour per week of lecture or discussion time plus one to two hours per week of scheduled supervised or independent work, or a total of three hours in the lab or studio.

DEFINED INSTRUCTIONAL METHODS

- Traditional: meets fully on ground in a physical location with instructor present
- Hybrid: meets majority on ground in a physical location with instructor present with some online instructional component
- Live cast: meets fully on ground in a physical location with the instructor in a different location teaching synchronously and supported by an instructional assistant in the physical location
- Online: meets fully online

FULL-TIME AND HALF-TIME EXPERIENCES

Academic experiences integral to curriculum and requiring registration (but not credit bearing) have the following required hours of participation:

- Full-time experiences: 32–40 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days
- Half-time experiences: 16–31.99 hours per week in a semester for a minimum of 11 weeks or 55 days, or in a quarter for 9 weeks or 45 days (to achieve full-time status, graduate students must take 3 or more academic credits and undergraduate students must take 4 or more academic credits)
- Summer 1 or Summer 2 semester: minimum of 5 weeks or 25 workdays
- Summer quarter: 6 weeks or 30 workdays

International students must confer with the Office of Global Services to determine CPT requirements as appropriate.

Course Numbering System

0001–0999	**Orientation and basic**
	No degree credit

Undergraduate

1000–1999	**Introductory level (first year)**
	Survey, foundation, and introductory courses, normally with no prerequisites and designed primarily for students with no prior background
2000–2999	**Intermediate level (sophomore/junior year)**
	Normally designed for sophomores and above but in some cases open to freshman majors in the department
3000–3999	**Upper-intermediate level (junior year)**
	Designed primarily as courses for juniors; prerequisites are normally required, and these courses are prerequisites for advanced courses
4000–4999	**Advanced level (senior year)**
	Designed primarily for juniors and seniors; also includes specialized courses such as research, capstone, and thesis

Graduate

5000–5999	**First-level graduate**
	Courses primarily for graduate students and qualified undergraduate students with permission
6000–6999	**Second-level graduate**
	Generally for master's and clinical doctorate only
7000–7999	**Third-level graduate**
	Master's- and doctoral-level courses; includes master's thesis
8000–8999	**Clinical/research/readings**
	Includes comprehensive exam preparation
9000–9999	**Doctoral research and dissertation**

Family Educational Rights and Privacy Act (FERPA)

FERPA for Students—General Information

The Family Educational Rights and Privacy Act is a federal law that applies to educational institutions. Under FERPA, schools must allow students who are 18 years or over or attending a postsecondary institution:

- Access to their education records
- An opportunity to seek to have the records amended (see the *Student Handbook* for this procedure)
- Some control over the disclosure of information from the records

FERPA General Guidance for Parental Disclosure

When a student turns 18 years of age or attends a postsecondary institution, the student, and not the parent, may access, seek to amend, and consent to disclosures of their education records.

If you are an undergraduate day student and you choose not to share information with your parents, Northeastern will, if asked, indicate that you have restricted access to your records.

Release of Directory Information

The primary purpose of directory information is to allow Northeastern University to confirm attendance for employers, health insurance companies, and loan agencies. Northeastern may disclose appropriately designated "directory information" without written consent, unless you have advised the university to the contrary in accordance with the procedures below. If you choose not to release directory information, all communications with all third parties and agencies will need to be done through your written request to the university or in person.

As of June 30, 2016, Northeastern directory information includes:

- Student name
- Home address (city, state, country only)
- Major field of study
- College
- Class year
- Enrollment status (e.g., undergraduate or graduate, full-time or part-time)
- Dates of attendance
- Degrees, honors, and awards received
- Most recent educational agency or institution attended
- Sports activity participation, showing weight/height of members of athletic teams
- Participation in officially recognized activities

If Northeastern currently has permission to release data and you do not want the university to disclose directory information without your prior written consent, you must notify the university. Instructions are available at the Office of the University Registrar (https://registrar.northeastern.edu/article/family-educational-rights-privacy-act-ferpa/).

Notification of Rights under FERPA

FERPA affords students certain rights with respect to their education records. These rights are:

1. The right to inspect and review the student's education records within 45 days of the day the university receives a request for access. Students should submit to the registrar, dean, or head of the academic department (or appropriate official) written requests that identify the record(s) they wish to inspect. The university official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the university official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.
2. The right to request the amendment of the student's education record that the student believes is inaccurate or misleading. Students may ask the university to amend a record that they believe is inaccurate or misleading. They should write the university official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate or misleading. If the university decides not to amend the record as requested by the student, the university will notify the student of the decision and advise the student of their right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception, which permits disclosure without consent, is disclosure to school officials with legitimate educational interest. A school official is defined as a person employed by the university in an administrative, supervisory, academic, or support staff position (including law enforcement unit and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a person assisting another school official in performing their

tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill their professional responsibility.

4. The right to file a complaint with the U.S. Department of Education concerning alleged failures by the university to comply with the requirements of FERPA. At Northeastern, the Office of the University Registrar, 271 Huntington Avenue, administers FERPA.

Additional Information

Additional information can be obtained at the U.S. Department of Education's website (http://www.ed.gov/policy/gen/guid/fpco/ferpa/) or by writing to:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue, SW
Washington, D.C. 20202-5920

Grade Change Policy

If a student has not graduated, a grade can be changed by a course instructor within 12 months of the end of the semester in which the grade was given.

If a student has graduated, or if more than 12 months have elapsed, a grade can only be changed by request of a course instructor with the approval of the college that offers the course.

If more than 24 months have elapsed, grades can no longer be changed.

If a course instructor is not available, course change requests may be initiated by the department or college that offers the course.

Colleges may place additional restrictions on how grades can be changed.

The grade change policy explains when a course instructor may change a student's grade to correct errors. This policy does not apply to incomplete grades or to student-initiated appeals to change grades. In particular, the grade change policy should not be used to allow a student to submit work after the completion of a class.

Grade Table and GPA

Grade Table

Grades are officially recorded by letters, evaluated as follows:

Letter Grade	Numerical Equivalent	Explanation
A	4.000	Outstanding achievement
A–	3.667	
B+	3.333	
B	3.000	Good achievement
B–	2.667	
C+	2.333	
C	2.000	Satisfactory achievement
C–	1.667	
D+	1.333	Undergraduate only
D	1.000	Undergraduate only/Poor achievement
D–	0.667	Undergraduate only
F	0.000	Failure
I		Incomplete
IP		In progress
CR		Credit (School of Law only)
HH		High Honor (School of Law only)
H		Honor (School of Law only)
P		Pass (School of Law only)
MP		Marginal Pass (School of Law only)
NE		Not enrolled
NG		Grade not reported by faculty
S		Satisfactory (pass/fail basis; counts toward total degree requirements)
U		Unsatisfactory (pass/fail basis)
X		Incomplete (pass/fail basis)
L		Audit (no credit given)
T		Transfer
W		Course withdrawal

An I, IP, or X grade shows that the student has not completed the course requirements.

The IP grade is intended for courses that extend over several terms. The time restrictions on the incomplete grade do not apply to the IP grade. While the IP grade is left unchanged, it is not included in computing the grade-point average. If the IP grade is never changed, the course does not count toward graduation requirements.

Course Comments

The following notations may also appear on the student's transcript:

E	Course excluded from GPA
HON	Honors-level course
I	Course included in GPA

GPA

Numerical equivalents for scholastic averages are weighted according to the number of hours the course carries. For example, suppose a student receives a grade of B in a course carrying 4 semester hours and a grade of A in a course carrying 1 semester hour. The weightings for these example courses are as follows:

Grade	Numerical Equivalent	Semester Hours	Weight
B	3.000	4	12
A	4.000	1	4
Totals:		5	16

The GPA for both courses would then be the total weight (16) divided by the total semester hours (5), or 3.200. Grades of I, IP, S, U, and X are not included in the calculation of the GPA. See Grade Table (p. 69) for a complete list of grades and numerical equivalents.

Leaves of Absence and University Withdrawal

Students may request to take the following types of leaves of absence:

- Personal or Academic
- Medical or Emergency
- Military Deployment or Missionary Service

Students in Prematriculation and Pathway programs (including N.U.in, Foundation Year, NU Immerse, Global Scholars, London Scholars, Global Pathways) do not fall under the leave of absence policy below. Students in these programs with emergent, medical, or personal circumstances that require a conversation about their ability to continue with their program of study should reach out to We Care *(*https://we-care.studentlife.northeastern.edu/*) for further guidance.*

General Leave of Absence Policy

Students who wish to take a leave of absence should complete a request through the Student Hub (https://me.northeastern.edu) (or via University Health and Counseling Services for a medical leave of absence, as described below) before the last day to drop without a W in a term. Please consult the Academic Calendar (https://registrar.northeastern.edu/group/calendar/#_ga=2223181403151090330616212601 60-171526951816133256 28) for the last day to drop without a W in the term.

Students can request a leave until the last day to drop with a W in a term but should review the financial implications of withdrawing from courses on the Student Financial Services website (https://studentfinance.northeastern.edu/policies-procedures/withdrawalleave-of-absence/).

Students can take up to one year of leave.

Any leave of absence type, if approved, is subject to the following conditions:

- International students must make an appointment with the Office of Global Services (https://international.northeastern.edu/ogs/) to discuss leave of absence procedures in accordance with federal regulations.
- Students who do not return at the end of the leave will be withdrawn and must contact their college for reentry prior to the term start.
- Students must return to a university-sponsored activity that contributes toward the satisfaction of outstanding program requirements, such as registration for academic coursework.
- Students must be considered active in the period for which they are requesting a leave. Students are considered active when they are currently engaged in university-sponsored activity, such as academic coursework and co-op. If a student is withdrawn for personal reasons, the withdrawal can be reversed and a request for a leave of absence can only be processed if it is before the last day to drop without a W in a term. If the student has been administratively withdrawn, a request for leave of absence cannot be considered until the withdrawal is resolved.
- If a leave extends more than six months, students who have taken loans for education expenses may be required to begin repayment of those loans. Students who receive financial aid should meet with a financial aid counselor before going on a leave. Please see Return of Title IV Aid (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/expenses/financial-aid/) for the possible financial aid impact of a leave of absence.
- Students in university housing should refer to the Office of Housing and Residential Life for policy information.
- A student's enrollment status cannot include more than one academic year of consecutive nonclass enrollments. Students on leave for more than one year will be withdrawn from the university.
- If a student has taken multiple leaves, resulting in the postponement of expected graduation date of a calendar year, the next leave request will be processed as a withdrawal.
- While on leave, students are not allowed to take classes for credit toward their Northeastern University degree, either at Northeastern or at an outside institution.

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, the student should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

LEAVE OF ABSENCE FOR INTERNATIONAL STUDENTS

International students must discuss maintenance of U.S. immigration status with an advisor at OGS before requesting any type of leave of absence.

PERSONAL OR ACADEMIC LEAVE OF ABSENCE

Personal leaves of absence are general leaves of absence that do not meet the criteria of more specific leaves outlined in the catalog. Academic leaves are applied to a student record in the rare cases when a student has fulfilled the last remaining requirements abroad but final grades have been yet to be received at Northeastern; or are taking a leave of absence from Northeastern to pursue other academic work. A student interested in requesting a personal or academic leave of absence should speak with an academic advisor.

MEDICAL OR EMERGENCY LEAVE OF ABSENCE

Medical leave is an option available to those Northeastern students who develop a major medical condition that precludes class attendance, completion of requirements, and/or participation in co-op. Medical leave of absence requests must be initiated at UHCS (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

Students on a medical leave will no longer have Husky Card access to the Marino Center, libraries, dining services, residence halls, and UHCS. If a student is in treatment at UHCS, they will be provided with referral resources for care in the community where they will reside during their medical leave. Students are not to be participating in student groups while on medical leave.

Emergency leaves may be granted when a student cannot continue attending class after the start of the term due to life-changing situations beyond the student's control. Students interested in requesting emergency leave are encouraged to contact We Care (https://we-care.studentlife.northeastern.edu/). Students can request an Emergency Leave of Absence via the Student Hub (https://me.northeastern.edu).

Students who have been granted a medical or emergency leave of absence due to extenuating circumstances may submit a Leave of Absence Refund Appeal Form (https://service.northeastern.edu/sfs/?id=sc_cat_item&sys_id=50dc23cddb464150ebcdcafc13961951&sysparm_category=98921886db600d54ca10819b1396197e) for financial consideration. If the appeal is approved, please note that housing and other fees will not be included in the appeal decision; refer to the Residence Hall and Dining License Agreement (https://www.northeastern.edu/housing/license-agreement/). Please only complete the Leave of Absence Refund Appeal Form if you have been approved for a medical or emergency leave of absence.

Please note that any outstanding balance (including unpaid balances) for the academic term in which the leave is taken are still due to the university.

Financial aid recipients must contact their financial aid counselor to understand the effects on aid received.

If the leave extends more than six months, students who have taken loans for education expenses may be required to start repayment of those loans.

Students enrolled in the Northeastern University Student Health Plan will remain enrolled in the plan for the plan year, ending August 31.

LEAVE OF ABSENCE DUE TO MILITARY DEPLOYMENT OR MISSIONARY SERVICE

When a student is called to active duty or missionary service, they must request the leave by filling out the proper request form through the Student Hub (https://me.northeastern.edu). Proof of official deployment or call to service paperwork will be required as an attachment when filling out the leave of absence request.

When a student is called during the term, the university will:

- Excuse tuition for that term. Any payment made will be credited to the student's account.
- Post a leave of absence for the term to hold a place for the student when they return.

If a student is called near the end of the term, the student and faculty members may determine that incomplete (I) grades are more appropriate. In this case, tuition will not be waived.

When a student returns to the university after completion, they will notify the college academic student services office if the leave was longer than one year; that office will in turn notify the Office of the University Registrar. The college academic student services office will assist the student with reentry and registration. If the leave was less than one year, the student should register for classes for the upcoming term prior to returning to campus.

International students who must take a leave of absence to engage in military service in their home country must also complete a form for leave of absence with OGS.

RETURNING FROM A LEAVE OF ABSENCE

Students on a leave of absence are considered active students and are able to register for classes in an upcoming term in a leave status. If a student is unable to register because they are inactive, they should contact their college for reentry at the time of registration for the return term. Students are expected to register for classes upon returning from a leave of absence.

Students who are withdrawn and are applying for Commencement may be reentered on a leave of absence, pending the college's approval, prior to the term in which they will graduate. International students returning from a leave of absence should contact OGS regarding the Student and Exchange Visitor Information System procedures three to four months prior to anticipated return date.

Students who wish to reenter the university following a medical leave must contact UHCS. Reentry from a medical leave requires receipt of all documentation delivered to UHCS approximately one month prior to the start of the term they wish to return. Once all documentation is received by UHCS, it will be reviewed and the student will be notified of the decision Requests for reentry from medical leave must be completed no later than one week prior to the beginning of a term. Students must be enrolled in Northeastern classes for the term in which they wish to return from their medical leave of absence. More specific information about the reentry process can be found at the UHCS website (https://www.northeastern.edu/uhcs/forms/medical-leave-of-absence/).

University Withdrawal

Students seeking to withdraw from the university for any reason should meet with their academic advisor before completing the university withdrawal form online. Students should review the financial implications of withdrawing from all classes on the Student Financial Services website.

Students may be withdrawn from the university for financial, disciplinary, or academic reasons. Students looking to withdraw for medical reasons should reach out to UHCS (mloa@northeastern.edu) to review medical leave of absence.

Personal Information

Change of Name

Report all name changes to the Office of the University Registrar immediately. Official documentation of the name change is required.

Change of Address

Report all address changes via the Student Hub (https://me.northeastern.edu). Both the permanent home address and the local address are required. International students must report any changes of local address or phone number via the Student Hub (https://me.northeastern.edu) within 10 days in order to ensure compliance with immigration regulations.

Requesting and Clearing An Incomplete Grade

An incomplete grade may be reported by the instructor when a student has failed to complete a major component of a required course, such as homework, a quiz or final examination, a term paper, or a laboratory project. Students may make up an incomplete grade by satisfying the requirements of the instructor or, if the instructor is absent, the chair of the department. Be aware that instructors' policies on the granting of incomplete grades may vary and that the final decision on an incomplete grade is up to the instructor. Instructors may deny requests for an incomplete grade.

To request an incomplete grade, the student must obtain and complete in consultation with the instructor an Incomplete-Grade Contract (https://registrar.northeastern.edu/article/incomplete-grade-contract/) on which the precise agreement for clearing an incomplete grade is specified. The contract is then signed by the student, the instructor, and the student's academic advisor. Copies of the form are kept by the student, the instructor, and uploaded to the student's advising notes. The maximum time period for clearing an incomplete grade is restricted to 30 days from the end of the term in which the course was offered. Instructors may require a shorter due date before approving incomplete grade requests.

International students should consult with the Office of Global Services before requesting an incomplete grade to ensure that they will remain in compliance.

If the missing assignment(s) have not been submitted to the instructor within 30 days from the end of the term in which the course was offered, or the agreed upon due date, the grade entered will reflect the student's grade in the course for the work completed and the missing assignments receiving no credit toward the final grade. Changes in the final grade will be applied to the term in which the student was enrolled in the course. Any exception to this policy or extension of the deadline must be recommended by the college in which the course was offered and must be forwarded in writing to the Office of the University Registrar for implementation.

Retaking Courses

When the appropriate course is available, students may retake a nonrepeatable course to earn a better grade. In all cases, the most recent grade earned in a course is the one used in calculating the overall grade-point average followed by the retake notation I, indicating the course grade is included in the overall GPA; however, previous grades remain on the transcript followed by the retake notation of E, signifying that that course grade has been excluded. Consult your academic advisor before retaking a course. Students are required to pay normal tuition for all retaken coursework.

When the course description for the student's registration term indicates that the course may be repeated up to a certain number of course completions, each completion of the course (up to the limit stated in the course description) will appear on the student's transcript, and the grade for each such completion will be used in the calculation of the student's overall GPA.

Student Bill of Academic Rights and Responsibilities

This bill was drafted by the Student Senate, the Vice President for Student Affairs, and members of the Faculty Senate. It was passed in the spring of 1992. It was then updated by the Student Body President, Vice President for Academic Affairs, and passed by the Student Senate in the Fall of 2017 and Faculty Senate in the Spring of 2018 for adoption in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*) for the 2018–2019 academic year.*

We, the students of Northeastern University, believe that a quality education is the paramount goal of all students. In order to fulfill this goal, the university recognizes certain rights and responsibilities, which follow below.[1] Northeastern University students recognize and accept that redress of complaints arising from these rights is limited to the procedures specified in "Student Academic Appeals Procedures".[2]

Course-Related Rights

ARTICLE 1

Students have the right to instructors who attend classes on time.

ARTICLE 2

Students have the right to receive grades and feedback in a timely manner, particularly in the case of sequentially related assignments. At least one summative assessment should be given and returned a week prior to the end of the withdrawal period. Students also have the right to view work they submit to satisfy course requirements after it is graded and receive their instructor's rationale for grades received on said work.

ARTICLE 3

Students have the right to adequate access to instructors. This includes instructors replying to communications from students in a timely manner, suggested to be within two business days, with the exception of during university recesses, as well as maintaining consistent office hours for in-person courses, occurring at the same time at least once a week. Instructors may change office hours by notifying students in a timely manner, suggested to be within two business days, baring extenuating circumstances.

ARTICLE 4

Students have the right to receive a course outline, which includes a fair and explicit grading policy, at the beginning of each course. Changes to the course outline that result in a deadline, assignment, major exam, or similar course event being introduced to or moved earlier in the schedule shall be communicated to students in a timely manner, suggested to be at least 10 business days prior to the new deadline.

ARTICLE 5

Students have the right to instructors who communicate the material pertaining to the course effectively in the English language except in the case of foreign language instruction.

ARTICLE 6

Students have the right to participate in and have access to Student Government Association teacher/course evaluations.

ARTICLE 7

Students have the right to have a list of all course materials that must be purchased. Possible substitutions for said course materials, (i.e., acceptable previous editions of textbooks, digital versions, library owned resources, etc.) should be made available to students at least a week prior to the start of the academic term.

ARTICLE 8

Students have the right to alternative grading arrangements if they are unable to attend a graded activity that takes place outside the scheduled class time.

Rights to University Academic Services

ARTICLE 9

Students have the right to adequate access to effective academic services, including academic and co-op advising, as described in the student handbook and other university publications, provided by the university.

ARTICLE 10

Students have the right[3] to an environment conducive to learning and to faculty who respect students' academic freedom[4] in the classroom. When exercising academic freedom, students are expected to comply with all applicable university ethics, anti-harassment, and nondiscrimination policies.

ARTICLE 11

Students have the right to access university health resources provided by University Health and Counseling Services (https://www.northeastern.edu/uhcs/) (UHCS), and in accordance to Massachusetts State Law, to have access to a medical plan that they can purchase (Northeastern University Student Health Plan (http://www.northeastern.edu/nushp/)).

ARTICLE 12

Students have the right to access university resources provided by the university's Disability Resource Center in accordance with the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf). Students have the right to pursue informal and formal grievances through the procedures outlined by the Disability Resource Center (https://drc.sites.northeastern.edu/).

Scheduling Rights

ARTICLE 13

Students have the right to final exam schedules in accordance with established university policy, including non-conflicting final exam schedules.

ARTICLE 14

Students have the right to attend any course session held prior to the end of the add/drop period so long as permission from the instructor is obtained in advance and all duly registered students have proper access to seating and other course resources.

ARTICLE 15

Students will not be penalized for excused absences, with the understanding that students may need to make up for the academic commitment from which they were excused. Reasons for an excused absence include religious, medical issues, jury duty, bereavement, and military service. See this catalog (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/academic-policies-procedures/attendance-requirements/) and other applicable policies (http://gonu.com/sports/2013/7/15/SASS_0715134535.aspx?path=sass) for the full attendance and excusal policy.

General Academic Rights

ARTICLE 16

Students have the right to be informed, in a timely fashion, of proposed action to be taken against them.

ARTICLE 17

Students have the right to the redress of academic grievances through the processes provided by the university.

ARTICLE 18

Students have the right to university support and resources, such as the Office of Global Services (https://www.northeastern.edu/ogs/), with regard to their visa status.

ARTICLE 19

In accordance with the Northeastern University's Nondiscrimination Policy (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), students have the right to a learning environment free of discrimination or harassment, including as provided for in Northeastern University's Title IX Policy (https://policies.northeastern.edu/policy104/).

ARTICLE 20

Northeastern University's policy on student produced intellectual property can be found under *Copyrightable Materials* in the *Undergraduate Student Handbook*.

ARTICLE 21

Students have the right of access to their academic and financial aid records and maintenance of the privacy of these records, as provided by the Family Educational Rights and Privacy Act.

Student Responsibilities

ARTICLE 1

Contribute to a climate of open inquiry and honesty in all aspects of the university's academic life. This includes reviewing, and becoming familiar with, the Academic Integrity Policy on the OSCCR website.

ARTICLE 2

Commit sufficient time and effort for study and for use of library, studio, laboratory, and computational facilities, as appropriate for each course.

ARTICLE 3

Contribute to the classroom/laboratory/studio learning environment through discussion and active participation.

ARTICLE 4

Acquire the necessary prerequisites for full participation in each academic course.

ARTICLE 5

Attend scheduled classes regularly and on time, and arrive to class prepared, having completed all the readings and other assignments.

ARTICLE 6

Seek out faculty and teaching assistants outside of class time, to obtain help with problems encountered in a given course.

ARTICLE 7

Respect the academic freedom[4] of each faculty member and student.

ARTICLE 8

Assist the university in its various self-evaluations (e.g., TRACE, surveys) by responding honestly and conscientiously.

ARTICLE 9

Maintain effective communication with the university by providing permanent and local address information to the university through a system designated by the university, and by reading university email on a frequent and consistent basis.

ARTICLE 10

Act as positive representatives and genuine ambassadors of the university when studying and working in domestic and international settings associated with Northeastern University.

ARTICLE 11

Complete an entry (including itinerary, accommodation information, and contact information) using 'My Travel Plans,' located via the Student Hub (https://me.northeastern.edu) or other system as required by the university, prior to all university-sponsored travel outside of Massachusetts, including but not limited to: Study Abroad, Dialogues of Civilization, Foreign Exchange Programs like BSIB, Alternative Spring Break, Engineers without Borders, Co-op Placements outside of Massachusetts, etc.

ARTICLE 12

Complete all required activities prior to attending classes for their entrance date (including alcohol education, violence prevention programming, required reading, etc.).

ARTICLE 13

Have in their possession at all times the officially approved and properly validated photo identification card.

Students who fail to comply with these responsibilities could lose certain student privileges as well as face possible disciplinary sanctions under the Code of Student Conduct.

1 The student rights, through their representatives in the Student Government Association (SGA), described in these sections arise from faculty and staff employment responsibilities and obligations to the university. Northeastern University students recognize and accept that it is the sole prerogative of the university to enforce these obligations and responsibilities and to determine whether and to what extent they are being carried out or violated in specific instances. Northeastern University students recognize and accept that their ability to effect redress of complaints arising from these rights is limited to the procedures specified in the current *Undergraduate Student Handbook*.

2 The articles shall be interpreted by the Office of the Provost in conjunction with the Office of the Vice President for Student Affairs, and shall be monitored by the Student Government Association. Further, should any student discover that they have been subject to any violation of the principles stated herein, the student should follow the appropriate complaint resolution procedure in the Undergraduate Student Handbook *(*https://acrobat.adobe.com/link/track/?uri=urn%3Aaaid%3Ascds%3AUS%3A06353ee6-2bf4-3871-851f-0fcc3cdafe13*).* The Student Government Association, if requested by the student, will monitor the progress of any student academic grievances.

3 Because the university operates on a twelve-month calendar in an urban environment, many construction, remodeling, renovation, and repair projects must take place while the university is in session, and other potential distractions from the learning process arise from the surrounding urban environment on which it is dependent but over which it exerts little or no control. Thus, though the university is committed to maintaining an appropriate learning environment for its students, Northeastern University students recognize and accept, as part of their relationship with the university, that the conditions described above may cause occasional disturbances to that environment.

4 For more on academic freedom, please refer to the AAUP's definition (https://www.aaup.org/report/1940-statement-principles-academic-freedom-and-tenure/).

Student Responsibility Statement

By accepting responsibility for their education, students enhance the development of their academic, social, and career goals. As a condition of enrollment, students are responsible for reviewing, understanding, and abiding by the university's policies, regulations, procedures, requirements, and deadlines as described in all official publications, including the university's Academic Catalog, Northeastern and college websites, and official university email communications, as applicable.

Students are responsible for meeting the degree requirements of their academic programs in all respects, including completeness and correctness of course selection, compliance with prerequisite and corequisite requirements, completion of program and degree requirements through regular, comprehensive review and understanding of the degree audit, and observance of all academic regulations and deadlines.

Students are expected to seek guidance from appropriate university representatives, such as departmental program advisors, academic advisors, co-op coordinators, and the Office of the University Registrar (https://registrar.northeastern.edu/), to confirm their compliance with all applicable academic expectations and requirements.

Student Right-to-Know Act

For information about the Student Right-to-Know Act, visit the Office of the University Registrar's website. (https://registrar.northeastern.edu/article/student-right-to-know-act/)

Substituting Courses

In some cases, it may not be possible to retake a course if a student wishes to do so. In unusual circumstances, students may petition to substitute one course for another they have already taken, as long as the subject matter of both courses is substantially alike. With the approval of the student's academic advisor and the agreement of the department that offered the first course taken, a grade received in the new course will be labeled "Substitute" on the transcript and will be treated in the grade-point-average calculation as a "retake" grade, as described above. The original grade will remain on the student's Northeastern University transcript. Students should consult with their academic advisor before enrolling in any proposed substitute course. Students are required to pay normal tuition charges for all substitute coursework.

University-Sponsored Travel

Northeastern University is committed to the health, safety, and security of its students and all other members of the university community. As a global institution, our university members undertake university travel around the world in pursuit of teaching, research, consulting, service, cocurricular activities, and work intended to advance learning and the interests of the university. The university supports standards and expectations associated with travel that are designed to reduce personal and university risk.

To enhance the health and safety of our students, you are required to comply with the university travel policies and guidance when undertaking university travel. These include, but are not limited to:

- **Registering University Travel—**Students, faculty, and staff are required to enter their travel itineraries and other requested information into the travel registry. To access the registry, go to the Student Hub (https://me.northeastern.edu/) and navigate to My Travel Plans to register your travel.
- **Review Destination Risks and Take Steps to Reduce Risks Before and During Travel—**Review the country briefing for your destination found in the Travel Security portal (https://travelsecurity.garda.com/checkMail/) and travel health and safety advice issued by the U.S. Department of State, the U.S. Centers for Disease Control and Prevention, other government organizations, the host nation, international organizations, etc. Travelers will be reminded about these sources via an email following trip registration.
- **Connectivity—**All students traveling on university programs must carry a cell phone with international calling, SMS, and cellular data capabilities. Phones must be able to receive incoming and make outgoing phone calls without relying solely on data-calling or a Wi-Fi signal. Phone number must be updated in the Student Hub (https://me.northeastern.edu/) profile and My Travel Plans registry before travel.
- **Complete Travel Petitions or Waivers—**Visit the Travel Protocols page (https://globalsafety.northeastern.edu/travel-protocols/) to determine what forms travelers are required to complete before participating in off-campus programming. The page also explains how to obtain approval to travel to a destination designated as high risk by the university.
- **Reduce Your Travel Cyber-Risk and Exposure—**Review and comply with the Policy on Portable Devices for High Cybersecurity Risk Destinations (https://cpb-us-w2.wpmucdn.com/sites.northeastern.edu/dist/b/620/files/2020/09/Policy-on-Computers-and-Mobile-Devices-for-International-Travel.pdf).
- **Personal Health Insurance—**All travelers are required to have personal health insurance that provides coverage while participating on university trips. Insurance requirements and an explanation of the university-provided urgent and emergency program can be viewed on the insurance and global safety support network pages of the university's global safety (https://globalsafety.northeastern.edu/)website.
- **Attend Predeparture Orientation—**PDO provides travelers with information about resources, requirements, safety, and security while traveling. Contact your program office to enroll in an in-person or online training.
- **Register Side Trips—**Side trips are travel that takes place prior to, during the course of, and/or immediately following a scheduled program but is not part of the program. Travelers are required to notify the university and register side trips.

Students are responsible for familiarizing themselves with the university travel policies and are encouraged to visit the university's global safety (https://globalsafety.northeastern.edu/) website for guidance. If you have questions related to travel or travel support, please email mytravelplans@northeastern.edu. If you need assistance during university travel, please call the university's 24-hour travel assistance line at +1.857.214.5332.

Academic Appeals Policies and Procedures

It is the policy of the university that all students shall be treated fairly in evaluations made of their academic performance, standing, and progress. The university presumes that academic judgments by its faculty are fair, consistent, and objective. Students must understand that the substitution of a different academic judgment for that of the original evaluator is a serious intrusion upon teaching prerogatives. Nonetheless, the university believes it is essential to provide an appeals mechanism to students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education determination. This includes claims of misinterpretation or inequitable application of any academic provision of the university's *Undergraduate Catalog, Undergraduate Student Handbook, Faculty Handbook,* or *Cooperative Education Handbook*.

The steps below are for academic appeals. In the academic appeals procedures described herein, "dean" refers to the dean of the appropriate college or a designee. If a student feels that they have been the victim of harassment or of discrimination prohibited by university policy, they should consult with the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/)as soon as they become aware of alleged prohibited harassment or discrimination. A student is not required to wait until a term grade or determination is received before seeking advice or redress. If the OUEC is advised of such alleged prohibited conduct as part of an academic appeal (see below), the appeal shall be pursued and investigated through the OUEC first. In such cases, the student should submit the appeal to the appropriate dean(s) described in Step 2, with a copy also given to the OUEC. Following a resolution of the harassment/discrimination issues, any remaining academic issues will be addressed, at the request of the student, according to the academic appeals procedures .

Though students are always entitled to seek the advice of legal counsel, a student's lawyer cannot be present in the informal or formal academic appeal procedures . A student may consult with the vice provost for curriculum and programs or the senior vice chancellor for student life or their designees at any point in these procedures for advice or assistance. University officials may take whatever steps they deem reasonably appropriate to achieve resolution of the problem at any stage of these procedures.

Step 1: Discuss Concerns with Instructor and/or Unit Head

In most cases, students should first discuss their concerns with the faculty member who taught the course to see if it is possible to reach agreement on the issue(s). If the student is not satisfied with the outcome of this discussion, or if the student is not comfortable discussing the issue with the instructor, the student should request a meeting with the department chair, or a person named by the chair, to attempt a department-level resolution. If these attempts to informally resolve the issue fail, the student can enter the formal procedure at the college level as follows. Note that this step should occur as soon as possible after the academic determination given the time frame for appeal statement submission described in Step 2.

Step 2: Prepare an Appeal Statement

A student appeals an academic determination by submitting a written statement (the Statement). The Statement shall include when the problem occurred, who made the disputed determination, the nature of the determination, and what resolution the student is requesting. All relevant supporting materials should be attached to the Statement. The Statement should be submitted no later than 28 calendar days from the day when the academic determination is made available to the student. If the appeal concerns academic probation, it is submitted to the dean of the college in which the student is enrolled. If the appeal concerns a grade or course evaluation, it is submitted to the dean of the college in which the course was given. If a student wishes to dispute a grade in their final term, this must be done within 28 calendar days of degree conferral date.

Step 3: Dean's-Level Resolution

The dean shall respond to the student in writing, including specific instructions for the student to seek an informal resolution to the matter, unless such a course of action, as outlined by the student in their Statement, is demonstrably futile. A copy of this response shall be sent to the department chairperson or equivalent supervisor of the appropriate unit. If the student has failed to achieve relief through an informal resolution, the dean shall discuss the matter with the department chairperson or equivalent supervisor and, if applicable, the dean of the college in which the faculty member involved in the matter serves, who shall attempt to effect an informal resolution. In this case the student shall also have the right to discuss the matter with the chairperson, or equivalent supervisor, in which department the faculty member involved in the matter serves.

If the appeal involves allegations of prohibited harassment or discrimination, the dean shall consult with the OUEC before responding and shall, as part of this response, explain the role that the OUEC will play in Steps 4 and 5 of this procedure.

Step 4: College-Level Appeal

If the student is not satisfied with the disposition of the matter at Step 3, they may proceed with the appeal through their college's established academic appeals procedure. The dean or the academic standing committee, as applicable, must provide the student and the involved faculty member with a written report of their/its finding(s) and decision.

- This step involves a review by a college academic standing committee making the recommendation to the dean. The student may obtain a copy of the operating rules of the academic standing committee from the dean of the college involved.
- In appeals involving allegations of prohibited harassment or discrimination, the dean or academic standing committee shall receive a report of the findings of the investigation of the OUEC. The dean or committee shall be without authority to reverse or modify the OUEC finding(s) or resolution and, instead, shall work to resolve the remaining academic appeal issue(s).

Step 5: University-Level Appeal

If the student is not satisfied with the college's disposition of the matter, or if the appeal is not resolved within 35 calendar days after having been submitted to the dean pursuant to Step 2, they may appeal the matter to the university level. The student shall submit a request in writing, within 10

calendar days of the finding of the college in Step 4, to the vice provost for curriculum and programs that the university convene an academic appeals resolution committee to review the issue.

The academic appeals resolution committee includes:

- The vice provost for curriculum and programs or a designee
- A faculty member (not involved in this dispute) appointed by the dean or the dean's designee from the student's major college(s), department(s), or area(s) of specialization
- Two faculty members appointed by the Faculty Senate Agenda Committee (if the appeal is based on a cooperative education determination, one of the faculty members shall be a member of the cooperative education faculty but not from the student's area of study)
- If the appeal had at any point involved a matter of prohibited harassment or discrimination, the committee shall include a representative of the OUEC, who shall be a nonvoting member

The chairperson shall be elected from among the committee's three faculty members.

PRELIMINARY MATTERS

If the academic appeals resolution committee determines, by a majority vote, that the appeal is patently without substance or merit, it may dismiss the appeal.

INVESTIGATION

The academic appeals resolution committee shall conduct a prompt investigation. This investigation may include studying the relevant documents, interviewing the parties involved, and taking any other action it deems appropriate. If the committee chooses to interview the student or the involved faculty member, they both shall have the right to appear and testify separately and privately before the committee. The student shall have the right to have an advocate from the university community present during their testimony . At no time shall the committee be bound by rules of evidence but shall at all times conduct itself in a manner that is not arbitrary or capricious.

AUTHORITY TO ACT

The academic appeals resolution committee has been designated as the final authority on these matters. At the conclusion of its investigation, the academic appeals resolution committee shall by majority vote resolve the issue(s) by either upholding the finding of the college, in which case no further appeal is available, or granting such relief to the student as the academic appeals resolution committee deems appropriate .

- The academic appeals resolution committee may not determine a resolution that contradicts the prior findings or actions of the OUEC
- In the event of a tie vote, the action of the college academic standing committee shall be considered upheld

REPORT

All direct parties to the appeal including, but not limited to, the student, the involved faculty member, the Faculty Senate Agenda Committee, the vice provost for curriculum and programs, the senior vice chancellor for student life, the dean(s), and the the Office of the University Registrar shall be promptly informed in writing of the decisions and actions taken during this academic appeals procedure.

ACTION

The dean(s) or their designee(s) in the involved college(s) shall take whatever action is necessary to implement the resolution of the academic appeals resolution committee. This includes, where applicable, reporting the change of grade to the Office of the University Registrar.

APPEAL

Once adjudicated, the matter is considered closed, and no further appeal can be instituted by the student or the involved faculty member with respect to the issue(s) raised at any level of the formal undergraduate academic appeals procedure.

Academic Honors

Dean's List

A dean's list, or honors list, is issued at the end of each fall and spring semester. The requirements to be on the dean's list are a 3.500 grade-point average or higher with no incomplete grade or grade below C–. Students who are on any form of probation, who are enrolled in a course on a pass/fail basis (except where there is no alternative or where required by the program), or who are not carrying a full load as determined by their undergraduate college are not eligible. With a few exceptions as approved by the respective colleges, a full load for fall and spring semesters is considered to be a minimum of four courses or 16 semester hours.

Graduation with Honors

Graduation with honors and selection as the class marshal are reserved for undergraduates who have completed 64 semester hours in residence and meet the following GPA requirements to graduate with honors:

GPA	Honor Conferred
3.500–3.699	Graduate with honor (cum laude)
3.700–3.849	Graduate with high honor (magna cum laude)
3.850–4.000	Graduate with highest honor (summa cum laude)

Note: The university reserves the right to change these standards.

Honors in the Discipline

Honors in the Discipline is earned by those students who successfully complete college-defined requirements, generally culminating in a junior/senior honors thesis or a junior/senior honors project. This distinction will appear on the transcript (for example, "Honors in Music" or "Honors in Chemistry"). Detailed information about Honors in the Discipline is provided under each college's website.

University Honors Program Distinction

For students who entered the University Honors Program fall 2022 and prior, distinction is earned by completing six Honors courses or approved experiential learning experiences, including an Honors Interdisciplinary Seminar—Honors Seminar (HONR 3310 (https://catalog.northeastern.edu/archive/2023-2024/search/?P=HONR%203310))—and maintaining a cumulative grade-point average of 3.500. The Honors course requirement is adjusted for students who join the University Honors Program as second-semester first-year students (five Honors courses or approved experiential learning experiences) or as rising/continuing sophomores (four Honors courses or approved experiential learning experiences). Note that no more than three approved experiential learning experiences can be used toward meeting the six Honors course requirement.

Information on what courses and experiential learning experiences qualify toward University Honors Program Distinction can be found on the University Honors Program's website (https://undergraduate.northeastern.edu/honors/academics/requirements-earning-university-honors-distinction/).

Those Honors students who matriculate in fall 2023 and future semesters are required to maintain a cumulative GPA of 3.000 and complete three Honors courses and/or approved experiential learning experiences. Information about distinction and/or credentialing for this cohort and beyond is under development.

Academic Integrity Policy

The following academic integrity policy was created in consultation with and approved by the Office of Student Conduct and Conflict Resolution, the Student Government Association, and the Faculty Senate.

Visit the Office of Student Conduct and Conflict Resolution (http://www.northeastern.edu/osccr/academic-integrity-policy/) website's Academic Integrity Policy page for a full description of these policies and procedures.

Honor Code

The following honor code was designed and approved by the Student Government Association:

On my honor, I pledge to uphold the values of honesty, integrity, and respect that are expected of me as a Northeastern student.

Academic Progression Standards

Progress Reports

Progress reports warn students and their advisors of difficulty in courses. This warning is important for student success. Faculty members may submit reports at the third week and then the midpoint of the semester, early enough for correction of the performance or for withdrawal from the course, if appropriate. Progress reports for student-athletes are necessary for NCAA compliance.

Academic Status

Academic progress of all students is reviewed by academic advisors at the end of each semester. Students are notified soon after final grades are posted if there are concerns about academic progress in any or all of the following areas:

1. Overall grade-point average
2. Semester hours successfully completed
3. Failing or near-failing grades in courses that are required for progress in the major

Students at Northeastern University maintain good academic standing when they meet the following criteria:

1. Have an overall GPA of 1.800 at the end of each semester of their freshman year and a minimum cumulative GPA of 2.000 at the end of each semester thereafter
2. Earn at least 12 semester hours in the semester just completed

Individual colleges may have additional requirements that are specified in each college section that follows.

In addition, many programs require that specific courses be successfully completed to progress to the next year. Students who do not make satisfactory progress will not graduate with their class and may be withdrawn. For more information about additional academic progression standards for each college, program, or major, refer to the curriculum guidelines that can be found in the college sections of this catalog. See financial aid implications under Financial Aid (p. 50).

Academic Probation

Full-time students who fail to meet the criteria for good standing described above will be placed on academic probation effective for the following semester. The action will appear on the internal record but not on the transcript.

Academic Dismissal

Students who remain on probation after two full-term academic semesters may be dismissed from the university. This action may appear on the transcript at the end of the second probationary semester. In addition, students who have below a 1.000 GPA or fewer than 4 earned semester hours in any semester or cumulatively may be dismissed at the discretion of their college. Students may appeal this decision to the Academic Standing Committee of their college (see following section). International students must consult with an advisor in the Office of Global Services (http://www.northeastern.edu/ogs/) to discuss the impact of an academic dismissal as it relates to nonimmigrant visa status.

Academic Standing Appeals

Students may appeal academic standing status if they can provide evidence and/or reasons supporting an appeal. Generally, a student on probation may be granted no more than one additional full-term academic semester to meet the criteria for good academic standing. Students may appeal to the Academic Standing Committee of their college to review probation and dismissal cases.

Academic Eligibility for Participating in Student Organizations and Athletics

All students must have a minimum 2.000 overall GPA to be eligible for an elected or appointed leadership position in any student organization. Athletes must adhere to NCAA standards.

Repeating Courses to Clear Deficiencies

See Retaking Courses (p. 76) and Clearing an Academic Deficiency. (p. 62)

Definition of Freshman, Sophomore, Junior, and Senior

For undergraduate day students, freshman, sophomore, junior, and senior standing are determined by earned semester hours:

Freshman	Less than 32 semester hours
Sophomore	At least 32 but less than 64 semester hours
Junior	At least 64 but less than 96 semester hours
Senior	At least 96 semester hours

Cooperative Education

Website (http://www.northeastern.edu/coop/)

Cooperative education is the cornerstone of Northeastern University's experiential learning approach, in which on-campus study is enhanced by real-world experience through full-time employment at locations worldwide. Through co-op, students alternate periods of academic courses with periods of employment in positions related to their academic or career interests. This combination provides an integrated learning experience that enhances both in-class studies and career development.

General Requirements

- Be a full-time student to participate in co-op.
- Complete two full-time fall/spring semesters as a matriculated student enrolled in a degree-seeking program according to the student's assigned pattern of attendance. Some programs may require completion of additional semesters to be eligible for co-op.
- Complete all pre-co-op requirements as established by the college of the student.
- Make satisfactory progress toward degree completion, including grade-point average requirements, as defined by the university, the colleges, and the major program curricula.
- Have accurate information about the co-op placement in the university's official co-op placement system, including specific start and end dates and meeting the minimum hour and day requirements.
- Not participate in co-op in the final term unless it is specified in the curriculum requirements of the program in the catalog.
- Not participate in co-op in the term following a return from a leave of absence.
- Resolve any previous disciplinary or academic probation issues, or have the cooperative education coordinator approve a plan to resolve these issues prior to applying for co-op jobs.
- Have any self-developed co-op approved by the cooperative education coordinator before accepting the position.
- Comply with any pre-employment checks required by the employer, such as drug testing, credit checks, physical examinations, security clearance, and criminal record checks.
- Participate in Title IX training, as required.
- Complete any additional requirements (https://careers.northeastern.edu/students/student-co-op/global-co-op/) if participating in a global co-op.
- Work with the cooperative education coordinator if an Unsatisfactory (U) grade has been received for a past co-op to reestablish eligibility in accordance with the policies and requirements of the college.

TRANSFER AND INTERNATIONAL STUDENTS

- Transfer students from other universities must have met the same requirements in their major's co-op program as nontransfers and must have completed at least one semester of classes before starting co-op.
- International students must attend one academic year, or its equivalent, and obtain proper authorization from the Office of Global Services before engaging in co-op.

Academic Requirements

1. **Be full-time while on co-op. Full-time status for co-op is defined as either:**
   a. One full-time co-op job, 32–40 hours per week
   b. Two simultaneous half-time co-op jobs, 16–31.99 hours each
   c. One half-time co-op job; 16–31.99 hours with graduate students taking 3 or more academic credits or undergraduate students taking 6 or more academic credits
      i. Undergraduate students on co-op in a summer 1 or summer 2 term may be registered for one half-time co-op without acquiring a second job or taking an accompanying class.
2. **Meet the minimum length requirements for an academic term:**
   a. Semester full-term: minimum of 11 weeks or 55 workdays
   b. Quarter full-term: minimum of 9 weeks or 45 workdays
   c. Summer 1 or summer 2 term: minimum of 5 weeks or 25 workdays
3. **Receive a grade of Satisfactory or Unsatisfactory for the co-op experience.**

Registration for Co-op

Students are registered for co-op based on a completed co-op record that meets the minimum hour and day requirements with accurate start and end dates in the university's official co-op database system. Students must be registered for the co-op work experience course by the end of the add period or alternately registered for classes if still searching for a job by this deadline. All co-op positions need to be approved by the university and entered as completed records in the official co-op database system by the last day to drop without a W for the respective semester.

Co-op Financial Planning

- No tuition is charged while a student is on co-op only (students will pay room and board if they stay in university housing).
- If a student takes a credit-bearing class while on co-op, tuition will be charged at the per-credit rate.
- Students who wish to register for more than 4 credits while on full-time co-op must complete the Petition Registration form (https://registrar.northeastern.edu/wp-content/uploads/sites/9/form-pet-reg-14.pdf).
- Financial aid will be distributed to match the student's tuition bill and other allowable expenses.
- Students on co-op are required to maintain the same health insurance coverage (either through a private provider or through the university program) as they would while attending classes.

Further Information

For more detailed information about co-op policies and procedures, see the *Cooperative Education Student Handbook* on the Cooperative Education website (https://www.northeastern.edu/coop/).

Degrees, Majors, and Minors

Declaring Majors and Minors

Undergraduate students may declare their majors upon admission to the university or may elect to join programs for undeclared students before declaring a major. Students must declare a major no later than the end of the sophomore year. Majors and concentrations are described under the various schools and colleges in this catalog.

Students should declare a minor as early as possible and no later than the end of the junior year. Students must fulfill all requirements for the minor and major concurrently and may not extend their program of study to complete a minor. Completion of the requirements of a major, minor, or concentration is noted on the transcript.

Changing Majors

Undergraduate students enrolled full time in one or more of the university's undergraduate schools or colleges may change their major if they meet one of the following transfer criteria:

- The student meets the criteria for immediate entry as defined by the receiving major.
- The student has a cumulative grade-point average of 2.000 or greater and satisfactorily completes the transition criteria as defined by the receiving major. For GPA below 2.000, change of major is at the discretion of the receiving major.

Students who are considering a major change must discuss their change in person with an advisor in the receiving major. See the online list of advising offices (https://registrar.northeastern.edu/article/changing-majors/). The advisor will certify that the student meets the criteria for immediate entry to the major or will set up a transition term for the student to satisfy the change-of-major criteria. Advisors will discuss the student's ability to succeed in the desired program given the current academic record as well as the influence of changing major on the student's ability to obtain a degree in the desired program within the traditional eight-academic-term time frame.

Transition criteria are designed to help ensure that students who change major have a reasonable chance of academic success and program completion. A list of school and college transition criteria is maintained at the website of the respective school or college. Students wishing to join some majors must also audition or submit a portfolio, as indicated on the aforementioned webpage. Note also that some colleges have deadlines for applications to change major, also indicated on the aforementioned webpage.

International students must inform the Office of Global Services (http://www.northeastern.edu/ogs/) of any change of major.

Northeastern Explore Program

The Northeastern Explore Program provides support and guidance to first-year students who have not yet decided upon or officially declared a major. All students must declare a major no later than the end of the sophomore year. Undeclared students are strongly encouraged to declare a major by the beginning of their sophomore year if they are interested in highly structured programs or in maximizing their number of co-op placements within such a major. Admission to a particular major is dependent on the transfer criteria described above.

The D'Amore-McKim School of Business, the College of Engineering, and the Khoury College of Computer Sciences also each provide resources to facilitate a major choice for students who enter their respective colleges with undeclared majors.

Double Major

Students may earn a double major by gaining admission to the second major and by completing all requirements for both majors. Because some double majors will have a significant overlap in courses, all double-major proposals must be approved by the home college of each major in the proposed double major. Students completing a double major receive one degree and one diploma. The two majors appear on the transcript. If the two majors are in different colleges, the degree is associated with the major in the home college.

Second Northeastern University Bachelor's Degree

A student may earn a second Northeastern University bachelor's degree after the conferral of a first Northeastern bachelor's degree. Following the first degree conferral, a student may seek and be granted admission into a second bachelor's degree program. All degree requirements for the second major that are not included on the student record for the first degree must be fulfilled. Outdated coursework may not be accepted. Students must earn a minimum of 32 semester hours beyond those earned toward the first degree. A second diploma will be awarded and the second degree will be noted on the transcript.

Students must complete an application with the home college of the intended degree. Some programs may require prerequisites prior to admission. Students should apply by the normal transfer deadline to ensure timely consideration. The college makes the determination on admission; notifies the student of this decision; and, if the student is admitted, provides the student with a program of study and reactivates the student's record. International students must consult with an advisor in the Office of Global Services to request updated documentation reflecting engagement in the second bachelor's degree program.

Combined Majors

Students with academic interests spanning two disciplines may choose to pursue a combined major. A combined major is one major that includes at least nine courses from each of the two participating disciplines. No more than two courses may count for both disciplines, i.e., there must be at least 16 courses in the combined major. There are multiple points of curricular integration between the two disciplines. This includes courses acting as a bridge between the two majors being combined, experiential learning opportunities, research and creative opportunities, and more. These opportunities for curricular integration occur at different stages of the program in order to meet the curriculum integration learning outcome(s). It is generally advantageous to declare the combined major as early as possible, especially when highly structured disciplinary components are involved.

See the online list of current combined majors. (https://admissions.northeastern.edu/academics/combined-majors/) Students may request admission to a combined major by following the standard procedure for changing majors. A home college is designated, in which the student will be registered and from which they will be graduated. Most combined majors allow the student to choose the home college. Upon graduation, students receive one major, one degree, and one diploma. The combined major and home college will appear on the transcript and diploma.

Independent Majors

In the rare cases when students have academic interests that fall within the expertise of Northeastern faculty members and are not available in the large number of existing majors and combined majors, they may propose an independent major. Independent majors form a cohesive program focusing on some issue, theme, or subject area not available within the context of existing curricula. These programs should be equivalent in depth and coherence to existing majors. No student with less than a 3.250 GPA will be approved for an independent major. The proposal must be approved by the end of the first semester of the junior year. Proposals will not be considered before the end of the freshman year. For initial information and advice, interested students should consult their academic advisor.

The student assumes the initiative in formulating an independent major. High degrees of student initiative and self-reliance are also necessary for completion of this type of major. The student is responsible for securing the advice and approval of faculty mentors, at least one from each of the disciplines. These faculty mentors will help the student design the curriculum. The faculty mentors will guide the student's academic progress through the major. The student should select one of the faculty mentors as the primary mentor.

If the disciplines partnering in the independent major are in different colleges, the college of the primary mentor will be designated as the home college, in which the student will be registered and from which the student will be graduated. The student will enroll in the Approved Independent Studies major. Students completing an independent major receive one degree and one diploma. Upon graduation, a comment will be added to the transcript to reflect the title indicated on the approved independent major proposal. When the components of the independent major individually offer different degree designations, the degree designation that will appear on the transcript and diploma will be designated during the approval process.

The student, with the assistance of the faculty mentors, must formulate in writing and submit to the home college curriculum committee an Independent Major Approval form (https://registrar.northeastern.edu/article/independent-majors/) bearing the signatures of all faculty mentors and a proposal containing the following items:

- A statement of the central concept around which the independent major is organized and a rationale for the major, including a discussion of why existing programs are inadequate to the student's purpose and how the proposed major meets the student's educational, professional, or personal goals
- A list of courses—including names, numbers, prerequisites, and frequency of offering (if known)—and a breakdown of the introductory, intermediate, and advanced courses included in this list
- A statement of the manner in which NUpath requirements (p. 111) are fulfilled (and, if applicable, BA degree requirements (p. 119))
- A list of courses—including numbers, names, and grades—already taken that will apply to the major or to NUpath (and BA degree , if applicable) requirements
- A student transcript
- A calendar for completion of the degree

A meeting of all faculty mentors and the student must be held before college approval of the major program. In accepting the proposal, the home college dean's office certifies that the rules established for the independent major have been followed, and it assumes administrative responsibility by assigning an academic advisor to monitor the student's progress and clear the student for graduation. Any changes in the curriculum must be approved by the primary faculty mentor, and the home college advisor must be informed. Final approval of independent majors is granted by the university Undergraduate Curriculum Committee.

PlusOne Bachelor's/Master's Programs

Northeastern offers a number of PlusOne bachelor's/master's degree programs that allow students to accelerate the completion of the bachelor's degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Generally, both degrees may be earned in one more year than is the normal time allotted for completion of the bachelor's degree. See additional information on PlusOne Bachelor's/Master's programs (http://www.northeastern.edu/plusone/). (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/)

Northeastern University School of Law also offers students a PlusJD program (https://catalog.northeastern.edu/graduate/law/accelerated/) that allows students to count their first year of law school toward their undergraduate degree.

Minors

Minors offer an opportunity for students to complement their major with intensive study in another area. A minor consists of a minimum of four courses (16 semester hours) defined by a department or an interdisciplinary program. In some cases, background courses are also required. Unless otherwise indicated, minors are generally open to all university students. The program of study for the major and minor cannot be the same where the courses for the minor are a subset of required courses in the major, e.g., a Bachelor of Science student with a biology major cannot enroll in the biology minor.

Final Examinations and Related Policies on Other Exams and Final Term Papers/Projects

- Final examinations are normally two hours in length and must be held when and where scheduled. Final exams are held during a designated final exam period at the end of the semester. An examination schedule is posted at the beginning of each semester at the Final Exam Information webpage (https://registrar.northeastern.edu/article/final-exams/).
- Students are responsible for knowing the time and location of their examinations. Final exam schedules are available to students online via the Student Hub (https://me.northeastern.edu/) under "My Schedule" in the "Self-Service" tab approximately the fourth week of the term.
- Students who have two examinations scheduled at the same time or three exams on the same day may complete and submit the Final Exam Conflict form (https://registrar.northeastern.edu/article/final-exams/) by the posted deadline.
- Instructors may not give more than 30 total minutes of examinations during the eight calendar days prior to the start of the final exam period.
- Students who have concerns about exams scheduled during the eight calendar days prior to the start of the final exam period, rescheduling of final examinations, or conduct during an examination should report their concerns to their college academic student services office.
- All final examinations, term papers, or projects must be returned to the student or be retained by the department for a period of one year.

Graduation Requirements

To be eligible to receive degrees, graduating seniors must meet all academic and residency requirements. They must also clear all financial, experiential education, and disciplinary deficiencies.

In addition, each program of study has specific academic requirements. These are specified for each program under the various schools and colleges in this catalog.

Once they matriculate, students are expected to complete all coursework for their degree at Northeastern University; or an entity in a formal contractual, consortial, or partnership relationship with Northeastern; or at an approved Northeastern study-abroad program. In some cases, in order to clear a deficiency, to permit students access to courses deemed by their respective advisors and colleges to be important for their educations but unavailable to them at Northeastern, or to remain on track for graduation, a student may petition their college for permission to take a course at another accredited institution. See also "Residency Requirement," below.

Prior to completion of their program, students are expected to complete a graduation degree audit at their college's academic student services office.

Note: Participation in study abroad in a student's final semester may result in a delay in graduation due to calendar discrepancies across institutions.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (p. 128).

NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (p. 111).

Residency Requirement

In addition to meeting all degree and major requirements, students must earn a minimum of 64 Northeastern semester hours to receive a bachelor's degree. Established exchange programs, where students are earning two degrees, one from Northeastern and one from another institution, require students to earn a minimum number of Northeastern semester hours as specified by the exchange program. Specialized programs for students with preexisting credentials have specific residency requirements.

Commencement

Attendance at Commencement is optional. Information concerning Commencement is provided to all graduating seniors during the spring semester. Seniors who have been removed from the graduation list are notified if they fail to qualify for their degrees. No special notice is sent to students who do qualify.

Registration and Taking Courses

Students are expected to register for classes during the published registration times in the academic calendar. First-year students may be preregistered for some or all of the courses they need. Most registration after the first year is accomplished through the Student Hub (https://me.northeastern.edu/#_ga=2175957154186281045916327526 75-725272105163173153 7). Students must complete "I Am Here" registration just prior to the start of classes to remain enrolled. Class adds must be registered by the end of the seventh class day.

Class Schedule

All classes start promptly according to the class schedule shown. Most classes at Northeastern University are scheduled in the time periods listed.

Students are expected to be punctual. Students who are late for classes should attend for the balance of the class period. Instructors will not tolerate habitual tardiness.

Students may leave 15 minutes past the scheduled opening of class if the instructor is not present. In such cases, students should notify the department in which the course is offered that the instructor was not present.

Any change of regularly scheduled classes or examinations must have the unanimous consent of the students involved unless other mutually acceptable arrangements for students to attend the alternative class or examination are worked out between the faculty member and the student(s) involved. Final exams must be held during the final exam time period and may not be negotiated in accordance with the official policy.

During the terms when they are teaching, faculty members are expected to provide sufficient conference time to meet the instructional and advising needs of their students.

Fall and Spring Schedule

Sequence 1	MWTh	8:00–9:05
Sequence 2	MWTh	9:15–10:20
Sequence 3	MWTh	10:30–11:35
Sequence 4	MWTh	1:35–2:40
Sequence 5	MWTh	4:35–5:40
Sequence 6	TuThF	11:45–12:50
Sequence 7	TuWF	3:25–4:30
Sequence A	MTh	11:45–1:25
Sequence B	MW	2:50–4:30
Sequence C	TuF	8:00–9:40
Sequence D	TuF	9:50–11:30
Sequence E	WF	11:45–1:25
Sequence F	TuF	1:35–3:15
Sequence G	TuF	3:25–5:05
Sequence H	Tu	11:45–1:25
	and Th	2:50–4:30
Sequence L	MWTh	8:00–11:35
Sequence M	MWTh	11:45–2:40
Sequence N	MWTh	2:50–5:40
Sequence P	MWTh	8:00–10:20
Sequence Q	MWTh	10:30–1:25
Sequence R	MWTh	1:35–5:40
Sequence S	MWTh	1:35–4:30
Sequence T	TuF	8:00–11:30
Sequence U	TuF	11:45–3:15
Sequence V	TuF	3:25–5:25
Sequence W	TuF	1:35–5:05

Summer Schedule

Sequence 1	MTuWTh	8:00–9:40
Sequence 2	MTuWTh	9:50–11:30
Sequence 3	MTuWTh	1:30–3:10

Sequence 4	MTuWTh	3:20–5:00
Sequence 5	MTuWTh	11:40–1:20
Sequence A	MW	8:00–11:30
Sequence B	MW	1:30–5:00
Sequence C	TuTh	8:00–11:30
Sequence D	TuTh	1:30–5:00

Course Syllabus

Faculty members are expected to distribute a syllabus at the start of each course. The syllabus should also be placed on the course Canvas site. The syllabus should include a schedule of topics, exam and assignment due dates, information on how to contact the faculty member, process for conference time, grading and attendance policies, and a reminder of the university's Academic Integrity Policy.

Course Prerequisites

Students are expected to meet prerequisites as listed in the course description of each course in which they enroll. Grades of F, U, I, or W in prerequisite courses do not normally fulfill requirements. Exceptions must be authorized by the instructor teaching the course.

Overload Policy

An overload occurs when a student is enrolled in more courses than prescribed by the program's curriculum. To register for an overload, students are advised to consult their academic advisor. Students who enroll in overload courses will be billed at the per-credit-hour rate, $1/16^{th}$ of the full-semester tuition for that semester per semester hour. Undergraduate full-time day students may register for an additional music ensemble course from the list of courses without added charge as long as they are registered for a full course load.

Reduced Load Policies

Undergraduate full-time students are generally expected to take a full-time course load in progression toward their degree. Tuition adjustments for reduced loads are made only when the Undergraduate Petition to Reduce Load is approved by the academic advisor. Tuition adjustments are made for approved reduced course loads if the registered credits fall below 12 semester hours during full semesters or 6 semester hours during summer half semesters (calculated at the per-credit-hour rate). To receive petition for the adjustment, the Undergraduate Petition to Reduce Load must be submitted prior to the start of the term. Please refer to Student Financial Services Billing Policies (https://studentfinance.northeastern.edu/policies-procedures/billing-policies/) for further information.

No rebate or credit is granted when a student voluntarily drops a course. A reduced load may impact the student's housing, financial aid, visa status, and health insurance. Students should consult applicable departments before committing to a reduced load. Students who take a reduced load will be billed at the per-credit-hour rate, $1/16^{th}$ of the full-semester tuition for that semester per semester hour.

International students must speak with an advisor at the Office of Global Services (http://www.northeastern.edu/ogs/) prior to dropping a course. Permission to drop below full-time status is restricted according to federal regulations.

Audit Policy

Full-time Northeastern students (16 semester hours at the undergraduate level, before the audit registration) may audit one class per term as an overload with no additional charge.

- Students are permitted to petition (https://registrar.northeastern.edu/article/audit-policy/) from the end of the class-add period to the end of the third week of classes.
- Permission is based on the availability of a seat in the class.
- Students must obtain advisor approval and meet the prerequisites and any other required approvals for the class.
- Instructor permission, as well as approval by the associate dean of the college offering the course, is required.
- The coursework required is at the discretion of the instructor.
- Once a student opts to audit a class, the audit status of the class cannot be changed.
- First-year students may not audit classes.
- A signed Petition to Audit (https://registrar.northeastern.edu/article/audit-policy/) must be presented to the Office of the University Registrar during the designated audit-add period.
  - Students will not be registered for approved audited class(es) until after the add period is over for the intended term.
- Excluded courses are co-op, labs, language courses, any off-campus course, any online course, and any course required for the major or degree.
- Audits carry no academic credit.

Pass/Fail (S/U) System

The individual schools and colleges state how and when the pass/fail system may be used. An outline of the general system follows.

- Any student not on academic probation may register for one pass/fail course per semester if permission is granted by the college in which the student is enrolled and if the course is offered on a pass/fail basis.

- Pass/fail courses are normally restricted to electives outside the major, outside any minor, or outside NUpath requirements. The college faculty, however, may choose to adopt the pass/fail system of grading when it appears pedagogically sound for required courses within a major or minor.
- Before requesting a pass/fail grade from an instructor, students should meet with their academic advisor to determine whether doing so will disqualify the course from satisfying a program requirement or elective. In general, courses taken on a pass/fail basis can be used only to satisfy open electives.
- Individual faculty members may decide whether any of their courses may be taken on the pass/fail system of grading, except when uniformity is necessary. In such cases, the department and/or college faculty offering the course determine whether the pass/fail system is used.
- Grades recorded on the basis of the pass/fail system do not figure in the computation of the grade-point average. Satisfactory completion of all courses taken on the pass/fail system is designated on the student's permanent record by the letter S. Unsatisfactory work is designated by the letter U. Any unsatisfactory grade must be handled according to the existing policy of the college but must never be cleared through the election of the same course pass/fail, except when this system is the only one used by the college for grading the course.
- To use the pass/fail system, students must meet all prerequisites for the course and declare by the end of the second week of the semester their intention to receive a pass/fail grade. This deadline may be extended to the end of the eighth week of a full semester or the end of the fifth week of summer half semester at the option of the instructor.
- Students must submit a Petition to Elect Pass/Fail Grade (https://registrar.northeastern.edu/wp-content/uploads/sites/9/form-passfail-1.pdf), signed by the faculty member.

Taking Courses While on Co-op

Students who wish to take more than 4 semester hours while on full-time co-op must complete the petition registration form with their college academic advising office before the term begins. Students who do not receive the approval of their academic advisor and co-op coordinator will be dropped from their preregistered courses. Students who take a course while on co-op will be billed the per-credit-hour tuition rate. (See "Reduced Load Policies" above.)

Transfer Credits for Current Students

Once they matriculate, students are expected to complete all coursework for their degree at Northeastern University; or an entity in a formal contractual, consortial, or partnership relationship with Northeastern; or at an approved study-abroad program. In some cases, in order to clear a deficiency, to permit students access to courses deemed by their respective advisors and colleges to be important for their education but unavailable to them at Northeastern, or to remain on track for graduation, a student may petition their college for permission to take a course at another accredited institution.

With the approval of the college academic advisor and the graduate school offering the courses, students may take courses in Northeastern's graduate schools.

Students who wish to take courses at another institution and transfer the credit to Northeastern must obtain *prior* approval from the college academic advisor. The Office of the University Registrar validates accredited institutions to ensure credit transferability. The student must earn a C (2.000) or better for a course to be considered for transfer. Students are responsible for providing documentation on the institution's accreditation, course grading, and course descriptions prior to approval.

Special Students

Students who are not enrolled at Northeastern University may petition the college academic advising office to take courses on a semester-by-semester basis. Approval is based on the student's academic qualifications and on the availability of class space. The maximum cumulative semester hours for which a special student may register is 20 (not including related labs). Tuition is billed at the undergraduate per-credit-hour rate. If the college academic advising office approves the course enrollment, the student pays the bill and then returns the completed forms to the Office of the University Registrar.

Dropping A Class

Not attending class does not constitute withdrawal. Students receiving a grade of W or NE in any course are responsible for the costs associated with that course. Students must drop courses using processes described below.

Note: College of Professional Studies graduate students should consult the CPS graduate section of this catalog *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/academic-policies-procedures/registration-and-taking-courses/*) for class drop timelines specific to CPS graduate terms.*

In Fall and Spring Semesters

- Through the third week of the semester, students may withdraw without any grade being posted to the transcript. Courses may be dropped via the Student Hub (https://me.northeastern.edu/).
- Between the fourth week and the last day of classes, course withdrawals are indicated by a W on the student's record. Courses may be dropped via the Student Hub. No financial adjustment is made for courses receiving a W grade.
- After the last day of classes, no withdrawals are accepted for any reason. A letter grade for the course will be posted on the transcript.
- Dropping below full-time enrollment may affect financial aid, health insurance eligibility, and the maintenance of proper nonimmigrant visa status.

In Summer Half Semesters

- Through the second week of the half semester, students may withdraw without any grade being posted to the transcript. Courses may be dropped via the Student Hub.
- Between the third week and the last day of classes, course withdrawals are indicated by a W on the student's record. Courses may be dropped via the Student Hub. No financial adjustment is made for courses receiving a W grade.
- After the last day of classes, no withdrawals are accepted for any reason. A letter grade for the course will be posted on the transcript.
- Dropping below full-time enrollment may affect financial aid.

Late Admission to a Course

Students may petition to register for a course after the normal "class add" period, seven class days. Permission may be granted if seats are available and at the discretion of the instructor. If students are not already registered for a full course load, late admissions may jeopardize full-time status.

The Late Course Registration form (https://registrar.northeastern.edu/article/late-course-registration/) is available online.

Student Evaluation of Courses (TRACE)

Students play a critical role in the university's commitment to quality teaching and academic excellence when they participate in the evaluation of courses through TRACE (Teacher Rating And Course Evaluation), a survey developed collaboratively by the Student Government Association and the Faculty Senate. TRACE data are important in the process of course design and improvement, as well as in the process of faculty evaluation. Students are expected to participate in TRACE with constructive feedback that is relevant to teaching and course content. TRACE results from previous terms can be found on the Student Hub (https://me.northeastern.edu/).

University Academics

- Army, Air Force, and Navy Reserve Officers' Training Corps (ROTC) Programs (p. 102)
- Education (p. 104)
- Experiential Learning (p. 105)
- Explore Program (p. 106)
- General Studies Program (p. 107)
- Global Experience (p. 108)
- Living Learning Communities (p. 110)
- NUpath (p. 111)
- Pre-Law Advising (p. 120)
- PreMed and PreHealth Advising (p. 121)
- Research and Creative Activity (p. 123)
- Service-Learning (p. 124)
- Undergraduate Degrees (p. 125)
- Undergraduate Internships (p. 126)
- University Honors Program (p. 127)
- Universitywide Requirements (p. 128)
- World Languages Center (p. 129)

Army, Air Force, and Navy Reserve Officers' Training Corps (ROTC) Programs

Army ROTC Program

Lieutenant Colonel Brian Slotnick
Professor and Chair, Department of Military Science

335A Huntington Avenue
617.373.2376
617.373.8677 (fax)
Army ROTC website (http://www.northeastern.edu/neurotc/)
Scott Lyons, Enrollment and Scholarship Officer, sc.lyons@northeastern.edu

The Department of Military Science offers the Army Reserve Officers' Training Corps program. The goal of the program is to develop leadership potential in men and women and to prepare them for an officer's commission in the Active Army, Army Reserve, or Army National Guard. The curriculum teaches principles of leadership and personnel management and seeks to develop leadership traits such as teamwork, responsibility, initiative, self-confidence, and discipline.

The Army ROTC program is conducted at Northeastern University. For more information, write:

Department of Military Science
Northeastern University
335A Huntington Avenue
Boston, MA 02115
617.373.2376

Completion of the Army ROTC program will lead to a commission as a second lieutenant in the Army, Army Reserve, or the Army National Guard. The program consists of the basic course (freshman and sophomore years) and advanced course (junior and senior years). The program does not conflict with co-op schedules.

Enrollment in the basic course is voluntary and is open to all full-time students. However, only cadets formally enrolled in ROTC may participate in leadership labs, physical training, and practical field exercises. Students in the basic course do not incur a military obligation. Check with your academic department to ensure credits are accepted.

The advanced course is open to all qualified students who have basic course credit or equivalent military experience, as well as meet the Army's physical, medical, and age requirements. Contracted students (advanced course and/or scholarship) receive a monthly cash stipend while in school. Scholarship students also receive full tuition and fees as well as $1,200 per year for books. Scholarships are merit based and are awarded as four-year, three-year, or two-year benefit packages.

Army Nurse Corps ROTC Program

ROTC provides an opportunity for college nursing students to receive practical, hands-on leadership experience. The courses provide a chance for students to develop management, communication, and decision-making skills. ROTC also provides nursing cadets an opportunity to participate in the Nurse Summer Training Program. NSTP is a paid, three-to-four-week, hands-on clinical elective for Army ROTC nurse cadets. This elective is conducted at more than 20 U.S. Army hospitals in the continental United States, Hawaii, and Germany. During the NSTP clinical elective, the cadet receives experience under the direct supervision of a preceptor—an Army Nurse Corps officer who works with the cadet one-on-one. Scholarship nurse cadets receive a monthly cash stipend while in school as well as full tuition and fees and $1,200 per year for books.

Navy ROTC Program

The Navy ROTC unit is a six-school consortium that includes students from Boston University, Boston College, Northeastern, Tufts, Harvard, and MIT. All Navy ROTC scholarships assigned to Northeastern are for nursing majors only. The scholarship covers full tuition, mandatory fees, a $375-per-semester book stipend, and a living stipend valued at $250 per month that increases by $50 each year up to $400. Room and board are not included in the scholarship. For students on Northeastern's five-year program, the Navy grants "Fifth Year Benefits," which mirror those of the fourth year. Upon graduation, students receive a commission as a naval officer in the Navy Nurse Corps and must fulfill a four-year active-duty commitment.

Navy ROTC nursing students are required to take four naval science classes in addition to their regular coursework and attend a weekly leadership laboratory as well as group physical fitness sessions Tuesday and Thursday mornings. All classes, labs, and group workouts are conducted at Boston University. Students typically spend a total of six to eight hours per week participating in Navy ROTC–related activities. Additionally, Navy nurses complete three summer training "cruises," or trainings, prior to graduation, each of which lasts approximately three to four weeks. One cruise is conducted at Naval Station Great Lakes, Illinois, during summer training sessions. The other cruises are conducted onboard active-duty naval warships at major naval hospitals around the country. For more information, visit the Boston University Division of Military Education (https://www.bu.edu/rotc/navy/) or contact the recruiting officer at 617.353.0474 or navyrotc@bu.edu.

Air Force ROTC Program

THREE- AND FOUR-YEAR PROGRAMS

College students join the three- or four-year AFROTC program by registering for aerospace studies classes in the same manner as they do for other university classes. Students in the program attend a field training encampment during the summer between their second and third years. Students are in General Military Course during the first two years and the Professional Officer Course during the last two years.

First-year GMC academic classes focus on the functions, organizations, and heritage of the U.S. Air Force. Second-year classes concentrate on leadership and teamwork fundamentals.

All GMC classes meet one hour per week. Complementing the academic classes, a weekly leadership laboratory introduces students to U.S. Air Force customs, courtesies, drill and ceremonies, and team-building exercises. Guest lecturers, seminars, briefings, films, and practical experience are also included.

Students in AFROTC are expected to wear the uniform correctly and meet the grooming standards required of active-duty Air Force personnel. Students must wear the issued U.S. Air Force uniform to all aerospace classes and leadership laboratories.

Entry into the POC during the junior year of the AFROTC program is competitive. Factors considered include leadership potential, academic performance, field training evaluations, and results of a Department of Defense physical examination and the physical fitness assessment. Students must be in good academic standing with the university, have demonstrated motivation and potential for success as U.S. Air Force officers, and meet U.S. Air Force physical standards.

POC students are expected to plan and conduct a leadership laboratory once a week. The time required varies depending on the responsibilities of the individual POC student. Aerospace studies class activities during the junior year center on management and leadership in a U.S. Air Force setting. The senior year aerospace students curriculum examines national defense policy and the military in American society. All POC academic classes meet three hours per week.

Completion of the POC typically incurs a four-year active-duty service commitment; 6- and 10-year commitments are required for certain "rated" (aviation) career fields. All POC students within scholarship standards are eligible to receive the Charles McGee Leadership Award, a scholarship of $18,000 per year, capped at $9,000 per semester. There is a $300–$500 per month, tax-free stipend for members of the POC, regardless of their scholarship status.

GRADUATE LAW PROGRAMS

Students already attending law school wishing to serve as Air Force Judge Advocate Generals may apply for the program through the program site (https://www.airforce.com/careers/specialty-careers/jag/overview/).

FIELD TRAINING

For participants in the program, field training typically occurs during the summer between the second and third years and lasts approximately two weeks.

Field training is conducted at Maxwell Air Force Base, Alabama, and allows the cadet to test their leadership abilities firsthand in a structured military environment. Room, board, and travel expenses are provided.

SCHOLARSHIPS

Academic scholarships are available for those who qualify. There are two different scholarship programs, and both consist of tuition, textbooks, required fees, and a $300–$500 per month, tax-free stipend.

AFROTC offers numerous competitive scholarships to qualified individuals. High School Scholarship Program scholarships are awarded for three and four years. Applications are accepted starting the senior year in high school. Application forms are available online (https://www.afrotc.com). Scholarship applications are due by January 31st of the student's senior year in high school. More details are available on the AFROTC site (https://www.afrotc.com). Scholarships are also available for students already in college through the In-College Scholarship Program. In order to be eligible, students must be a member of the AFROTC program for a minimum of one semester. Students are nominated by ROTC staff and there is no application process for the in-college scholarships on the student's behalf. Students are nominated based on their GPA, AFROTC fitness score, and overall standing among peers. Nominees compete nationwide with other AFROTC cadets contingent on scholarship availability. Additional information on AFROTC scholarship opportunities can be found on the AFROTC site (https://www.afrotc.com).

AFTER COMMISSIONING

Upon graduation from the university and completion of AFROTC courses, cadets will commission as second lieutenants in the U.S. Air Force. All AFROTC graduates are expected to serve on active duty.

When their active-duty service commitment is complete, officers may either continue on in career status or return to civilian life.

Military assignments are made based on the needs of the Air Force, the officer's interests, and academic background. Effort is made to match the graduate with the job they are most interested in pursuing.

Those who want to attend graduate school may apply for an Air Force-approved educational delay from active duty. Selection for an educational delay is based primarily on the strength of the applicant's undergraduate academic record and the needs of the U.S. Air Force.

Education

Website (http://www.cps.neu.edu/discover/schools-institutes/school-of-education.php)

Corliss B. Thompson, PhD
Associate Dean of the Graduate School of Education
Teaching Professor
co.brown@northeastern.edu

We believe your dedication to education can transform lives and make real change—at work and in the world. The Graduate School of Education offers programs for K–12 teachers and administrators, higher education administrators, and adult learning professionals.

Experiential Learning

Website (http://www.northeastern.edu/experiential-learning/)

Experiential learning is critical to Northeastern University's education model. It offers the opportunity for a rich and meaningful education, providing students with experiences that add depth to their classroom studies and enable them to explore and transform their lives. Experiential learning is tightly integrated with our course curriculum and is supported by advising in the majors as well as advising in the experiential learning group.

The primary ways in which the experiential learning requirement may be satisfied are:

- Cooperative education
- Research or creative activity
- XN project-based experiences
- Service-learning
- Global experience

Only one learning experience outside the classroom is required for NUpath. However, students have many additional opportunities for further experiential learning.

Integration of coursework and experiential learning occurs throughout the major curriculum as well as in the required capstone course.

Explore Program

Website (http://www.northeastern.edu/undeclared/)

Kim Irmiter, MA
Director

617.373.2306

The Explore Program welcomes entering students who would like to explore their academic interests before choosing a major and introduces them to the university's broad range of disciplines. Working closely with a combination of faculty, academic advisors, and undergraduate peer mentors, undeclared students at Northeastern University are engaged in personal and meaningful discovery. They are not just seeking a major; they look for clues to the future and find answers to the question: "How will I make my impact?"

Undeclared students enroll in a small-cohort first-year seminar taught by a Northeastern academic advisor and two student leaders. In this seminar, students develop strategic exploration plans to ensure they are able to take full advantage of the vast array of academic and experiential opportunities offered at Northeastern. Students will also attend exploratory programs where they engage with faculty and students in majors to gain an informed understanding of the disciplines that interest them most.

Students may declare a major at any time but are expected to do so by the end of sophomore year. Admission to a particular major is dependent on satisfying the criteria described in this catalog under Degrees, Majors, and Minors (p. 91).

General Studies Program

Website (http://www.northeastern.edu/gsp/)

Lynn Dornink, MA
Director

617.373.2306

The General Studies Program is a first-year program that provides students with personalized support and guidance in order to ensure their academic success. Program benefits include a low student-advisor ratio, fall and spring seminars taught by the student's GSP advisor, a writing-intensive curriculum, and access to a nationally certified peer tutoring program. All majors have defined entrance requirements; therefore, beginning in September, GSP advisors work closely with students to guide them toward meeting their intended majors' requirements. Upon completing their two GSP semesters, and meeting the requirements for their intended major, students transition to one of Northeastern University's seven undergraduate colleges with sophomore status. Those students who have not met the academic progression standards for transitioning by the end of two semesters may continue in the GSP for an additional semester.

Academic Progression Standards

In order to transition to sophomore standing, GSP students must:

1. Earn an overall grade-point average of at least 2.000 (GPA requirements for specific majors may be higher)
2. Earn at least 28 semester hours of credit (32 recommended)
3. Complete college/major transition requirements

For more details about transitioning to individual colleges, see below.

Transitioning to Major

For information about transitioning to majors across the university, see "Changing Majors (p. 91)."

Academic Probation

Same as university standards.

University Withdrawal, Low Scholastic Performance

Same as university standards.

Global Experience

Website (https://geo.northeastern.edu)

Global Experience Office
617.373.5276
geo@northeastern.edu

Northeastern University is committed to global experience as an important dimension of learning. To foster this, it maintains the Global Experience Office (https://geo.northeastern.edu/#_ga=2139690122728901001656302736-9651647341649440467), which has developed a variety of programs tailored to the interests and needs of Northeastern students. Global experiences provide students with opportunities to deepen their knowledge of the world and their chosen field of study, develop intercultural sensitivity, utilize and strengthen foreign language skills, and explore global career options. Many Northeastern students participate in multiple global experiences during their time at the university. Northeastern encourages students to engage with the GEO as early as possible—global experiences are within reach for all students, with careful planning and collaboration.

Global Learning

While studying abroad in a Northeastern-sponsored program, Northeastern students maintain full-time status and earn Northeastern credits. Upon completion of a program, grades are calculated in the student's grade-point average. To participate in GEO programs, students must be in good academic and disciplinary standing and have no registration-blocking holds. Study-abroad programs require a GPA of at least 2.500. Some programs may have additional eligibility criteria. Students must also meet the requirements of the host institution abroad. Full information and application deadlines are posted on the GEO website (https://geo.northeastern.edu).

Types of Programs

Northeastern offers different types of study-abroad programs, with multiple options within each type. This robust program portfolio contains global experiences for any major on campus. Students are able to participate in multiple programs during their time at Northeastern.

1. **Study abroad.** Northeastern offers a rich array of study-abroad programs during semester and summer terms. Students join a partner institution for a semester or summer, where they attend classes, participate in student activities, and organize their extracurricular schedules just as they would on campus at Northeastern.
2. **Semester and Summer In.** Drawing on its network of regional and international campuses, Northeastern offers a set of signature programs that contextualize, enrich, and enhance student learning. The Semester In program is currently offered at Northeastern campuses in San Francisco, London, and Seattle. Northeastern continues to expand programs throughout its global university system, which includes campuses in Charlotte, Portland, San Francisco, San Jose, Seattle, Arlington, Miami, London, Toronto, and Vancouver.
3. **Dialogue of Civilizations.** Dialogue of Civilizations are faculty-led summer study-abroad programs that build upon and enhance students' academic studies and training. DOC programs allow students to engage with course content in different national, cultural, political, and social contexts. The programs foster meaningful conversations between Northeastern students and people around the world, including their peers.
4. **Specialized entry programs.** Specialized entry programs are unique programs through which students can matriculate into Northeastern. These include programs such as N.U.*in*, Global Scholars, and NU Immerse. More information about these programs is available on the Specialized Entry Programs website (https://www.northeastern.edu/admissions/academics/specialized-entry/).

Visit the GEO website (https://geo.northeastern.edu) to see a complete list of program options and descriptions.

Embedded Global Programs

Embedded programming incorporates global experiences into courses taught at Northeastern and provides students with the opportunity to spend 7 to 10 days in a global setting to further punctuate and underscore the subject matter in a meaningful way.

Global Co-op

The Global Cooperative Education Program provides opportunities for Northeastern students to participate in co-ops on all seven continents with international and multinational employers, U.S. employers doing business abroad, and other international organizations. Students may apply for existing positions or work with a co-op counselor to develop their own. All majors are welcome to apply. International students participating in co-op abroad must consult with the Office of Global Services in advance of departure to ensure reentry to the United States in proper nonimmigrant visa status. The Presidential Global Scholarship (https://studentfinance.northeastern.edu/applying-for-aid/undergraduate/types-of-aid/scholarships/presidential-global-scholars-program/) provides financial support for international co-op.

Engage with GEO

GEO offers many opportunities for students to explore global programs and learn more about the possibilities.

Social media platforms: Students can engage with GEO through social media platforms such as Twitter, Facebook, and Instagram. Students are welcome to participate in preparatory webinars; join staff and alumni Q & A; and envision their experience through dynamic photo, video, and written recollections of student experiences.

GEO events **(**https://geo.northeastern.edu/events/**):** GEO offers a range of events throughout the year to help students answer questions and concerns about the study-abroad experience, from the application logistics of a specific program, to navigating questions of identity while abroad. Please refer to the GEO events calendar for the list of upcoming fairs, workshops, and info sessions.

Meet with Global Ambassadors: As GEO program alumni, Global Ambassadors provide the unique lens of recent global program participation. They help students navigate the variety of available programs and refine their goals for the experience. Global Ambassadors are available to meet with students during office hours, without an appointment needed.

Meet with Global Experience staff: Global Experience staff provide expertise and assistance to students from the moment students are ready to select programs to their return from the experience. Global Experience staff meet with students by appointment and advise by both global region and college and specialize in either study-abroad or faculty-led programs.

After choosing a program, students should consult with their departmental or college advisors. International students must also consult with the OGS (http://www.northeastern.edu/ogs/)to determine if an updated I-20 for reentry may be needed. Note that studying abroad in a student's final semester may result in a delay in graduation due to calendar discrepancies across institutions.

Living Learning Communities

Website (https://www.northeastern.edu/housing/living-learning-communities/)

All first- and second-year students are required to live in university housing. Housing and Residential Life teams are dedicated to working with Northeastern University students to help them build strong community living environments that support personal development and academic success.

The residential experience created for both first- and second-year students has two main goals: to create opportunities for social connection, support, and belonging and to provide opportunities for learning and development. The core outcome is to prepare students to become lifelong learners who are holistically formed, experience growth alongside others, and are responsible contributors to local and global communities. A central component of the residential experience for first-year students is Living Learning Communities. LLCs bring together students with a shared personal or academic interest to learn and grow as a community during their first year at Northeastern.

NUpath

Learning, Knowing, Doing, Leading

NUpath is Northeastern University's set of institutionwide general education requirements for all students in all majors. The goal of NUpath is to develop in our students the knowledge and skills to be lifelong learners with success in many careers, to be thoughtful global citizens, and to be fulfilled human beings. It offers students the flexibility to integrate general education learning into their individual educational journeys while maintaining the rigor of high standards through defined learning outcomes, making NUpath a unique tool for personalized enrichment. NUpath is competency based rather than course based. It is built around essential, broad-based knowledge and skills—such as understanding societies and using and analyzing data—integrated with specific content areas and disciplines.

NUpath requirements are met throughout a student's program of study. NUpath requirements are not restricted to specific colleges or departments and can be fulfilled through major, minor, or concentration requirements as well as through general electives. NUpath courses may not be taken pass/fail. NUpath is required for all freshmen who entered in fall 2016 and later. It does not apply to students already admitted with a different set of core requirements or to transfer students whose entry year was earlier than the fall of 2016.

- Requirements (p. 112)
- Learning Goals (p. 114)
- Writing-Intensive Courses (p. 118)
- Additional Requirements for BA Students (p. 119)

NUpath Requirements

NUpath requirements are a set of eleven competencies designed to prepare students for personal success in an ever-evolving global society regardless of their chosen field of study. NUpath requirements are as follows:

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning
- Writing Across Audiences and Genres
- Integrating Knowledge and Skills Through Experience
- Demonstrating Thought and Action in a Capstone

Because NUpath is competency based rather than course based, students have many options of courses to fulfill the requirements. Students can use the Self-Service Banner (https://nubanner.neu.edu/StudentRegistrationSsb/ssb/registration/registration/) "Browse Classes" tool to find class sections both in and beyond their major requirements that satisfy NUpath. Courses that meet major, minor, or concentration requirements can also meet NUpath requirements. There are no level restrictions or semester-hour restrictions. No course taken as pass/fail can be used to satisfy a NUpath requirement. A single course can count for up to two of the following requirements:

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning

The three additional requirements (writing-intensive in the major, capstone, and experiential) are not limited. So, for example, a course may have two out of the first list (such as Differences and Diversity and Societies and Institutions) and *also* fulfill writing-intensive in the major and capstone.

Transfer credit and placement tests can also be used to meet the NUpath attributes of the Northeastern University course equivalents. Up to five of the following eight requirements can be met by transferred or placement test credits:

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity

- Employing Ethical Reasoning

Transfer credits cannot be used to fulfill the capstone or experiential requirements. Of the writing requirements (p. 118), only the first-year writing requirement can be met by transferred or placement test credits.

NUpath Learning Goals

Established and assessed learning goals ensure rigorous opportunities for students to achieve the essential skills and competencies of NUpath regardless of the context or course within which the learning occurs. Any course that meets a NUpath requirement incorporates the learning goals of that requirement. The requirement short name and/or user code is what will appear in course descriptions and student audits.

Engaging with the Natural and Designed World

SHORT NAME: NATURAL AND DESIGNED WORLD
USER CODE: ND

Students study and practice scientific investigation and/or engineering design in order to understand the natural world and to effect changes in it to meet human and societal needs and wants. They learn critical thinking and analytical problem solving; the biological, chemical, and/or physical principles that govern the natural world; and the efforts that underlie the origins, development, acceptance, and applications of those principles.

LEARNING GOALS

By the end of the course, students should be able to:

A. Formulate a question that can be answered through investigation or a challenge that can be addressed through research or design.

B. Develop and use models based on evidence to predict and show relationships among variables between systems or components of systems in the natural and/or designed world.

C. Use and question scientific principles and practices to evaluate issues raised by the interplay of science, technology, and society.

Exploring Creative Expression and Innovation

SHORT NAME: CREATIVE EXPRESSION/INNOVATION
USER CODE: EI

Students study and practice creative expression and innovation. They learn about traditions of creative expression and innovation in any of a number of modes (texts, image, sounds, design, etc.) and products (poems, paintings, prototypes, business plans, games, apps, medical devices and procedures, etc.) and develop their own creative processes and products as a means of seeing and experiencing the world in new ways and communicating those experiences to others.

LEARNING GOALS

By the end of the course, students should be able to:

A. Describe creative processes in one or more disciplines (e.g., art, business, writing, science, engineering).

B. Generate an artifact (e.g., design, poem/essay, application, visualization, musical composition, product, prototype) through a creative process.

C. Evaluate experimentation, failure, and revision in the creation of innovative projects.

Interpreting Culture

SHORT NAME: INTERPRETING CULTURE
USER CODE: IC

Students study and analyze cultural practices, artifacts, and texts (e.g., visual art, literature, theatrical performances, musical compositions, architectural structures). They learn critical reading and observation strategies and how traditions of theoretical, aesthetic, and/or literary criticism provide different lenses for the interpretation of cultural objects and practices.

LEARNING GOALS

By the end of the course, students should be able to:

A. Recognize and identify a variety of cultural practices and creations, their forms of production, and development over time.

B. Acquire and assess techniques of interpretation (including critical reading and observation techniques); criticism; and analysis of cultural practices, texts, and/or artifacts.

C. Formulate arguments for and against different theories and interpretations of cultural practices, texts, and/or artifacts.

Conducting Formal and Quantitative Reasoning

SHORT NAME: FORMAL/QUANTITATIVE REASONING
USER CODE: FQ

Students study and practice systematic formal reasoning using either the symbolic languages of mathematics and logic or the combinations of text and symbols characteristic of computer software. They learn when and how to apply formal reasoning to particular problems and subject matters.

LEARNING GOALS
By the end of the course, students should be able to:

A. Recognize when examination of a phenomenon or situation can benefit from problem-solving techniques and analyses that use formal reasoning.

B. Use their expertise in some applications of formal reasoning and know when to call upon domain experts when a problem is beyond their personal expertise.

C. Generate artifacts that require formal reasoning and planning. These artifacts might include logical proofs, mathematical computations, software, simulations, problem solutions, or plans/analyses in a variety of disciplines that require a formal, systematic component.

Understanding Societies and Institutions

SHORT NAME: SOCIETIES AND INSTITUTIONS
USER CODE: SI
Students study and practice social science, historical, and/or literary methods of inquiry and theories in order to understand human behavior and cultural, social, political, and economic institutions, systems, and processes. They learn theories of social behavior as they relate to phenomena such as globalization, social change, and civic sustainability.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe current theories of how social, political, or economic institutions, systems, and processes work.

B. Explain the historical and cultural contingency of many descriptions and explanations of human behavior, institutions, systems, and processes.

C. Evaluate social, political, or economic theories by applying them to local and global phenomena.

Analyzing and Using Data

SHORT NAME: ANALYZING AND USING DATA
USER CODE: AD
Students study and practice methods and tools of data analysis and use. Students learn about the structure and analysis of at least one type of data (e.g., numbers, texts, documents, web data, images, videos, sounds, maps) and acquire the skills to examine, evaluate, and critique such data; extract patterns; summarize features; create visualizations; and provide insight not obvious from the raw data itself. Students also learn to be sensitive to ethical concerns associated with data: security, privacy, confidentiality, and fairness.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe how data may be acquired, stored, transmitted, and processed.

B. Analyze at least one important type of data and summarize the results of an analysis in ways that provide insight.

C. Use mathematical methods and/or computational tools to perform analysis.

D. Evaluate and critique choices made in selection, analysis, and presentation of data.

Engaging Differences and Diversity

SHORT NAME: DIFFERENCES AND DIVERSITY
USER CODE: DD
Students study and practice methods for recognizing and understanding human diversity of various kinds in global, local, and organizational contexts. They learn theories and perspectives of human difference; civic sustainability and multiculturalism; how social arrangements shape and are shaped by difference; and the histories, cultures, and interactions of diverse groups.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe how notions of human difference have changed over time and across local and global contexts.

B. Discuss the value in recognizing, respecting, and embracing human diversity and how diversity contributes to culture and society, including civic sustainability.

C. Evaluate and compare two or more theories of human difference and approaches to cultivating and leveraging diversity.

D. Connect theories of human difference and approaches to diversity to one's own experience.

Employing Ethical Reasoning

SHORT NAME: ETHICAL REASONING
USER CODE: ER
Students study and practice methods of analyzing and evaluating the moral dimensions of situations and conduct. They learn ethical theories and frameworks; explore how conceptions of morals and ethics shape interpretation of concepts such as justice, fairness, rights and responsibilities, virtue, and the good life; and apply these to personal, professional, social, political, historical, or economic questions and situations.

LEARNING GOALS
By the end of the course, students should be able to:

A. Describe the moral and ethical elements of an issue, problem, or situation.

B. Explain at least two key ethical theories.

C. Apply ethical theories to moral dilemmas and personal positions.

Writing Across Audiences and Genres

SHORT NAME: WRITING ACROSS AUDIENCES/GENRES
USER CODE: WF/WD/WI
Note: **This requirement is met by four courses. See more details under** Writing-Intensive Courses (p. 118)**.**

Students study and practice writing for multiple public, academic, and professional audiences and contexts. They learn to use writing strategies, conventions, genres, technologies, and modalities (e.g., text, sounds, image, video) to communicate effectively.

Learning goals for first-year writing:
A. Adapt writing for multiple academic, professional, and public occasions and audiences.

B. Identify and practice writing conventions of various genres.

C. Identify credible, relevant sources and engage and cite them appropriately in their written work.

D. Draft, revise, and edit their writing using feedback from readers.

Learning goals for Advanced Writing in the Disciplines:
A. Adapt writing for multiple academic, professional, and public occasions and audiences.

B. Display familiarity with the writing conventions of genres in an academic field or profession.

C. Identify credible, relevant sources and engage and cite them appropriately in their written work.

D. Draft, revise, and edit their writing using feedback from readers.

Learning goals for writing-intensive courses in the major:
A. Demonstrate facility with the writing conventions of genres in the academic field or profession.

B. Identify credible, relevant sources and engage and cite them appropriately in their writing work.

C. Draft, revise, and edit their writing using feedback from readers.

Integrating Knowledge and Skills Through Experience

SHORT NAME: INTEGRATION OF EXPERIENCE
USER CODE: EX
Students study and practice the principles and strategies of experiential learning. Through direct experience and reflection on that experience, they learn to recognize and articulate their knowledge and skills, to apply the knowledge and skills they learn in one context to another context, and to determine what knowledge and skills they need to develop to meet their goals.

LEARNING GOALS: BY THE END OF THE COURSE, STUDENTS SHOULD BE ABLE TO:
A. Apply knowledge and skills in new, authentic contexts.

B. Gain new knowledge and develop new skills to successfully engage in unfamiliar tasks and activities.

C. Integrate and use the deepened knowledge and skills as well as the newly gained knowledge and skills to continue to learn in their academic programs.

D. Articulate how and what one learns across a range of contexts.

Demonstrating Thought and Action in a Capstone

SHORT NAME: CAPSTONE EXPERIENCE
USER CODE: CE

Each student must take at least one course designated as a capstone experience. Capstone courses may be designed for a specific degree program, for a department, or for a college. The learning goals for a capstone will be developed by the unit that is designing the capstone. Students must complete a capstone in their major. In cases where a student has multiple majors (such as in a combined or double major), the units may specify in which major to take the capstone or may leave the choice to the student.

Writing-Intensive Courses

The faculty expects all students to become effective writers and achieve the learning goals of the "Writing across Audiences and Genres" NUpath attributes. To this end, students are given opportunities to improve their writing throughout their curriculum.

First-Year Writing Requirement

All first-year students must satisfy a first-year writing requirement in one of the following ways:

Code	Title	Hours
ENGW 1111	First-Year Writing	4
ENGW 1110 and ENGW 1111	Introductory First-Year Writing and First-Year Writing	8
ENGW 1102	First-Year Writing for Multilingual Writers	4
ENGW 1113	First-Year Writing Innovation Seminar	4
ENGW 1114	First-Year Writing with Service-Learning	4

Depending on performance in Introductory First-Year Writing (ENGW 1110), the second half of the two-course sequence may be waived, as determined by the Department of English. Students must earn a C or better in the required writing course to satisfy the first-year writing requirement.

The First-Year Writing Program conducts a version of "guided self-placement" and requires students bring an essay to the first class meeting; see the guided self-placement (https://cssh.northeastern.edu/writing/guided-self-placement/) page for details.

For more information about the Writing Program, visit the Writing Program webpage (https://cssh.northeastern.edu/writing/).

Advanced Writing Requirement

Advanced Writing in the Disciplines is the second course of the universitywide requirement. Students are eligible to enroll in AWD once they satisfy the first-year requirement, earn a minimum of 64 semester hours of academic credit (this number includes the semester in which students enroll in AWD), and have at least junior or senior standing. Students are encouraged to take AWD before they have accrued 96 semester hours. A variety of AWD sections are offered, including Advanced Writing in the Technical Professions, Advanced Writing in the Sciences, and Advanced Writing in the Health Professions, among others. A small number of online sections and sections for non-native speakers of English are also offered. Students should consult with their advisors to choose the section that best suits their needs. Transfer credit cannot be used to satisfy this requirement. Students must earn a C or better to satisfy the advanced writing requirement.

For more information about the Writing Program, visit the Writing Program webpage (https://cssh.northeastern.edu/writing/).

Writing-Intensive Courses in the Major

Each major includes at least two additional writing-intensive courses. These courses are characterized by:

- A significant amount of writing, as appropriate to the discipline
- Multiple opportunities to write, including informal writing-to-learn activities and formal learning-to-write projects
- Opportunities for students to move through all phases of the writing process, from drafting through final editing
- Instruction in writing, including feedback from the instructor (and perhaps others) that students can use to draft, revise, and edit their written work

Additional Requirements for BA Students

In addition to successfully completing the university requirements of NUpath (p. 112), students pursuing a Bachelor of Arts degree must fulfill the BA core requirements as outlined below.

Language Requirement for BA Students

Each BA student must complete the language requirement by demonstrating proficiency at the elementary level and satisfying an intermediate-level requirement as described below.

ELEMENTARY-LEVEL PROFICIENCY

Satisfy one of the following requirements:

1. Complete elementary-level two (course number 1102) of a language with grades of C or better in all coursework (pass/fail grades cannot be used to satisfy this proficiency requirement).
2. Earn a 4 or 5 score on an Advanced Placement exam in one of the languages offered or receive transfer credit for the equivalent of elementary-level two (course number 1102). Students who have AP or transfer credit must also receive a satisfactory rating in a language-specific interview administered by the World Languages Center (https://cssh.northeastern.edu/wlc/experiential-academics/language-requirement-and-testing/) upon matriculation.
3. Receive a satisfactory score (as determined by the World Languages Center (https://cssh.northeastern.edu/wlc/experiential-academics/language-requirement-and-testing/)) on a standardized placement exam and a satisfactory rating in a language-specific interview administered by the World Languages Center upon matriculation.

INTERMEDIATE-LEVEL REQUIREMENT

Satisfy one of the following requirements:

1. Complete a course at the intermediate level (course number 2101 or higher) in the language taken at the elementary level.
2. Complete a course in which the subject matter focuses on some aspect of the culture, history, or society of a part of the world where the language taken at the elementary level is spoken or used by a significant portion of the population. For a course list, visit the Student Hub (https://me.northeastern.edu/), click on the “Self-Service” tab, then on “My Degree Audit.”
3. Demonstrate proficiency by successfully completing a proficiency interview (scheduled through the World Languages Center (https://cssh.northeastern.edu/wlc/experiential-academics/language-requirement-and-testing/)). This option is available only for heritage speakers of a language or for students who have completed the elementary-level language requirement through one of the following:
   a. Advanced placement
   b. Standardized placement exam as outlined above

Pre-Law Advising

Website (http://www.northeastern.edu/prelaw/)

Located in Employer Engagement and Career Design, Pre-Law Advising at Northeastern University is a resource for current students and alumni who are interested in pursuing a career in the legal field. Pre-law is an unofficial self-designation that can be claimed by students and alumni exploring law as a potential career path as well as those in need of assistance with navigating the law school application process. Regarding academic requirements, there is no recommended undergraduate major, nor are there any specific courses required for entrance to law school. Pre-law is not an official status that needs to be declared nor does it denote a particular program of study. Northeastern encourages undergraduates to pursue a major of their choice based on their interests and abilities, supplemented with robust co-op, leadership, and service experiences. To build legal skills, we guide students to enroll in challenging courses that develop core skills and values, such as analytical and problem-solving skills, logical reasoning, research, critical reading, oral and written communication, organization and project management, public service, and promotion of justice.

Pre-Law Advising offers support through:

- Assisting individuals in identifying their VIPS (values, interests, personality, skills, strengths) and goals to determine if law school is the right fit
- Distributing programming and opportunities to learn more about pre-law pathways and gain hands-on experience
- Offering strategic advice on the law school application process
- Providing feedback on written materials such as the law resumé and law school admission essays

In addition, Northeastern offers the PlusJD program. Designed for academically outstanding, motivated, and resourceful students, the PlusJD—Northeastern's Fast Track to Law School program—selects highly qualified Northeastern students to begin their first-year law school courses during their last year of undergraduate study. Credits earned in the shared year are applied toward both their bachelor's and law degrees. As a result, students can complete both degrees in as little as six years, saving a full year of time and tuition.

Note: If you are interested in the PlusJD program, you should speak with your academic advisor first to ensure you are on track to meet the requirements of this plan.

Please visit the School of Law's website for more information about the PlusJD program (https://law.northeastern.edu/admissions/jd/application-process/plusjd/).

PreMed and PreHealth Advising

Website (https://undergraduate.northeastern.edu/prehealth/)

PreMed and PreHealth Studies

The PreMed and PreHealth Advising Program provides support for Northeastern University undergraduate students and alumni who are planning to pursue training in medicine, including allopathic medicine (MD), osteopathic medicine (DO), dentistry, optometry, physician assistant studies, podiatric medicine, and veterinary medicine.

Academic course requirements for health professional programs may be integrated into any major at Northeastern. Health professional school admission committees generally give no preference to any particular undergraduate major. As such, students should focus on meeting the course requirements of their chosen health professional program, together with their undergraduate degree requirements, with demonstrated academic rigor and excellence. For some majors it may be necessary to complete additional credit hours of coursework, with associated tuition, to fulfill all premed/prehealth course requirements.

Common Coursework

Most health professional schools require a common set of courses. The courses listed below meet the course requirements of many health professional programs. These are intended to provide a foundation in subject areas relevant to the student's intended health professional program and its corresponding entrance exam.

Academic policies and course requirements are school specific. Students should research requirements and plan a program of study as early as possible in consultation with both their academic and prehealth advisor to determine the best way to successfully complete their required coursework. Please refer to the relevant information and website(s) below, as well as official admissions guidebooks, for detailed requirements.

Note: Corequisite laboratories are required for most basic science courses.

- Biology (two semesters)
- General chemistry (two-semester sequence or a single-semester general chemistry course)
- Organic chemistry (two-semester sequence)
- Physics (two-semester sequence)
- Biochemistry (one semester; prerequisites: organic chemistry 2 and genetics and molecular biology)
- Mathematics (one semester each of calculus and statistics)
- Writing (two semesters of writing-based social science or humanities/English composition coursework)
- Behavioral sciences (an introductory psychology and sociology course are recommended for MCAT preparation but typically not required for admission)

Supporting Information

PREMED AND PREHEALTH ADVISING OVERVIEW

- Pre-Dental Information (https://undergraduate.northeastern.edu/app/uploads/sites/7/2022/03/Pre-Dental.pdf)
- Pre-Med Information (https://undergraduate.northeastern.edu/app/uploads/sites/7/2022/03/Pre-Med.pdf)
- Pre-Optometry Information (https://undergraduate.northeastern.edu/app/uploads/sites/7/2022/03/Pre-Optometry.pdf)
- Pre-Physician Assistant Information (https://undergraduate.northeastern.edu/app/uploads/sites/7/2023/01/Pre-PA.pdf)
- Pre-Podiatry Information (https://undergraduate.northeastern.edu/app/uploads/sites/7/2022/03/Pre-Podiatry.pdf)
- Pre-Veterinary Information (https://undergraduate.northeastern.edu/app/uploads/sites/7/2022/03/Pre-Vet.pdf)

ADVANCED PLACEMENT

Each school will have its own policies regarding AP and/or IB credit. It is best to consult the school's website or admissions office to learn about its policies.

Generally, applicants may use AP or IB credit toward prerequisite courses. However, AP/IB credit often does not reduce the required coursework needed at the college level. Applicants may be expected to take the equivalent number of upper-level courses within that subject if they earned AP/IB credit.

STUDY-ABROAD COURSEWORK

Not all health professional schools will accept core science (biology, chemistry, math, or physics) prerequisite coursework taken outside of the United States or Canada. Students should consult with their prehealth advisor before enrolling at an institution outside of the United States or Canada to complete core science coursework for a health professional program.

RESOURCES

- Medical School Admissions Requirements (AAMC) (https://students-residents.aamc.org/medical-school-admission-requirements/medical-school-admission-requirements-applicants/)
- Choose DO Explorer (https://choosedo.org/choose-do-explorer-registration/)
- Official Guide to Dental Schools (ADEA) (https://www.adea.org/officialguide/)
- Association of Schools and Colleges of Optometry (ASCO) (https://optometriceducation.org/)
- PA School Finder (https://www.paschoolfinder.com/)
- Podiatric Medical College Information Book (AACPM) (http://www.aacpm.org/)
- Veterinary Medical School Admissions Requirements (AAVMC) (https://www.aavmc.org/assets/Site_18/files/VMCAS/prereqchart.pdf)

Research and Creative Activity

Website (https://undergraduate.northeastern.edu/research/)

Northeastern University's thriving culture of scholarly and creative innovation provides students with many opportunities to create and disseminate new knowledge, practices, and solutions to pressing global challenges. Research and creative endeavors are key components of Northeastern's experiential learning model. Experiences can range from laboratory bench work to the analysis of Big Data to archival research to collaborative theatre productions. This work can take place in a variety of contexts and formats, including the following:

- Courses, which generally fulfill major elective requirements
- Labs or centers
- Research or creative-based co-ops or internships
- Community-based research or creative endeavor
- Research or creative-based activity as the option for work-study work
- Research or creative endeavor as a service activity
- Junior/senior honors projects

The Undergraduate Research and Fellowships office, along with other offices and programs on campus, support students through workshops, mentoring, and consultation on applications for distinguished fellowships and advanced study; funding through the universitywide Project-Based Exploration for the Advancement of Knowledge, or PEAK Experiences Awards; and much more. Northeastern undergraduates are an important part of Northeastern's culture of research and creative practice, and they frequently present their findings at national and international conferences; in scholarly journals; and at the university's annual Research, Innovation, and Scholarship Expo. We believe that the best answers—and the best questions—are born out of bringing diverse perspectives, experiences, and knowledge into conversation with one another. Therefore, we believe that a diverse and inclusive community of researchers, creative practitioners, and fellowship applicants not only fosters innovation and creativity but is a precondition of the excellence for which we strive.

Service-Learning

Website (https://cetr.northeastern.edu/collaborate/students/enroll/#_ga=2.165259702880008011690805456-3573326251685708090)

Community engagement is an integral part of Northeastern University's mission. Collaborating with the community through structured service-learning courses is an academically rigorous educational experience that allows students to broaden their knowledge and skills through service that supports our partnerships with Boston schools, neighborhood agencies, health clinics, nonprofit organizations, and more.

Service-learning (https://cetr.northeastern.edu/) (S-L) is integrated by educators in a way designed to meet needs and goals identified by the community while being intricately linked with learning objectives and outcomes. Before, during, and after their service or project-based work with the community, students also engage in structured reflection to help them gain further insight into course or program content, a broader appreciation of their academic disciplines, and a greater sense of civic responsibility. In summary, S-L and the work facilitated by the Community-Engaged Teaching and Research team is centered on experiential education with social justice and impact at its core.

Undergraduate Degrees

Listed below are the degrees conferred by the undergraduate full-time day colleges at Northeastern University.

College of Arts, Media and Design

- Bachelor of Arts
- Bachelor of Fine Arts
- Bachelor of Landscape Architecture
- Bachelor of Science

D'Amore-McKim School of Business

- Bachelor of Science in Business Administration
- Bachelor of Science in International Business
- Bachelor of Science (combined majors only)

Khoury College of Computer Sciences

- Bachelor of Arts in Computer Science
- Bachelor of Science in Computer Science
- Bachelor of Science in Information Science
- Bachelor of Science (combined majors only)

College of Engineering

- Bachelor of Science in Bioengineering
- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Environmental Engineering
- Bachelor of Science in Industrial Engineering
- Bachelor of Science in Mechanical Engineering

Bouvé College of Health Sciences

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Science in Nursing
- Bachelor of Science in Rehabilitation Science
- Doctor of Pharmacy (six-year program)
- Doctor of Physical Therapy (six-year program)

College of Science

- Bachelor of Arts
- Bachelor of Science

College of Social Sciences and Humanities

- Bachelor of Arts
- Bachelor of Science

Undergraduate Internships

An undergraduate internship is defined as an unpaid opportunity for supervised practical experience related to the student's academic area of study. Internships must be correlated to program curriculum, approved by an academic entity, and supervised by a faculty member. Students must work at least 12 hours per week to earn academic credit for an internship in a term, as equated to the course credit guidelines.

University Honors Program

Becca Berkey
Director

Justin Silvestri
Associate Director

Brooke Tempesta
Associate Director

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617.373.5300 (fax)
honors@northeastern.edu

The University Honors Program is dedicated to empowering its students' ability to affect meaningful impact in their campus, local, and global communities during their undergraduate education. Our community of intellectually engaged students, faculty, and professional staff are committed to engagement with scholarship that enables students to confront critical societal issues and leverage the knowledge and expertise from these encounters to make a difference at Northeastern University and beyond. Students benefit from unique and enriched educational options that include stimulating courses, opportunities for research and creative endeavors, global experiences, service-learning, mentoring, and the development of competencies that will position them for lifelong learning and personal and professional success. Throughout their undergraduate experience, Honors students are guided and supported as they chart their unique educational plans through personalized developmental advising, engagement in diverse competency-based learning experiences, and participation in a set of networked communities that include Honors Living Learning Communities.

All applicants seeking freshman entry at Northeastern (for fall semester entry) are considered for admission into the University Honors Program and are notified of their selection in their letter of admission. There is no separate application. Students matriculating in the fall 2023 semester and beyond will have opportunities for ongoing participation in the program at the conclusion of their first year.

Continuing students in their first, second, or third semesters who wish to be considered for entry may consult the University Honors Program's website (https://undergraduate.northeastern.edu/honors/) for application instructions.

Universitywide Requirements

Note: Individual program requirements may exceed the following minima.

Minimum 128 total semester hours required

Minimum 2.000 GPA required

Students must earn a minimum of 64 Northeastern University semester hours in order to receive a bachelor's degree.

World Languages Center

Stacey Katz Bourns, PhD
Director

617.373.3131
Stacey Katz Bourns, Director, s.bourns@northeastern.edu

The World Languages Center's primary goal is to help students achieve proficiency in the language(s) that they study while also striving to promote an understanding and appreciation of the cultures of the communities that use these languages.

Placement Assessment

Students with prior experience learning or speaking Chinese, French, Italian, or Spanish must take the online written placement exam if they wish to enroll in a class for that language. The links for these exams are now available in the Student Hub.

Students with prior experience in Arabic, German, Hebrew, Japanese, Korean, Portuguese, and Russian must contact the WLC to make an appointment for a placement assessment interview.

The results of a student's online placement or interview assessments are valid for one year only.

Any student with prior experience in a language who registers for a language course without taking the WLC online placement test or a WLC placement assessment will not receive a letter grade for the course. If students believe they have been placed into a class at the wrong level of instruction, they should contact the WLC immediately.

Auditing Language Classes

Auditing language classes is not permitted. Students who are not on the official roster of a class may not attend the class.

Immersion Language Classes

The WLC offers off-campus language immersion classes in a variety of languages during the summer 1 and summer 2 terms. Some of these courses may count toward fulfillment of the BA language requirement or a language minor, with the stipulation that the student receive a grade of C or better.

Study-Away/Abroad Classes

The WLC will authenticate credit-bearing language classes taken in study-away/abroad programs at accredited institutions in fulfillment of and as equivalent to WLC language classes numbered 1101, 1102, 2101, or 2102. Students must receive approval of language course equivalence from the WLC before embarking on a study-away/abroad program. Failure to do so may mean that the courses taken away/abroad will not be accepted in lieu of on-site Northeastern University language courses and thus may not satisfy the language requirement. Credit is granted only for successful completion of these courses.

College of Arts, Media and Design

Website (https://camd.northeastern.edu/)

Elizabeth Hudson, PhD, Dean

Casper Harteveld, PhD, Associate Dean for Graduate Programs
Michael Hoppmann, PhD, Associate Dean for Undergraduate Programs
Deirdre Loughridge, PhD, Associate Dean of Faculty Affairs
Thomas Michael, MBA, Associate Dean for Administration and Finance
Andrea Raynor, MFA, Associate Dean for Network, Global Experience, and Partner Programs
Brooke Welles, PhD, Associate Dean of Research
Timothy Blank, MA, Assistant Dean of Student Experience
Katherine Calzada, MEd, Assistant Dean for Faculty Development
Ian Canning, MBA, Assistant Dean for Mobility, Executive, and Partner Programs

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camd@northeastern.edu

In today's global economy, the disciplines within the College of Arts, Media and Design are powerful drivers of growth and innovation. Creative fields and evolving technology make it possible to connect people and ideas as never before, serving as strong catalysts for change and expanding the understanding of our shared humanity.

The college integrates programs of study in architecture, art and design, communication studies, game design, journalism, media and screen studies, music, and theatre with meaningful experiential learning opportunities, enabling students to explore their passions and prepare for postgraduate opportunities in their chosen fields.

The college offers Bachelor of Arts, Bachelor of Science, and Bachelor of Fine Arts degrees in a number of majors, as well as interdisciplinary combined majors with every college across the university, and offers opportunities for nonmajors to engage in the college through NUpath and an extensive offering of minors. Opportunities available to students in the College of Arts, Media and Design include national and international programs for study and experience; programs in field settings, both local and abroad; and programs involving affiliations in such areas as professional performing arts organizations and media organizations. The college also emphasizes experiential learning through cooperative education; service-learning; and other kinds of internships, student-faculty research collaborations, and study abroad.

Students have a variety of experiential learning options that can be completed in four years. Each plan offers co-op opportunities, typically in an area related to the student's chosen academic area. Students are normally eligible to participate in co-op as early as the second semester of their sophomore year.

Many programs are flexible enough to allow students to pursue a PlusOne (https://camd.northeastern.edu/plusone-program/), a double major, a major and a minor, or one of the college's combined majors. The college also offers students the opportunity to create an independent major (https://catalog.northeastern.edu/undergraduate/academic-policies-procedures/degrees-majors-minors/) in cases where their interests and goals are not met by an existing major program.

Academic Advising

The College of Arts, Media and Design has an academic advising (https://camd.northeastern.edu/undergraduate-students/undergraduate-advising/) system that consists of academic advisors located in the Academic Advising and Cooperative Education office and faculty mentors located in the college's academic schools and departments. Detailed advising information is available on the college website (https://camd.northeastern.edu/undergraduate-students/undergraduate-advising/). Pre-law advising (https://careers.northeastern.edu/article/pre-law/) and premed/prehealth advising (https://undergraduate.northeastern.edu/prehealth/) are also available. We can be reached by phone at 617.373.5583, by fax at 617.373.8719, or by email at camdadvising@northeastern.edu.

Academic Progression Standards

The College of Arts, Media and Design adheres to the university's academic progression standards (p. 88). Some programs have additional specific requirements in order to progress from year to year or to graduate from that program. This information can be found on each program's page.

Graduation Clearance Process

Students in the College of Arts, Media and Design are required to meet with their assigned academic advisor to determine their remaining graduation requirements. Some departments also require a meeting with a faculty mentor. The graduation clearance process should be completed in the junior year to facilitate planning of all remaining requirements.

College Requirements

All students in the College of Arts, Media and Design must successfully complete the university requirements of NUpath (p. 111). In addition, students pursuing a Bachelor of Arts degree must fulfill the BA requirements (p. 119).

School of Architecture

Website (http://camd.northeastern.edu/architecture/)

Dan Adams
Director and Associate Professor
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617.373.4637

Architecture and landscape architecture are the context for civic life. In an age of increasingly rapid technological and social change, these fields forge connections between our past and our future. This involves critical thinking about many complex contemporary issues, such as the relationship of public and private life; the interaction between formal and political ideas in cities; and the role of technology in the design, construction, and management of contemporary spaces. Because the process of design involves the synthesis of disparate elements, it can also translate into strategies for approaching a wide range of other problems not traditionally understood to be "architecture." At Northeastern University, we connect specific problem solving inherent to architectural and landscape architectural understanding with the larger context of contemporary cities.

The curriculum teaches students to conceptualize, synthesize, and represent complex architectural, urban, and environmental issues. The program focuses on core skills and critical thinking as preparation for both professional practice and advanced study. The curriculum in the design studio encompasses two major themes: First, the studio projects focus on the art of building and environmental performance; and second, the projects explore how designed environments—from buildings to regional infrastructures—affect urban conditions. The art of building includes the study of construction and technology, as well as the cultural messages created by the expression of material, structure, and form. Environmental performance includes imagining how we can live more sustainably by developing innovative design solutions for synthesizing natural and urban conditions. The contemporary city is our laboratory. This urban focus requires that students integrate their own creative impulses with the future of the society of which they will be a part. By building on the practical and technical training afforded by co-op to develop core professional skills, the curriculum focuses on architecture and landscape architecture's fundamental aesthetic, technological, social, and political aspects.

With the effective synthesis of the art of building and environmental performance with urban issues, Northeastern's programs in architecture and landscape architecture are becoming a leader in identifying opportunities for civic representation, urban development, and neighborhood design. Northeastern's students are in demand because of their combination of professional competence and fluency in urban architectural and environmental design issues. There are opportunities for interdisciplinary cooperation in urban-oriented research and creative work in areas such as the economics of urban redevelopment; the design and planning of resilient food, water, energy, transit, and industrial systems; urban public policy; and new forms of spatial and visual communication. Additionally, Northeastern's urban focus is applied globally in the semester abroad.

External Transfers

Full-time architecture faculty members may evaluate nonstudio courses for conformity with Northeastern's requirements using transcripts and course descriptions. Any student seeking studio course credit (drawing, technology, or design) must present a portfolio for review and evaluation.

Portfolios are optional, though encouraged, for freshman applicants.

Academic Progression Standards

A minimum grade-point average of 2.500 is required to remain in the majors of architecture or landscape architecture. Students below this average will not be allowed to continue in these majors.

A minimum GPA of 2.000 is required to remain in the major of architectural studies. Students below this average will not be allowed to continue in the major.

To graduate, a student must have a 2.500 GPA in architecture or landscape architecture.

Programs

Bachelor of Science (BS)

- Architecture (p. 133)
- Architectural Studies (p. 139)
- Architectural Studies and Design (p. 142)
- Architecture and English (p. 145)
- Civil Engineering and Architectural Studies, BSCE (p. 149)
- Environmental and Sustainability Sciences and Landscape Architecture (p. 155)
- Environmental Engineering and Landscape Architecture, BSEnvE (p. 158)

Bachelor of Landscape Architecture (BLA)

- Landscape Architecture (p. 163)

Minors

- Architectural and Urban History (p. 165)
- Architectural Design (p. 166)
- Architectural Science and Systems (p. 167)
- Urban Landscape Studies (p. 168)

Architecture, BS

Website (https://camd.northeastern.edu/architecture/academic-programs/architecture/)

The Bachelor of Science in Architecture curriculum combines a rigorous studio sequence with architecture history and building technology courses to prepare students to respond innovatively and conscientiously to the complex needs of the built environment and its inhabitants. In studio classes, students have an opportunity to develop core design and critical thinking skills through a project-based experiential curriculum. These small classes, held in Ruggles Studio, allow for regular one-on-one consultation with faculty and critiques with classmates. Formal reviews with guest critics are held throughout the semester. History courses provide grounding in the ways in which historical, economic, cultural, and social factors shape the built environment. In building technology classes, students study design and test structural and environmental systems of buildings and their synergistic integration. The degree is designed to prepare students to bring specific disciplinary expertise to the inherently broad and interdisciplinary challenges facing the built environment. Additionally, four- and five-year degree path options allow students flexibility in the pace of their studies, as well as to pursue electives and/or minors in subjects that complement and enhance the study of architecture.

Students in every track participate in co-op. Students on the four-year track enroll in one six-month co-op with the option of adding a four-month co-op in their third year of study. Students on the five-year track enroll in two six-month co-ops (https://camd.northeastern.edu/architecture/experiential-learning-co-op/co-op/). This allows students to gain real-world experience in architecture that aids them in both their academic development and in professional advancement. Co-op experience can often be applied to AXP (http://www.ncarb.org/Experience-Through-Internships.aspx) credits required for licensure. Students also have the opportunity to study abroad or at affiliated institutions through a variety of different programs during their third year or summer months.

Applicants should note that the BS degree in architecture is not sufficient by itself to meet the academic requirement to sit for state licensure (most undergraduate architecture degrees are not accredited). However, students who graduate with the BS degree have the option to apply to the one-year, NAAB-accredited Master of Architecture (https://camd.northeastern.edu/architecture/academics/graduate/) degree that is open to our BS graduates in good standing, which allows our own students to achieve a master's degree and become eligible for professional licensure in an efficient and timely manner.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Natural and Designed World (ND), Creative Expression and Innovation (EI), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Societies and Institutions (SI), Analyzing and Using Data (AD), and Differences and Diversity (DD) are met through the major course requirements.

In order to graduate, students must complete Ethical Reasoning (ER) in their electives.

Architecture Major Requirements

Code	Title	Hours
SEMESTER 1		
ARCH 1000	Architecture at Northeastern	1
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
SEMESTER 2		
ARCH 2130	Site, Space, Program	6
ARCH 2240	Architectonic Systems	4
Architecture History Elective 1		
Complete any course in the range of ARCH 2300 to ARCH 2399.		4
SEMESTER 3		
ARCH 2140	Urban Housing	6
ARCH 3450	Advanced Architectural Communication	4

Architecture History Elective 2 [1]		
Complete any course in the range of ARCH 2300 to ARCH 2399.		4
SEMESTER 4		
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	4
ARCH 3170	Architecture, Infrastructure, and the City	6
ARCH 3210 and ARCH 3211	Environmental Systems and Recitation for ARCH 3210	4
SEMESTER 5		
Travel Study		
Students work with the department and their advisor to choose the approved off-campus study experience that best aligns with their ambitions.		16
SEMESTER 6		
ARCH 5115	Option Studio	6
ARCH 5330	Theories of Architecture and Urbanism	4
ARCH 5430	Introduction to Professional Practice in Architecture	4
SEMESTER 7		
ARCH 3370	Advanced Topics in Architectural History	4
ARCH 5140	Capstone Studio	6
ARCH 5230 and ARCH 5231	Structural Systems and Recitation for ARCH 5230	4
ARCH 5310	Design Tactics and Operations	4

[1] Please note that Urban and Architectural History Abroad (ARCH 4850), taught exclusively on Dialogues of Civilizations, also satisfies one of the two architectural history electives.

Supporting Courses

Code	Title	Hours
SEMESTER 1		
PHYS 1141	General Physics	4
SEMESTER 2		
EEAM 2000	Professional Development for Co-op	1
ENGW 1111	First-Year Writing	4
SEMESTER 3		
MATH 1241	Calculus 1	4
SEMESTER 6		
ENGW 3314	Advanced Writing in the Arts, Media, and Design	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Cooperative Education		
Architecture majors are required to complete one or two six-month co-ops, depending on their plan of study.		
COOP 3945	Co-op Work Experience	

Important Note

When registering for classes, note additional electives are required. If you are taking less than 18 semester hours during fall or spring semesters, verify with your advisor that you have registered for all required electives.

Major GPA Requirement

Minimum 2.500 GPA required

Architecture Major Credit Requirement

Complete 96 semester hours in the major.

Program Requirement

142 total semester hours required

Plan of Study
Sample Plans of Study
Four Years, One Co-op in Summer 2/Fall

LAST NAME BEGINS WITH A–L

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000	1	ARCH 2130	6	MATH 1241	4	Vacation	
ARCH 1110	4	ARCH 2240	4	or			
ARCH 1120	6	EEAM 2000	1	Elective			
ARCH 1310 and ARCH 1311	4	ENGW 1111	4				
PHYS 1141 (or elective)	4	Architecture history elective (1 of 2)	4				
	19		**19**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2140	6	ARCH 2340 and ARCH 2341	4	Elective	4	Co-op	0
ARCH 3450	4	ARCH 3170	6	Elective	4		
MATH 1241 (or elective)	4	ARCH 3210 and ARCH 3211	4				
Architecture history elective (2 of 2)	4	Elective	4				
	18		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Travel study	16	Optional 4-month co-op		Optional 4-month co-op	
		Students may choose from a variety of approved, off-campus study opportunities and are expected to complete a minimum of 16 credits in the location of their choosing.		or		or	
				Dialogue of Civilizations		Dialogue of Civilizations	
				or		or	
				Electives (2)		Electives (2)	
				or		or	
				Vacation		Vacation	
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
ARCH 5115	6	ARCH 3370	4
ARCH 5330	4	ARCH 5140	6
ARCH 5430	4	ARCH 5230 and ARCH 5231	4
ENGW 3314	4	ARCH 5310	4
	18		**18**

Total Hours: 138

Four Years, One Co-op in Spring/Summer 1

LAST NAME BEGINS WITH M–Z

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000	1	ARCH 2130	6	MATH 1241 (or elective)	4	Vacation	
ARCH 1110	4	ARCH 2240	4				
ARCH 1120	6	EEAM 2000	1				
ARCH 1310 and ARCH 1311	4	ENGW 1111	4				
PHYS 1141 (or elective)	4	Architecture history elective (1 of 2)	4				
	19		**19**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2140	6	ARCH 2340 and ARCH 2341	4	Optional 4-month co-op		Optional 4-month co-op	0
ARCH 3450	4	ARCH 3170	6	or		or	
Architecture history elective (2 of 2)[1]	4	ARCH 3210 and ARCH 3211	4	Dialogue of Civilizations		Dialogue of Civilizations	
Elective	4	Elective	4	or		or	
				Electives (2)		Electives (2)	
				or		or	
				Vacation		Vacation	
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Travel study	16	Co-op		Co-op		Elective	4
Students may choose from a variety of approved, off-campus study opportunities and are expected to complete a minimum of 16 credits in the location of their choosing.						Elective	4
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARCH 5115	6	ARCH 3370	4
ARCH 6330	4	ARCH 5140	6
ARCH 6430	4	ARCH 5230 and ARCH 5231	4
ENGW 3314	4	ARCH 5310	4
	18		**18**

Total Hours: 138

Five Years, Two Co-ops in Summer 2/Fall

LAST NAME BEGINS WITH A–L

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000	1	ARCH 2130	6	Vacation		Vacation	
ARCH 1110	4	ARCH 2240	4				
ARCH 1120	6	EEAM 2000	1				
ARCH 1310 and ARCH 1311	4	ENGW 1111	4				

Elective	4	Architecture history elective (1 of 2)	4				
	19		**19**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2140	6	ARCH 2340 and ARCH 2341	4	Vacation		Co-op	0
ARCH 3450	4	ARCH 3170	6				
PHYS 1141	4	ARCH 3210 and ARCH 3211	4				
Architecture history elective (2 of 2)[1]	4						
	18		**14**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Travel study	16	Vacation		Vacation	
		Students may choose from a variety of approved, off-campus study opportunities and are expected to complete a minimum of 16 credits in the location of their choosing.					
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 5330	4	ARCH 5115 (1 of 2)	6	Vacation		Co-op	0
ARCH 5430	4	ARCH 5310	4				
ENGW 3314	4	MATH 1241	4				
Elective	4	Elective	4				
	16		**18**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ARCH 3370	4
		ARCH 5140	6
		ARCH 5230 and ARCH 5231	4
		Elective	4
	0		**18**

Total Hours: 138

Five Years, Two Co-ops in Spring/Summer 1

DIVISION B—LAST NAME BEGINS WITH M–Z

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000	1	ARCH 2130	6	Vacation		Vacation	
ARCH 1110	4	Architecture history elective (1 of 2)	4				
ARCH 1120	6	ARCH 2240	4				
ARCH 1310 and ARCH 1311	4	EEAM 2000	1				
Elective	4	ENGW 1111	4				
	19		**19**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2140	6	ARCH 2340 and ARCH 2341	4	Vacation		Vacation	
ARCH 3450	4	ARCH 3170	6				
PHYS 1141	4	ARCH 3210	4				
Architecture history elective (2 of 2)	4						
	18		**14**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Travel study	16	Co-op	0	Co-op	0	Vacation	
Students may choose from a variety of approved, off-campus study opportunities and are expected to complete a minimum of 16 credits in the location of their choosing.							
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 5115	6	Co-op	0	Co-op	0	Vacation	
ARCH 5430	4						
Elective	4						
Elective	4						
	18		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
ARCH 5330	4	ARCH 3370	4
ENGW 3314	4	ARCH 5140	6
MATH 1241	4	ARCH 5230 and ARCH 5231	4
Elective	4	ARCH 5310	4
	16		**18**

Total Hours: 138

Architectural Studies, BS

Website (https://camd.northeastern.edu/architecture/academic-programs/bs-architectural-studies/)

The Bachelor of Science in Architectural Studies teaches students the rigorous design methods of architecture while also offering a flexible curriculum focused on key contemporary topics related to the built environment. After a common sequence of design, history, and technology courses, students may choose from a rich array of electives in the School of Architecture and throughout the university. The culmination of the major is a single capstone course required for all students.

Students will emerge with a strong portfolio, a foundational grounding in architectural design, and will be well equipped for further graduate education or work experience in design-related fields and creative industries. The Bachelor of Science in Architectural Studies can be completed in four years. Students in this major participate in one six-month co-op and have the option of a second four-month summer co-op. Students also have the option to study abroad for a semester.

Students may choose from one of three areas of emphasis—real estate; sustainability; or history, theory, and culture—or work with the department to put together a customized plan of study.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath Requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Difference and Diversity (DD) are met through the major course requirements.

NUpath Requirements Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Ethical Reasoning (ER) must be met through electives.

Architectural Studies Major Requirements

Code	Title	Hours
Architecture at Northeastern		
ARCH 1000	Architecture at Northeastern	
General Architecture and Studio		
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 2130	Site, Space, Program	6
ARCH 2140	Urban Housing	6
ARCH 3170	Architecture, Infrastructure, and the City	6
Technology		
ARCH 2260	Introduction to Building Systems	4
History		
ARCH 1310	Buildings and Cities, A Global History	4
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	4
Architecture History Electives		
Choose any course in the range of ARCH 2300 to ARCH 2399.		4
Capstone		
ARCH 4960	Architectural Studies Capstone	4

Major Electives

Students who wish to be considered for Northeastern's two-year Master of Architecture degree should take Architectonic Systems (ARCH 2240) and Structural Systems (ARCH 5230).

Code	Title	Hours
Complete six of the following elective courses. At least four courses must be taken in the School of Architecture. At least two must be above the 2000 level:		24
Any ARCH or LARC course		
Real Estate		
ENTR 2303	Marketing Strategies for Startups	
ENTR 3330	Design Thinking for Startups	
ENTR 4501	Integrated Studies in Entrepreneurial Startups	
INNO 2206	Global Social Enterprise	
MKTG 2209	Introduction to Marketing	
Sustainability		
CIVE 1200	How Cities Work: Experiencing Urban Infrastructure	
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
ENVR 3200	Water Resources	
PHIL 1180	Environmental Ethics	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	
History, Theory, and Culture		
ARTG 5110	Information Design History	
ARTH 1100	Interactive Media and Society	
ARTH 2215	History of Graphic Design	

*Please be aware: Not all courses are available every semester and some have prerequisites.

Optional Preparation for Two-Year Master of Architecture

Code	Title	Hours
If students wish to be eligible for the two-year Master of Architecture program at Northeastern, they should take the four courses listed here. ARCH 2240 and 5230 may count as electives toward the major:		
ARCH 2240	Architectonic Systems	
ARCH 5230	Structural Systems	
MATH 1241	Calculus 1	
PHYS 1141	General Physics	

Architectural Studies Major Credit Requirement

Complete 72 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000	1	ARCH 1110	4	Elective	4	Vacation	
ARCH 1310	4	ARCH 1120	6	Elective	4		
ENGW 1111	4	EEAM 2000	1				
Elective	4	Architecture History Elective (1 of 2)	4				
Elective	4	Elective	4				
	17		**19**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2130	6	ARCH 2140	6	Optional Summer Co-op		Optional Summer Co-op	
ARCH 2260	4	ARCH 2340 and ARCH 2341	4				

ARCH 2330 and ARCH 2331	4	ENGW 3314	4				
Architecture History Elective (2 of 2)	4	Elective	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Semester in Segovia (or Boston)	14.4	Co-op	0	Co-op	0	Vacation	
Language elective	1.6						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Elective	4	ARCH 4960	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Architectural Studies and Design, BS

Students integrate the study of architecture with strategies of graphic and information design, interaction design, or experience design. A flexible curriculum focused on key contemporary topics related to the built environment is combined with a broad understanding of the principles and systems of perception, communication, and action. Students integrate text and image to visualize concepts and data, create navigable interfaces and systems that allow audiences to take an active role to achieve meaningful goals, and take a holistic and integrative approach that focuses on the quality of the human experience in concrete situations. Successful students emerge with a strong portfolio suited to further graduate education or experience in architecture and design-related fields.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Engaging with the Natural and Designed World (ND), Exploring Creative Expression and Innovation (EI), Interpreting Culture (IC), Analyzing and Using Data (AD), and Engaging Differences and Diversity (DD) are met through the major course requirements.

In order to graduate, students must complete Formal and Quantitative Reasoning (FQ) and Ethical Reasoning (ER) in their electives.

*Note: Students who wish to be eligible for the two-year Master of Architecture degree should take the following courses: Architectonic Systems (ARCH 2240), Architecture, Infrastructure, and the City (ARCH 3170), Structural Systems (ARCH 5230), along with calculus and physics.

Architectural Studies Courses

Code	Title	Hours
Required Courses		
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
ARCH 2130	Site, Space, Program	6
ARCH 2260	Introduction to Building Systems	4
ARCH 3450	Advanced Architectural Communication	4
Architecture History Elective		
Either ARCH 1370 or any ARCH 2300-level history course		4
Electives		
Complete two of the following:		8
ARCH 1370	Special Topics in Architectural History	
ARCH 1450	Understanding Design	
ARCH 2140	Urban Housing	
Any second ARCH 2300-level history course		
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 3370	Advanced Topics in Architectural History	
ARCH 4850	Urban and Architectural History Abroad	
ARCH 5310	Design Tactics and Operations	

Design Requirements

Code	Title	Hours
Art + Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art + Design Fundamentals Elective		
Complete one of the following:		5

ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Design Elective		
Complete any 4 SH ARTG course not otherwise required in the curriculum. [1]		4
Art + Design History Elective		
Complete any one art history course within the ARTH subject code.		4
Art + Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
If ARTG 5000 Topics in Design (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

[1] Successful completion of *both* ARTG 2262 Prototyping with Code (2 SH) and Lab for ARTG 2262 (ARTG 2263) (2 SH) may satisfy this requirement.

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3700	Interaction Design 2: Mobile	

Integrative Requirement

Code	Title	Hours
ARTG 4550	Design Degree Project	4

Major Credit Requirement

Complete 89 semester hours for the major.

Program Requirement

132 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1310 and ARCH 1311	4	ARCH 1110	4	A+D Fundamentals Elective	5	Vacation	
ARTF 1000 or ARCH 1000	1	ARCH 1120	6	Elective	4		
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4				
ARTG 1001 and ARTG 1002	4	Architecture history elective	4				
ENGW 1111	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2130	6	ARCH 2340 and ARCH 2341	4	Elective	4	Co-op	0
ARCH 2260	4	ARCH 3450	4	Elective	4		
ARTG 1290 and ARTG 1291	4	EEAM 2000	1				
Architecture elective	4	Art+Design History elective	4				
		Design Option level 1	4				
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Architecture elective	4	Elective	4	Co-op	0
ENGW 3314 or 3302 (online)	4	Art + Design elective	4	Elective	4		
		Design Option level 2	4				
		Elective	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 4550	4
Elective (online)	4	Architecture elective	4
		Design elective	4
		Elective	4
	4		**16**

Total Hours: 135

Architecture and English, BS

The School of Architecture and Department of English offer an interdisciplinary combined major in architecture and English. Students interested in the combined major integrate the study of literature and writing with the rigorous design methods of architecture. This program offers a flexible curriculum focused on key contemporary topics related to the built environment.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Natural and Designed World (ND), Creative Expression and Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Differences and Diversity (DD) are met through the major course requirements.

In order to graduate, students must complete Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Ethical Reasoning (ER) in their electives.

Architecture Requirements

Code	Title	Hours
Required Courses		
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310	Buildings and Cities, A Global History	4
ARCH 1450	Understanding Design	4
ARCH 2130	Site, Space, Program	6
ARCH 2240	Architectonic Systems	4
Architecure History Electives		**8**
Complete any two courses in the range of ARCH 2300–ARCH 2399.		
Electives		
Complete two of the following:		8
ARCH 3370	Advanced Topics in Architectural History	
ARCH 3450	Advanced Architectural Communication	
ARCH 5310	Design Tactics and Operations	

English Requirements

Code	Title	Hours
English Course-Level Requirement		
In addition to the capstone, two of the courses completed from the lists below must be numbered 3000–4999.		
Introduction to College		
ENGL 1000	English at Northeastern	1
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
Diversity		
Complete one of the following. This course may also be used to fulfill an additional English requirement below:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	

ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre–Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL/JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2330	The American Renaissance	
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL/JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		

Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
English Electives		
Complete two additional ENGL electives.		8

Integrative Requirement

Code	Title	Hours
ARCH 2330	Architecture and the City in the Nineteenth Century	4
or ARCH 2340	Modern Architecture	
ENGL 3375	Writing Boston	4

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, No Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000 or ENGL 1000	1	ARCH 1110	4	Vacation		Vacation	
ENGW 1111	4	ARCH 1120	6				
ARCH 1310	4	ENGL 1160 or 1410	4				
ARCH 1450	4	Elective	4				
ENGL 1400	4						
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2130	6	Architecture history elective 2	4	Vacation		Vacation	
ARCH 2240	4	Pre–nineteenth-century literature	4				
English diversity requirement	4	Elective	4				
Architecture history elective 1	4	Elective	4				
	18		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Architecture elective 1	4	Architecture elective 2	4	Vacation		Vacation	
Nineteenth-, twentieth-, and twenty-first-century literature	4	English comparative literature	4				

English theories and methods requirement	4	ENGW 3309 or 3314	4		
English writing requirement	4	Elective	4		
	16		**16**	**0**	**0**

Year 4

Fall	Hours	Spring	Hours
ENGL 4710 or 4720	4	English elective 2	4
English elective 1	4	ENGL 3375	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Civil Engineering and Architectural Studies, BSCE

Civil engineering and architecture are two important disciplines that deal with the process of creating the built environment to satisfy societal needs. Both professions have critical functions that are essential in the development of society in terms of planning cities and designing more resilient infrastructure and rely on one another to accomplish it. The combination of these two professions creates great synergy as architects focus more on the functional and human aspects of development, while civil engineers concentrate on the structural elements of the design, ensuring durable structures that perform under normal and extreme loads.

Students successfully completing the program receive a rigorous engineering training education, enabling a high level of engineering knowledge as well as exposure to a broad range of architectural topics and design experiences.

Students also have the opportunity to undertake a co-op experience consistent with the policies and opportunities offered within the College of Engineering.

Our BS program in Civil Engineering and Architectural Studies is ABET accredited. Visit the Department of Civil and Environmental Engineering website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program education outcomes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	5
CIVE 2320 and CIVE 2321	Structural Analysis and Recitation for CIVE 2320	4
CIVE 2324	Concrete Structure Design	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Civil Engineering Project Elective		
Complete one of the following:		4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 5536	Hydrologic and Hydraulic Design	
Senior Design Project		
CIVE 4767	Senior Design Project—Structural	5
Civil Engineering Technical Electives		
Complete one of the following:		4

CIVE 3425	Steel Structure Design	
CIVE 5522	Structural Systems Modeling	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Architectural Studies Requirements

Code	Title	Hours
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
ARCH 2130	Site, Space, Program	6
ARCH 2140	Urban Housing	6
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	4
ARCH 3210 and ARCH 3211	Environmental Systems and Recitation for ARCH 3210	4
Architectural Electives		
Complete two of the following:		8
ARCH 3370	Advanced Topics in Architectural History	
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 3450	Advanced Architectural Communication	
ARCH 4850	Urban and Architectural History Abroad	
ARCH 5115	Option Studio	
ARCH 5220	Integrated Building Systems	
ARCH 5310	Design Tactics and Operations	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Science Elective		
Complete one of the following:		4-5
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1141	Microbes and Society	

BIOL 1143	Biology and Society
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311
CHEM 3410	Environmental Geochemistry
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101
EEMB 1450	Introduction to Marine Biology
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
ENVR 1200	Dynamic Earth
ENVR 2200	Earth's Changing Cycles
ENVR 2515	Sustainable Development
ENVR 3125	Global Oceanic Change
ENVR 3200	Water Resources
ENVR 3600	Oceanography
ENVR 5201	Geologic Field Seminar
ENVR 5350	Sustainable Energy and Climate Solutions
PHYS 1111	Introduction to Astronomy
PHYS 1125	Introduction to Network Science: From the Human Cell to Facebook
PHYS 1132	Energy, Environment, and Society
PHYS 1155 and PHYS 1156	Physics for Engineering 2 and Lab for PHYS 1155
PHYS 4623	Medical Physics
Supplemental Credit	
3 semester hours from the following course count toward the mathematics/science requirement:	3
CIVE 3464	Probability and Engineering Economy for Civil Engineering
1 semester hour from the following course counts toward the mathematics/science requirement:	1
GE 1501	Cornerstone of Engineering 1 [1]

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4767	Senior Design Project—Structural	

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Engineering GPA Requirement

Minimum 2.000 GPA required in CIVE coursework.

Architecture GPA Requirement

Minimum 2.000 GPA required in all Architecture courses

Program Requirements

141 total semester hours required

Note:

1. Students who wish to be considered for the two-year Master of Architecture Program at Northeastern **should** take Advanced Architectural Communication (ARCH 3450) as an elective and **should not** take Option Studio (ARCH 5115) or Integrated Building Systems (ARCH 5220) as architectural electives.
2. Students who wish to be considered for the two-year Master of Architecture Program at Northeastern must have satisfied the Structural Systems (ARCH 5230) requirement. This requirement is achieved in this combined major by taking the following three courses, as follows:
   - Statics and Solid Mechanics (CIVE 2221), including Recitation for CIVE 2221 (CIVE 2222)
   - Structural Analysis (CIVE 2320), including Recitation for CIVE 2320 (CIVE 2321)
   - And at least one design course from the following:
     - Concrete Structure Design (CIVE 2324)
     - Steel Structure Design (CIVE 3425)

Plan of Study

Sample Plan of Study

FOUR YEARS, 1 CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (ND, EI)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						
MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1310 (IC, DD)	4	ARCH 2340 (IC, SI, WI)	4	CIVE 2324	4	Co-op	
ARCH 1311	0	ARCH 2341	0	GE 3300	4		
ARCH 2130	6	CIVE 2260	4				
CIVE 2221	4	CIVE 2261 (AD)	1				
CIVE 2222	0	CIVE 2320	4				
MATH 2341	4	CIVE 2321	0				
		CIVE 2334	4				
		ENCP 2000	1				
	18		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARCH 2140	6	Vacation		Vacation	
		ARCH 3210 (ND, AD)	4				
		ARCH 3211	0				
		CIVE 2331	4				

		CIVE 2340	4				
		CIVE 2341	1				
	0		**19**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CIVE 3464	4	CIVE 4767 (EI, WI, CE)	5
ENCP 3000	1	Architectural Elective	4
ENGW 3302 or 3315 (WD)	4	Architectural Elective	4
Civil Project Elective (WI)	4	Science Elective	4
Civil Technical Elective (CIVE 3425 or CIVE 5522)	4		
	17		**17**

Total Hours: 141

FIVE YEARS, 3 CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (ND, EI)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						
MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1310 (IC, DD)	4	CIVE 2260	4	Vacation		Co-op	
ARCH 1311	0	CIVE 2261 (AD)	1				
ARCH 2130	6	CIVE 2320	4				
CIVE 2221	4	CIVE 2321	0				
CIVE 2222	0	CIVE 2334	4				
MATH 2341	4	ENCP 2000	1				
		GE 3300	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARCH 2340 (IC, SI, WI)	4	CIVE 2324	4	Co-op	
		ARCH 2341	0	ENGW 3302 or 3315 (WD)	4		
		CIVE 2331	4				
		CIVE 2340	4				
		CIVE 2341	1				
		Civil Technical Elective (CIVE 3425 or CIVE 5522)	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARCH 2140	6	Vacation		Co-op	
		ARCH 3210 (ND, AD)	4				
		ARCH 3211	0				
		CIVE 3464	4				
		ENCP 3000	1				

		Civil Project Elective (WI)	4		
	0		**19**	**0**	**0**

Year 5

Fall	**Hours**	**Spring**	**Hours**
Co-op		CIVE 4767 (EI, WI, CE)	5
		Architectural Elective	4
		Architectural Elective	4
		Science Elective	4
	0		**17**

Total Hours: 141

Environmental and Sustainability Sciences and Landscape Architecture, BS

The Department of Marine and Environmental Sciences and the program in landscape architecture provide an education in basic environmental and sustainability sciences and landscape-architecture-related disciplines. This combined major provides students the opportunity to obtain the fundamental scientific background and practical training to tackle environmental and landscape-related issues. The program seeks to prepare students for advanced studies or careers in fields of urban planning, urban design, sustainable development, environmental consulting, and/or other fields focusing on the interactions among landscapes, the built environment, human societies, and overall climate impacts.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental and Sustainability Sciences Requirements

Code	Title	Hours
Environmental and Sustainability Sciences Required Courses		
Core Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4
or ENVR 2200	Earth's Changing Cycles	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2515	Sustainable Development	4
Complete one course from each category:		
Skills		*4-5*
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
Earth, Oceans, and Environmental Change		*4-5*
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		*4*
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 5220	Ecosystem-Based Management	
ENVR 5700	Streams and Watershed Ecology	
Sustainable Planning and Development		*4*
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	

ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
Environment and Society		*4*
ENVR 5750	Urban Ecology	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	
SOCL 2485	Environment, Technology, and Society	

Landscape Architecture Requirements

Code	Title	Hours
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
LARC 2130	Sustainable Urban Site Design	6
LARC 2230	Introduction to Sustainable Site Planning and Design	4
LARC 2330	Cities, Landscape, and Modern Culture	4
LARC 2340	Cities, Landscape, and Contemporary Culture	4
LARC 2430	Plants, People, and Landscape Change	4

Landscape Architecture Electives

Code	Title	Hours
Complete three of the following:		12-14
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 3370	Advanced Topics in Architectural History	
ARCH 3450	Advanced Architectural Communication	
ARCH 4850	Urban and Architectural History Abroad	
LARC 2240	Sustainable Site Construction and Detailing	
LARC 2440	Planting Design	
LARC 3170	Landscape Planning and Urbanism Studio	
LARC 5210	Landscape Ecology	
LARC 5220	Sustainable Landscape Practices	
LARC 5310	Urban Landscape Seminar	
SUEN 6210	Implementation and Visualization for Urban Environments 1	
SUEN 6220	Implementation and Visualization for Urban Environments 2	

Capstone/Integrative Course

Code	Title	Hours
Complete one of the following:		4
ENVR 4997	Senior Thesis	
LARC 5120	Comprehensive Design Studio	
LARC 5210	Landscape Ecology	
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	

Environmental and Sustainability Sciences and Landscape Architecture Major Credit Requirement

Complete a minimum of 84 semester hours in the major.

Program Requirements

132 total semester hours required

Plan of Study

Four-Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LARC 2430	4	ARCH 1110	4	Elective	4	Elective	4
ENVR 1400 and ENVR 1401	5	ARCH 1120	6	ENGW 1111	4	Elective	4

ENVR 2200	4	EEMB 2302 and EEMB 2303	5				
Elective	4	EEAM 2000	1				
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LARC 2130	6	LARC 2340	4	Elective	4	Co-op	0
LARC 2230	4	ENVR 3300 and ENVR 3301	5	Elective	4		
LARC 2330	4	LARC elective	4				
ENVR elective	4	Elective	4				
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENVR elective	4	ENGW 3314	4	Co-op	0
		ENVR elective	4	Elective	4		
		ENVR elective	4				
		LARC elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENVR 2515	4
		Capstone	4
		ENVR elective	4
		LARC elective	4
	0		**16**

Total Hours: 132

Environmental Engineering and Landscape Architecture, BSEnvE

Environmental engineering and landscape architecture are two important disciplines that deal with the complex interaction between the natural and the built environment. Both professions have critical functions that are essential in the development of society in terms of planning and designing more sustainable cities. The combination of these two professions creates great synergy and seeks to expose engineering students to the conceptual and practical content of landscape planning. Successful graduates from this degree are prepared to imagine and create projects that can be translated into reality providing solutions to address the world's growing challenges by designing clean and sustainable environments and green infrastructure.

Students completing the combined major Bachelor of Science in Environmental Engineering and Landscape Architecture receive a rigorous engineering training education, enabling a high level of engineering knowledge as well as exposure to a broad range of landscape architectural topics and design experiences.

Students will also have the opportunity to undertake a co-op experience consistent with the policies and opportunities offered within the College of Engineering.

Visit the department website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program outcomes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Senior Design Project		
CIVE 4765	Senior Design Project—Environmental	5
Environmental Engineering Technical Elective [1]		
Complete 7-9 semester hours from the following:		7-9
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4575	Construction Management	

CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5670	Global Biogeochemistry	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
3 semester hours from the following course count toward the engineering requirement:		3
CIVE 3430	Engineering Microbiology and Ecology	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Landscape Architecture Requirements

Code	Title	Hours
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	4
LARC 2230	Introduction to Sustainable Site Planning and Design	4
LARC 2240	Sustainable Site Construction and Detailing	4
LARC 2430	Plants, People, and Landscape Change	4
LARC 2440	Planting Design	4
LARC 5420	Professional Practice in Landscape Architecture	4
or LARC 2340	Cities, Landscape, and Contemporary Culture	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	

Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1120	Oceans and Coasts	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
CIVE 3430	Engineering Microbiology and Ecology	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [2]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [2]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [2]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4765	Senior Design Project—Environmental	

Engineering GPA Requirement

Minimum 2.000 GPA required in all CIVE coursework

Landscape Architecture GPA Requirement

Minimum 2.500 GPA required in all major courses

Program Requirement

134 total semester hours required

[1] Students can substitute one Environmental Tech. Elective for Sustainable Urban Site Design (LARC 2130) in approved situations.

[2] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, 1 CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (EI, ND)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						
MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2334	4	ARCH 1310 (IC, DD)	4	CIVE 2221	4	Co-op	0
LARC 2230 (ND)	4	ARCH 1311	0	CIVE 2222	0		
LARC 2430 (ND)	4	CIVE 3430	4	GE 3300	4		
MATH 2341	4	CIVE 2300 and CIVE 2301	4				
		CIVE 3464	4				
		ENCP 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ARCH 2340 (IC, SI, WI)	4	Vacation		Vacation	
		ARCH 2341	0				
		CIVE 2331	4				
		LARC 2240	4				
		LARC 2440	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CIVE 3435	4	CIVE 4765 (EI, CE, WI)	5
CIVE 4534 (WI)	3	LARC 5420 or 2340 (IC, SI, WI)	4
CIVE 4535	1	Science Elective (Earth)	4
ENCP 3000	1	Environmental Tech. Elective	4
ENGW 3302 or 3314 (WD)	4		
Environmental Tech. Elective	3		
	16		**17**

Total Hours: 134

FIVE YEARS, 3 CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (EI, ND)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						

MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2334	4	ARCH 1310 (IC, DD)	4	CIVE 2221	4	Co-op	0
LARC 2230 (ND)	4	ARCH 1311	0	CIVE 2222	0		
LARC 2430 (ND)	4	CIVE 3430	4	GE 3300	4		
MATH 2341	4	CIVE 3464	4				
		CIVE 2300 and CIVE 2301	4				
		ENCP 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 2331	4	Vacation		Co-op	0
		CIVE 3435	4				
		LARC 2440	4				
		Science Elective (Earth)	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ARCH 2340 (IC, SI, WI)	4	Vacation		Co-op	0
		ARCH 2341	0				
		CIVE 4534 (WI)	3				
		CIVE 4535	1				
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		LARC 2240	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, CE, WI)	5
		LARC 5420 or 2340 (IC, SI, WI)	4
		Environmental Tech. Elective	3
		Environmental Tech. Elective	4
	0		**16**

Total Hours: 134

Landscape Architecture, BLA

Website (https://camd.northeastern.edu/architecture/academic-programs/architecture-urban-landscape/)

Northeastern University offers a Bachelor of Landscape Architecture. This new major reflects a growing public interest in making our cities more sustainable and in bringing the insights of landscape architects to join those of urban designers and architects. This hybrid field has deep roots in design, ecology, planning, and aesthetics. In the past 15 years, it has come to play an evermore important role in the design of new places, as well as the retrofitting of our older, postindustrial landscapes. An inherently interdisciplinary program, urban landscape will involve collaborations with other academic units on campus.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Societies and Institutions (SI), Analyzing and Using Data (AD), and Difference and Diversity (DD) are met through the major course requirements.

NUpath requirement Ethical Reasoning (ER) must be met through general electives.

Landscape Architecture Major Requirements

Code	Title	Hours
Introduction to College		
ARCH 1000	Architecture at Northeastern	1
Calculus		
MATH 1241	Calculus 1	4
Environmental Geology		
ENVR 2200	Earth's Changing Cycles	4
Foundation Courses		
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
History/Theory Courses		
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
LARC 2330	Cities, Landscape, and Modern Culture	4
LARC 2340	Cities, Landscape, and Contemporary Culture	4
LARC 5310	Urban Landscape Seminar	4
Technology/Science Courses		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
LARC 2230	Introduction to Sustainable Site Planning and Design	4
LARC 2430	Plants, People, and Landscape Change	4
LARC 2240	Sustainable Site Construction and Detailing	4
LARC 5210	Landscape Ecology	4
LARC 5220	Sustainable Landscape Practices	4
LARC 5420	Professional Practice in Landscape Architecture	4
Design		
LARC 2130	Sustainable Urban Site Design	6
LARC 2140	Designed Urban Ecologies	6
LARC 2440	Planting Design	4

LARC 3170	Landscape Planning and Urbanism Studio	6
LARC 5110	Advanced Design for Urban Environments Studio	6
LARC 5120	Comprehensive Design Studio	6
Professional Development		
EEAM 2000	Professional Development for Co-op	1
Cooperative Education		
Urban landscape majors are required to complete one six-month co-op.		0
COOP 3945	Co-op Work Experience	

Major GPA Requirement

Minimum 2.500 GPA required

Major Credit Requirement

Complete 98 semester hours for the major.

Program Requirement

142 total semester hours required

Plan of Study

Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000	1	ARCH 1110	4	Elective	4	Vacation	0
ARCH 1310 and ARCH 1311	4	ARCH 1120	6	Elective	4		
MATH 1241	4	ENGW 1111	4				
ENVR 2200	4	EEAM 2000	1				
Elective	4	Elective	4				
	17		**19**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LARC 2130	6	LARC 2140	6	Optional Summer Co-op		Optional Summer Co-op	
LARC 2430	4	LARC 2240	4				
LARC 2330	4	LARC 2440	4				
LARC 2230	4	LARC 2340	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LARC 3170	6	Co-op		Co-op 1		Elective	4
ENGW 3314	4					Elective	4
LARC 5210	4						
ENVR 3300 and ENVR 3301	5						
	19		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
LARC 5110	6	LARC 5120	6
LARC 5220	4	LARC 5420	4
LARC 5310	4	Elective	4
Elective	4	Elective	4
	18		**18**

Total Hours: 143

Architectural and Urban History, Minor

Website (https://camd.northeastern.edu/architecture/academic-programs/architectural-history/)

The four-course minor introduces students to the study of architectural history, paying particular attention to the relationship between buildings and their larger urban, cultural, economic, and social environments. The minor includes one general survey class that covers a variety of different cultures and geographic contexts over time. Students may then choose from a suite of architectural history courses to fulfill the remaining 12 credits of this minor.

Please note: This minor is not available to students in the Bachelor of Science in Architecture or Bachelor of Science in Architectural Studies majors. Bachelor of Landscape Architecture students may double count at most one course with this minor.

Minor Requirements

Note: This minor is not available to students in the Bachelor of Science in Architecture or Bachelor of Science in Architectural Studies majors. Bachelor of Landscape Architecture students may double count at most one course with this minor.

Required Courses

Code	Title	Hours
Architectural History Core		
ARCH 1310	Buildings and Cities, A Global History	4
Electives		
Complete three of the following:		12
ARCH 1370	Special Topics in Architectural History	
Any course from the ARCH 2300 series, including:		
ARCH 2310	History of Chinese Architecture	
ARCH 2320	Modern Chinese Architecture	
ARCH 2330	Architecture and the City in the Nineteenth Century	
ARCH 2340	Modern Architecture	
ARCH 2345	Contemporary Architecture	
ARCH 2350	American Architecture	
ARCH 3370	Advanced Topics in Architectural History	
ARCH 4850	Urban and Architectural History Abroad	

GPA Requirement

2.000 GPA required in the minor

Architectural Design, Minor

This minor introduces students to the breadth of architecture and the three-legged stool of designing architecture: design, history, and technology. Indeed, building technology and contextual and historical understanding are essential ingredients of architectural design. The minor is structured to ensure that all students take at least one fundamental class in each of these three "legs." Students may then shape the minor to align their interests with their choices of the architectural design course and elective.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any recitations where specified. Please note: This minor is not available to students in the Bachelor of Science in Architecture or Bachelor of Science in Architectural Studies major. Bachelor of Landscape Architecture students may double count at most one course with this minor.

Requirements

Code	Title	Hours
Required Foundation Course		
ARCH 1110	Fundamental Architectural Representation	4
Required Architecture Design		
Complete one of the following:		4-6
ARCH 1450	Understanding Design	
or ARCH 1120	Fundamental Architectural Design	
Required Technology Course		
ARCH 2260	Introduction to Building Systems	4
Required History Elective		
Complete one of the following:		4
ARCH 1310	Buildings and Cities, A Global History	
ARCH 1370	Special Topics in Architectural History	
ARCH 2310	History of Chinese Architecture	
ARCH 2320	Modern Chinese Architecture	
ARCH 2330 and ARCH 2331	Architecture and the City in the Nineteenth Century and Recitation for ARCH 2330	
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	
ARCH 2345	Contemporary Architecture	
ARCH 2350	American Architecture	
ARCH 2355	Architecture Conservation: Intervention, Transformation, and Reuse	
ARCH 2370	Topics in Architectural History	
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 4850	Urban and Architectural History Abroad	
Any course within the ARCH 2300–ARCH 2399 range		

GPA Requirement

2.000 GPA required in the minor

Architectural Science and Systems, Minor

The Minor in Architectural Science and Systems is a four-course curriculum that combines a comprehensive exploration of the full range of building systems with a thorough understanding of the physical phenomena to which they respond. Students investigate the primary component systems of buildings and their synergistic integration, including site, structure, enclosure, environmental comfort, and passive and active energy systems. While technical topics form the core content of these courses, systems thinking is the critical and analytical bond among them.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Only one course can be double counted toward any other major or minor.

Requirements

Code	Title	Hours
Building Systems Required Course		
ARCH 2260	Introduction to Building Systems	4
Building Systems Core		
Complete two of the following:		8
ARCH 2240	Architectonic Systems	
ARCH 3210	Environmental Systems	
or ARCH 5210	Environmental Systems	
ARCH 5230	Structural Systems	
Elective		
Complete one of the following (the third course from the Building Systems Core section above may be taken as an elective):		4
ARCH 5220	Integrated Building Systems	
GE 3300	Energy Systems: Science, Technology, and Sustainability	
SBSY 5200	Sustainable Engineering Systems for Buildings	

GPA Requirement

2.000 GPA required in the minor

Urban Landscape Studies, Minor

Website (https://camd.northeastern.edu/architecture/academic-programs/urban-landscape-studies/)

The minor in urban landscape studies introduces fundamental design and management of sustainable urban environments, as well as an overview of historical and contemporary issues in urban landscape.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

No more than one course may count toward any other degree or minor

Required Courses

Code	Title	Hours
Urban Landscape Core 1		
LARC 2340	Cities, Landscape, and Contemporary Culture	4
Urban Landscape Core 2		
Complete two of the following:		8
LARC 2230	Introduction to Sustainable Site Planning and Design	
LARC 2330	Cities, Landscape, and Modern Culture	
LARC 2430	Plants, People, and Landscape Change	

Elective

Code	Title	Hours
Complete one of the following:		4
ARCH 1310	Buildings and Cities, A Global History	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 4850	Urban and Architectural History Abroad	
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	
ENVR 1200	Dynamic Earth	
ENVR 3200	Water Resources	
LARC 2230	Introduction to Sustainable Site Planning and Design	
LARC 2240	Sustainable Site Construction and Detailing	
LARC 2330	Cities, Landscape, and Modern Culture	
LARC 2430	Plants, People, and Landscape Change	
LARC 2440	Planting Design	
LARC 5210	Landscape Ecology	
POLS 2395	Environmental Politics and Policy	
SOCL 1246	Environment and Society	

GPA Requirement

2.500 GPA required in the minor

Art + Design

Website (https://camd.northeastern.edu/undergraduate-overview/#164)

Dietmar Offenhuber, PhD
Chair

Julia Hechtman, MFA
Associate Chair

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Art makes life meaningful. Design makes life possible. Together they make life wonderful. The work of artists and designers informs and forms cultures, benefits society, and empowers the global marketplace of ideas. The faculty in the Department of Art + Design seeks to prepare students for a rich and rewarding life making a significant difference in the lives of others. We study the fundamentals of knowing, thinking, making, and doing; you have an opportunity to learn to use ideas and influences, tools and techniques, and principles and processes of art and design. We provide a faculty, format, and facilities for a great experiential education in art and design within a major urban research university. You pursue your curiosity about, intentions toward, and obligations to the evolving world. Semester and summer programs may include many international destinations including Austria, England, Hawaii, Iceland, Ireland, Italy, Japan, and Kentucky and offer intensive studio experiences to augment your study with travel and creative work in the context of other cultures.

Whether you are studying design, media art, or game design, the Department of Art + Design seeks to cultivate your talents as a source of original ideas and expressions of an inner life, using classical, current, and emerging media. You are inspired and challenged to create powerful new works. You will gain visual literacy and fluency with professional art, design, and game design practices in the context of a liberal arts education. You can be transformed into a creative force, ready to realize your potential and create cultural value and social benefit.

Art, BA

Northeastern University offers a studio-based fine art program that investigates visual studies and various cultures, giving students a way of developing their own creative practice as well as an understanding of the relationship between form and meaning. To achieve this level of consciousness around arts practice, students will strike a balance between studio courses in drawing/painting and digital media with visual studies courses that focus on the historical, theoretical, and critical interpretation of visual art. This exploration of art methods creates a more visually and conceptually astute student through making. Students' education, experience, and training in understanding creative practices takes full advantage of the remarkable scope of the College of Arts, Media and Design. Some courses in this program are offered in locations abroad and may include Austria, Ireland, Japan, and Sicily, where students have an intensive and immersive creative experience during five-week summer sessions. Additionally, students may opt to enroll in select courses at the University of the Arts London (UAL), Fine Art at Central Saint Martins campus. This unique opportunity allows students to spend a semester in London while discovering a new culture.

The visual studies concentration examines both the production and public reception of art across regions, contexts, periods, and media, foregrounding arts' status as both a material artifact and social communication. Courses reflect the active research profiles and professional experience of its distinguished faculty who all prioritize accessibility, collaboration, and cutting-edge research. Lectures and seminars take advantage of Northeastern's proximity to area museums and cultural centers, including the Institute of Contemporary Art and the Museum of Fine Arts, as well as campus facilities and initiatives like Gallery 360 and the Center for the Arts. Other dynamic resources include Northeastern's own renowned archives offering tangible case studies to consider how criticism coalesces into the historical record. Visual studies introduces students to a broad range of creative careers endemic to the fields of design, publishing, curation, conservation, and scholarship.

The Department of Art + Design uses communal studio space to train students in painting and drawing processes. The department also hosts a fabrication lab that supports a wide range of material-based research for the CAMD community. Beyond the foundation-level courses required for all students, the makerspace provides the resources for prototyping processes ranging from model making, woodworking, CAD, as well as digital fabrication through laser cutting, 3D scanning, and 3D printing.

The **Bachelor of Arts in Art** is offered with a concentration in visual studies or without a concentration.

Design, BFA

Design is the practice-based discipline that poses important questions about—and provides significant answers to—how we live. Designers are needed when we don't know what is needed as well as when we think we do. Designers propose alternative futures and create new choices using principles and processes to create, compose, and construct meaning in diverse knowledge fields. Designers seek a broad understanding of principles and systems of perception, communication, and action. Concentrations in design practices are graphic and information design, interaction design, and experience design.

Graphic designers make messages and meaning using visual form and the integration of text and image. Their work often has a persuasive intent and uses rules of visual composition, form, and pattern to enable storytelling or to create attention and an ambiance for consideration. Information designers visualize concepts and data to enhance human understanding of complex and vital knowledge. Their work has an enlightening or instructive intent and is based on factual content.

Interaction designers focus on the creation of navigable interfaces and systems that allow audiences to take an active role to achieve meaningful goals. Their work connects people to people and people to information and environments.

Experience designers take a holistic and integrative approach that focuses on the quality of the human experience in concrete situations. They employ research, analysis, creativity, and technology as tools to understand human goals, needs, and desires. Their work examines and improves contexts, systems, services, or events.

Additionally, students may opt to enroll in select courses at the University of the Arts London (UAL), Fine Art at Central Saint Martins, or Design Management at London College of Communication (https://www.arts.ac.uk/subjects/business-and-management-and-science/undergraduate/ba-hons-design-management-lcc/) campus. This unique opportunity allows students to spend a semester in London while discovering a new culture.

The **Bachelor of Fine Arts in Design** is offered without a concentration or with the following concentration options: experience design, interaction design, or graphic and information design.

Game Design, BFA

The Bachelor of Fine Art in Game Design seeks to give students the skills to communicate ideas and emotions through interactive media. The focus of the BFA degree is to explore games as an aesthetic and expressive form through critical analysis and creative, reflective practice. To reflect emerging trends in the video and analog game industries, including broader platforms, audiences, and distribution channels, students will be oriented toward developing games and playful media in an independent creative context. Curriculum is geared to cultivating students' unique creative voices through courses applying theoretical analysis to game-development practices across a wide range of media. Students are exposed to a wide variety of genres and contexts, as well as different ways of thinking about games content, platforms, and asset production.

Media Arts, BFA

The continuing revolution in digital computing and global communications has produced a rapidly evolving field for artists who create experiences of image and form with computer screens, intelligent devices, and new materials. Artists also invent tools for exploring, creating, and distributing their ideas and works. Media arts concentrations of animation, photography, and video arts are offered with variations yet to be invented.

Courses in imaginative and narrative arts, required for professional work in documentary films, game art, visualization, visual effects, motion graphics, interactive art, illustration, and short animated films, are offered at Northeastern. The curriculum in our intensive studio program provides knowledge, experience, and techniques of media arts informed by theory, experimentation, and critique. Extensive digital imaging and interactive media editing production facilities afford one the opportunity to become highly proficient in the current skills and emerging practices necessary for remarkable work. The media arts are evolving and expanding into culture in daily life and global experience. The revolutions in immersive media, 3D printing, embedded devices, and robotics are changing the landscape in which the media artist will operate. This degree is designed to prepare students to meet the challenges of continuous change with adaptive ingenuity. Additionally, students may opt to enroll in select courses at the University of the Arts London (UAL), Fine Art at Central Saint Martins campus. This unique opportunity allows students to spend a semester in London while discovering a new culture.

The animation concentration provides a comprehensive exploration of the entire production pipeline for a variety of animated content including films, visual effects, broadcast, visualization, games, and spatial media. With a focus on developing robust, conceptual, narrative, and technical software skills, this rigorous studio program explores the power and potential of effective visual communication through 2D and 3D motion design. The animation concentration provides ample opportunities to explore and collaborate with related creative disciplines (VR/AR/XR, game design, interactive, video, etc.), making this a truly unique learning experience. Throughout their education, students will work to develop a professional-level portfolio, the centerpiece of which will be a senior-year capstone project, demonstrating mastery in their specific area of focus.

The photography concentration encourages experimental and self-disciplined engagement with photographic processes in order to understand how materials function, both as a physical component of photographic work as well as a signifier of meaning. Concept and process are in constant dialogue, and we believe learning through doing cultivates individual vision and working methods. Each student's creative approach establishes a vital platform for discovery. In addition, theory and conceptual development provide students with necessary analytical tools for understanding and analyzing visual and technological trends in current and future photographic practices.

Young professionals today must meet challenges—as well as enjoy opportunities—to be more creative, adaptive, and innovative as active practitioners within our contemporary visual culture and evolving technological environment. Our responsibility as liberal arts educators is to expand the skills and vision of each student in light of their individual and professional goals. At a time when initiative, creativity, and innovation are leading principles for social and economic progress, it is important to stress the ways in which their artistic and creative endeavors can make a rewarding and meaningful contribution.

Northeastern photography program students find themselves in the center of Boston's creative hub, across from the Museum of Fine Arts. Northeastern's own Center for the Arts directs interdisciplinary research and presents exhibitions and innovative programs. The newly renovated Media Hub offers state-of-the art equipment rentals and digital printing resources. Photography students have access to two large computer labs and an alternative photographic processes darkroom with film processing and analog printing capabilities.

Our foundation photography courses are small studio and lab classes, leading to intermediate and advanced studios and seminars with an emphasis on personal vision developed through lectures, critiques, individual meetings, and research. In addition, guest artists are invited to participate and offer insights.

The video arts concentration is a multidisciplinary field focused on creative video expression and messaging that weaves together art and design foundations; art and design history; video production; cinematic language (including documentary, narrative, and experimental strategies); collaborative frameworks; and theories of social and cultural change. The scope of the video arts curriculum is a broader and more diverse tapestry than traditional video art, and it reflects the dynamic evolution of video in multiple contexts. The video arts concentration enables students to explore traditional, alternative, and other artistic means of video art production in a variety of creative and technical contexts. The focus on a multiplicity of artistic formats—hence, the choice of the title video arts—underscores our attention to the training of students who are interested in learning how to experiment with new technical, narrative, and aesthetic practices and incorporate these options into the traditional medium of video art.

The **Bachelor of Fine Arts in Media Arts** is offered without a concentration or with the following concentration options: animation, photography, or video arts.

Studio Art, BFA

Our Bachelor of Fine Arts in Studio Art is offered in partnership with the School of the Museum of Fine Arts at Tufts University (SMFA at Tufts), (https://smfa.tufts.edu/)across Huntington Avenue from our campus. In this major, your studio art classes are taken at the SMFA at Tufts, which allows students to explore a wide range of artistic media, including ceramics, drawing, film, metalsmithing, painting, performance, printing, sculpture, and sound, in their extensive studio environments. Our students complete Art + Design history courses in our department and they have access to all the elective courses, co-op and study-abroad programs, student resources, and activities that Northeastern students experience. Additionally, students may opt to enroll in select courses at the University of the Arts London (UAL), Fine Art at Central Saint Martins campus. This unique opportunity allows students to spend a semester in London while discovering a new culture.

The **Bachelor of Fine Arts in Studio Art** degree is awarded by Northeastern.

Admission Requirements for Art + Design

There are specific admissions criteria for students entering majors in the Department of Art + Design. See Admission Requirements for the College of Arts, Media and Design (p.).

Academic Progression Standards

Same as college standards.

Programs

Bachelor of Arts (BA)

- Art (p. 173)
- Communication Studies and Graphic and Information Design (p. 219)
- English and Graphic and Information Design (p. 222)
- Media and Screen Studies and Media Arts (p. 243)
- Media Arts and Communication Studies (p. 246)
- Theatre and Interaction Design (p. 249)

Bachelor of Fine Arts (BFA)

- Design (p. 178)
- Game Art and Animation (p. 226)
- Game Design (p. 183)
- Media Arts (p. 186)
- Studio Art (p. 194)

Bachelor of Science (BS)

- Architectural Studies and Design (p. 142)
- Behavioral Neuroscience and Design (p. 197)
- Business Administration and Design (p. 202)
- Computer Science and Design (p. 206)
- Computer Science and Game Development (p. 211)
- Computer Science and Media Arts (p. 214)
- Game Design and Music with Concentration in Music Technology (p. 233)
- Graphic and Information Design and Mathematics (p. 236)
- Journalism and Interaction Design (p. 239)
- Theatre and Interaction Design (p. 252)

Bachelor of Science in Mechanical Engineering (BSME)

- Mechanical Engineering and Design (p. 255)

Minors

- Animation (p. 262)
- Art (p. 263)
- Art History (p. 265)
- Creative Computing (p. 266)
- Creative Fabrication (p. 267)
- Experience Design (p. 268)
- Game Art (p. 270)
- Game Design (p. 271)
- Graphic and Information Design (p. 272)
- Immersive Media (p. 274)
- Interaction Design (p. 276)
- Photography (p. 278)
- Photojournalism (p. 279)
- Video Arts (p. 280)

Art, BA

The Bachelor of Arts is a studio-based fine art program that offers an investigation into visual studies and various cultures, giving students a way of developing their own vision of creative practice as well as an understanding of the relationship between form and meaning. To achieve this level of consciousness around arts practice, students are offered a balance between studio courses in drawing/painting and digital media with visual studies courses that focus on the historical, theoretical, and critical interpretation of visual art. This exploration of art methods creates a more visually and conceptually astute student through making. Students' education, experience, and training in understanding creative practices takes full advantage of the remarkable scope of the College of Arts, Media and Design. Some courses in this program are offered in locations abroad including Iceland, Ireland, Japan, and Galapagos, where students have an intensive and immersive creative experience during five-week summer sessions. Additionally, students may opt to enroll in select courses at the University of the Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites) (UAL), fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/) campus. This unique opportunity allows students to spend a semester in London while discovering a new culture.

The visual studies concentration examines both the production and public reception of art across regions, contexts, periods, and media, foregrounding arts' status as both a material artifact and an act of social communication. Courses reflect the active research profiles and professional experience of its distinguished faculty who all prioritize accessibility, collaboration, and cutting-edge research. Lectures and seminars take advantage of Northeastern University's proximity to area museums and cultural centers—including the Institute of Contemporary Art and the Museum of Fine Arts, Boston—and Boston campus facilities and initiatives like Gallery 360 and the Center for the Arts. Other dynamic resources include Northeastern's own renowned archives in Boston or equivalent local museums and galleries offering tangible case studies to consider how criticism coalesces into the historical record. Visual studies introduce students to a broad range of creative careers endemic to the fields of design, publishing, curation, conservation, and scholarship.

The Department of Art + Design uses communal studio space to train students in painting and drawing processes. The department also hosts a fabrication lab that supports a wide range of material-based research for the CAMD community. Beyond the foundation-level courses required for all students, the makerspace provides the resources for prototyping processes ranging from model making, woodworking, CAD, as well as digital fabrication through laser cutting, 3D scanning, and 3D printing.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Differences and Diversity (DD), and Ethical Reasoning (ER) must be met through general electives.

Art and Design Core

Code	Title	Hours
Introduction		
ARTF 1000	Art and Design at Northeastern	1
Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5

ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
Drawing Elective		
ARTF 1120	Observational Drawing	4
or ARTF 1121	Conceptual Drawing	
Art History Required		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 3000	Topics in Visual Studies	4
ARTH 4000	Topics in Visual Studies	4
Art History Elective		
Complete any ARTH course, not taken for the concentration.		4
If ARTH 3000 or ARTH 4000 (or any other topics course in the subject listed above) is completed more than once, the additional completions may be allowed toward the electives.		
Capstone		
ARTD 4530	Media Arts Degree Project	4

Concentration or Electives

Complete the following concentration or the electives linked below:

- Concentration in Visual Studies (p. 174)
- Electives Option (p. 175)

Major GPA Requirement

A major GPA of 2.500 is required.

Program Requirement

129 total semester hours required

Concentration in Visual Studies

Code	Title	Hours
Art and Design History Electives		
Complete five of the following courses as long as prerequisites have been met. At least one must be at the 4000 level.		20
Courses in architectural history and media and screen studies may also be used upon approval by the program coordinator.		
If ARTH 3000 or ARTH 4000 (or any other topics course in the options listed below) is completed more than once, the additional completions may be allowed toward the electives.		
ARTE 2501	Art and Design Abroad: History	
ARTH 1100	Interactive Media and Society	
ARTH 1400	The Science of Art, the Art of Science	
ARTH 2200	Topics in Design History	
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2212	Survey of the Still and Moving Image	
ARTH 2215	History of Graphic Design	
ARTH 2313	Global Networks in Early Modern Art and Visual Culture	
ARTH 3000	Topics in Visual Studies	
ARTH 3211	Performance Art	
ARTH 4000	Topics in Visual Studies	
ARTH 5100	Contemporary Art Theory and Criticism	
ARTH 5600	Landscape and Ecology in Visual Culture	

Electives Option

Code	Title	Hours
Arts, Media and Design Electives		
Complete any five courses from the following lists as long as prerequisites have been met. At least one must be at the 4000 level.		20
Art + Design		
If a topics course is completed more than once, the additional completions may be allowed toward the arts, media and design electives.		
ARTD 2100	Narrative Basics	
ARTD 2340	Introduction to Computational Creative Practice	
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
ARTD 3000	Topics in Media Arts	
ARTD 3460	Photography: Concept + Process	
ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 3480	Video: Sound and Image	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
ARTE 2301	The Graphic Novel	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 2501	Art and Design Abroad: History	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	
ARTG 1250	Design Process Context and Systems	
ARTG 2250 and ARTG 2251	Typography 1 and Type Tools	
ARTG 2252	Graphic Design Principles	
ARTH 1100	Interactive Media and Society	
ARTH 1400	The Science of Art, the Art of Science	
ARTH 2200	Topics in Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2210	Modern Art and Design History	
ARTH 2313	Global Networks in Early Modern Art and Visual Culture	
ARTH 3000	Topics in Visual Studies	
ARTH 3211	Performance Art	
ARTH 4000	Topics in Visual Studies	
ARTH 5100	Contemporary Art Theory and Criticism	
ARTH 5600	Landscape and Ecology in Visual Culture	
ARTS 2340	Painting Basics	
ARTS 2341	Figure Drawing	
ARTS 3449	Drawing in Mixed Media	
Architecture		
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	

ARCH 1450	Understanding Design
ARCH 2330	Architecture and the City in the Nineteenth Century
ARCH 2340	Modern Architecture
Communication Studies	
COMM 1101	Introduction to Communication Studies
Game Design	
GAME 1110	Games and Society
Journalism	
JRNL 1150	Understanding Today's News
Media and Screen Studies	
MSCR 1220	Media, Culture, and Society
MSCR 1230	Introduction to Film Production
MSCR 2220	Understanding Media
MSCR 2336	American Film and Culture
Music	
MUSC 1113	Film Music
Theatre	
THTR 1101	Introduction to Theatre
THTR 1270	Introduction to Theatrical Design
University of the Arts London	
Optional London study abroad for sound management at Central Saint Martins, University of the Arts London. Specific courses at University of the Arts London are preapproved for transfer to a student's Northeastern University record to apply toward requirements. Students can consult with a CAMD academic advisor for approval prior to registration.	16

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1 Plan of Study Optional

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTF 1124 and ARTF 1125	5	Foreign language	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTF 2223 and ARTF 2224	5	Elective	4	Elective	4
ARTF 2220 and ARTF 2221	5	Art history elective 2	4				
ARTH 1001 and ARTH 1002	4	Foreign language	4				
ENGW 1111	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1120 or 1121	4	Co-op	0	Co-op	0	Elective	4
ARTH 3000	4					Elective	4
Arts, media and design elective	4						
Foreign language	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTH 4000	4	Co-op	0	Co-op	0	Elective	4
Arts, media and design elective	4					Elective	4
Elective	4						

Elective		4			
		16	**0**	**0**	**8**

Year 4

Fall	Hours		Spring	Hours	
Arts, media and design elective		4	ARTD 4530	4	
Arts, media and design elective		4	Arts, media and design elective	4	
Elective		4	Elective	4	
Elective		4	Elective	4	
		16		**16**	

Total Hours: 133

Notes:

Optional study abroad with University of the Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second spring semester in London studying fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/).

Design, BFA

Design is the practice-based discipline that poses important questions about—and provides significant answers to—how we live. Designers are needed when we don't know what is needed as well as when we think we do. Designers propose alternative futures and create new choices using principles and processes to create, compose, and construct meaning in diverse knowledge fields. Designers seek a broad understanding of principles and systems of perception, communication, and action. Concentrations in design practices are graphic and information design, interaction design, and experience design.

Graphic designers make messages and meaning using visual form and the integration of text and image. Their work often has a persuasive intent and uses rules of visual composition, form, and pattern to enable storytelling or to create attention and an ambiance for consideration. Information designers visualize concepts and data to enhance human understanding of complex and vital knowledge. Their work has an enlightening or instructive intent and is based on factual content.

Interaction designers focus on the creation of navigable interfaces and systems that allow audiences to take an active role to achieve meaningful goals. Their work connects people to people and people to information and environments.

Experience designers take a holistic and integrative approach that focuses on the quality of the human experience in concrete situations. They employ research, analysis, creativity, and technology as tools to understand human goals, needs, and desires. Their work examines and improves contexts, systems, services, or events.

The Bachelor of Fine Arts in Design is offered with the following concentration options: graphic and information design, interaction design, or experience design.

The major offers optional study abroad with University of the Arts London (https://www.arts.ac.uk/), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second spring semester in London studying fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements. All other NUpath requirements must be met through electives.

Students interested in design PlusOne programs should consult with faculty coordinator and advisor during sophomore year to register for 5000-level courses in junior and senior years.

Art and Design Core

Code	Title	Hours
Introduction to College		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
Art and Design History		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 3000	Topics in Visual Studies	4

ARTH 4000	Topics in Visual Studies	4
Complete one additional ARTH course.		4

Design Requirements

Code	Title	Hours
Design Course		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
Degree Project		
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	4
ARTG 4550	Design Degree Project	4

Design Electives

Code	Title	Hours
Art and Design Elective		
Complete one ARTD, ARTE, ARTF, ARTS, or GAME course not already required and as long as prerequisites have been met. If ARTG 5000 (or any other topics course in the subjects listed) is completed more than once, the additional completions may be applied toward the electives.		4
Media Arts Elective		
Complete one of the following:		4-5
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
ARTD 3000	Topics in Media Arts	
Design Electives		
Complete three ARTG courses as long as prerequisites have been met. If ARTG 5000 (or any other topics course in the subject listed) is completed more than once, the additional completions may be allowed toward the electives.		12

Design Concentration Options

Complete one of the options listed below:

- Design Major (No Concentration) (p. 179)
- Design Major with Concentration in Experience Design (p. 180)
- Design Major with Concentration in Graphic Design (p. 180)
- Design Major with Concentration in Information Design (p. 180)
- Design Major with Concentration in Interaction Design (p. 180)

Program Requirements

129 total semester hours required

Design Major (No Concentration)

Code	Title	Hours
ARTG 5000	Topics in Design	4
Complete three courses across any of the design concentration core classes below. At least one course needs to be at the 3000 level.		12
Design Management Electives at University of the Arts London		

Optional London study abroad for sound management at Central Saint Martins, University of the Arts London. Specific courses at University of the Arts London are preapproved for transfer to a student's Northeastern University record to apply toward requirements. Students can consult with a CAMD academic advisor for approval prior to registration.

DESIGN MAJOR WITH CONCENTRATION IN EXPERIENCE DESIGN

Code	Title	Hours
Required Courses		
ARTG 3462	Experience Design Principles	4
ARTG 3463	Experience Design 2	4
ARTG 5000	Topics in Design	4
Elective		
Complete one of the following:		4
ARTG 3100	Physical and Digital Fabrication	
ARTG 5640	Prototyping for Experience Design	

DESIGN MAJOR WITH CONCENTRATION IN GRAPHIC DESIGN

Code	Title	Hours
Required Courses		
ARTG 2252	Graphic Design Principles	4
ARTG 3450	Graphic Design 2	4
ARTG 5000	Topics in Design	4
Elective		
Complete one of the following:		4
ARTG 3350	Typography 2	
ARTG 4554	Typography 3	

DESIGN MAJOR WITH CONCENTRATION IN INFORMATION DESIGN

Code	Title	Hours
ARTG 2242	Information Design Principles	4
ARTG 3444	Topics in Information Design Inquiry	4
ARTG 5000	Topics in Design	4
Complete one of the following:		4
ARTG 5150 and ARTG 5151	Information Visualization Principles and Practices and Information Design Critique Seminar	
ARTG 5320	Statistics for Design	

DESIGN MAJOR WITH CONCENTRATION IN INTERACTION DESIGN

Code	Title	Hours
Required Courses		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3700	Interaction Design 2: Mobile	4
ARTG 5000	Topics in Design	4
Elective		
Complete one of the following:		4
ARTG 3250	Physical Computing	
ARTG 5640	Prototyping for Experience Design	

Plan of Study

Sample Four Years, One Co-op in Spring/Summer1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTG 1270 and ARTG 1271	4	A+D elective	4	Vacation	
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1290 and ARTG 1291	4	Elective	4		

ARTG 1001 and ARTG 1002	4	A+D fundamentals	4				
ARTH 1001 and ARTH 1002	4	Elective	4				
Elective (writing NUpath)	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	Design elective 2	4	A+D elective	4	Vacation	
A+D history elective	4	Media arts elective	4	Elective	4		
Design concentration principles	4	Topics In Design concentration inquiry	4				
Design elective 1	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op	0	Co-op	0	Vacation	
ENGW 3314	4						
A+D history 3000 level	4						
Design concentration course 3	4						
Design elective	4						
	17		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
A+D history 4000 level	4	ARTG 4550	4
Design concentration course 4	4	Design elective 4	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Sample Four Years, One Co-op in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTG 1270 and ARTG 1271	4	A+D fundamentals or ARTG 2260 Programming Basics	4	Vacation	
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1290 and ARTG 1291	4	Elective	4		
ARTG 1001 and ARTG 1002	4	A+D fundamentals	4				
ARTH 1001 and ARTH 1002	4	Elective	4				
Elective (writing NUpath)	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	EEAM 2000	1	A+D elective	4	Co-op	0
A+D history elective	4	Design elective 2	4	Elective	4		
Design concentration principles	4	Media arts elective	4				

Design elective 1	4	Topics In Design concentration inquiry	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3314 or 3315	4	Vacation		Vacation	
		A+D history 3000 level	4				
		Design concentration course 3	4				
		Design elective 3	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
A+D history 4000 level	4	ARTG 4550	4
Design concentration course 4	4	Design elective 4	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Notes:

Online elective courses are optional while on co-op.

Optional study abroad with University of the Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second year spring semester in London studying design management at London College of Communication (https://www.arts.ac.uk/subjects/business-and-management-and-science/undergraduate/ba-hons-design-management-lcc/).

Game Design, BFA

The Bachelor of Fine Arts in Game Design is designed to provide students with the skills to communicate ideas and emotions through interactive media. The focus of the BFA degree is exploring games as an aesthetic and expressive form through critical analysis and creative, reflective practice. Anticipating emerging trends in the video and analog game industries—including broader platforms, audiences, and distribution channels—students will be oriented toward developing games and playful media in an independent creative context. Curriculum is geared to cultivate students' unique creative voices through courses that apply theoretical analysis to game-development practices across a range of media. Students are exposed to a wide variety of genres and contexts, as well as alternative ways of thinking about games content, platforms, and asset production.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Formal and Quantitative Reasoning (FQ), and Analyzing/Using Data (AD) are met through the major course requirements. All other NUpath requirements must be met through electives.

Required Courses

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Game Studies		
GAME 1110	Games and Society	4
GAME 2650	Introduction to Game Research Methods	4
Game Design		
GAME 2500	Foundations of Game Design	4
GAME 2950	Game Studio	4
GAME 3700	Rapid Idea Prototyping for Games	4
Game Development		
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	4
GAME 3300	Game Interface Design	4
GAME 3400	Level Design and Game Architecture	4
GAME 3800	Game Concept Development	4
Game Aesthetics		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
Critical Play		
GAME 2010	The Business of Games	4
Capstone		
A grade of C or higher is required:		
GAME 4700	Game Design Capstone	4

Electives

Code	Title	Hours
Game Design and Development		
Complete two of the following as long as prerequisites have been met:		8
GAME 1850	Experimental Game Design	
GAME 1999	Principles of Board Game Development	
GAME 2991	Research in Game Design	
GAME 3800	Game Concept Development	
GAME 4000	Topics in Game Design	
GAME 4460	Generative Game Design	
GAME 4600	Game Production	
Game Aesthetics and Critical Play		
Complete two of the following as long as prerequisites have been met:		8
GAME 2355	Narrative for Games	
GAME 2750	Games Criticism and Theory	
GAME 2755	Games and Social Justice	
GAME 4155	Designing Imaginary Worlds	
Art + Design		
Complete three of the following as long as prerequisites have been met:		12
ARTF 1120	Observational Drawing	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
ARTD 3000	Topics in Media Arts	
ARTG 3250	Physical Computing	
ARTD 3470	Animation 1	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
Art History		
Complete one art history course within the ARTH subject code.		4

Game Design Major Credit/GPA Requirement

Complete 92 semester hours for the major with a 2.000 GPA.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTD 2370 and ARTD 2371	5	Art + Design Elective	4	Art + Design Elective	4
ARTF 1122 (with optional 1123)	4	ARTF 1124 and ARTF 1125	5	Art History Elective	4	Elective	4
ARTF 2220 and ARTF 2221	5	GAME 2500	4				
ENGW 1111	4	GAME 2650	4				
GAME 1110	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	Co-op		Co-op		Elective	4
GAME 2950	4					Elective	4
GAME 3300	4						

Game Aesthetics and Critical Play Elective		4					
EEAM 2000		1					
		17		**0**		**0**	**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
GAME 3400	4	Co-op		Co-op		Elective	4
GAME 3700	4					Elective	4
Art + Design Elective	4						
Game Design and Development Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
GAME 2010	4	GAME 4700	4
GAME 3800	4	Elective	4
Game Aesthetics and Critical Play Elective	4	Elective	4
Game Design and Development Elective	4	Elective	4
	16		**16**

Total Hours: 133

Media Arts, BFA

The continuing revolution in digital computing and global communications has produced a rapidly evolving field for artists who create experiences of image and form with computer screens, intelligent devices, and new materials. Artists also invent tools for exploring, creating, and distributing their ideas and works. Media arts concentrations of animation, photography, and video arts are offered with variations yet to be invented.

Courses in imaginative and narrative arts required for professional work in documentary films, game art, visualization, visual effects, motion graphics, interactive art, illustration, and short animated films are offered at Northeastern. The curriculum in our intensive studio program provides knowledge, experience, and techniques of media arts informed by theory, experimentation, and critique. Extensive digital imaging and interactive media editing production facilities afford one the opportunity to become highly proficient in the current skills and emerging practices necessary for remarkable work. The media arts are evolving and expanding into culture in daily life and global experience. The revolutions in immersive media, 3D printing, embedded devices, and robotics are changing the landscape in which the media artist will operate. This degree is designed to prepare students to meet the challenges of continuous change with adaptive ingenuity.

The animation concentration provides a comprehensive exploration of the entire production pipeline for a variety of animated content including films, visual effects, broadcast, visualization, games, and spatial media. With a focus on developing robust, conceptual, narrative, and technical software skills, this rigorous studio program explores the power and potential of effective visual communication through 2D and 3D motion design. The animation concentration provides ample opportunities to explore and collaborate with related creative disciplines (VR/AR/XR, game design, interactive, video, etc.) making this a truly unique learning experience. Throughout their education, students will work to develop a professional-level portfolio—the centerpiece of which will be a one-year capstone project—demonstrating mastery in their specific area of focus.

The photography concentration encourages experimental and self-disciplined engagement with photographic processes in order to understand how materials function, both as a physical component of photographic work as well as a signifier of meaning. Concept and process are in constant dialogue, and we believe learning through doing cultivates individual vision and working methods. Each student's creative approach establishes a vital platform for discovery. In addition, theory and conceptual development provide students with necessary analytical tools for understanding and analyzing visual and technological trends in current and future photographic practices.

Young professionals today must meet challenges—as well as enjoy opportunities—to be more creative, adaptive, and innovative as active practitioners within our contemporary visual culture and evolving technological environment. Our responsibility as liberal arts educators is to expand the skills and vision of each student in light of their individual and professional goals. At a time when initiative, creativity, and innovation are leading principles for social and economic progress, it is important to stress the ways in which their artistic and creative endeavors can make a rewarding and meaningful contribution.

Northeastern photography program students find themselves in the center of Boston's creative hub, across from the Museum of Fine Arts. Northeastern's own Center for the Arts directs interdisciplinary research and presents exhibitions and innovative programs. The newly renovated Media Hub offers state-of-the-art equipment rentals and digital printing resources. Photography students have access to two large computer labs and an alternative photographic processes darkroom with film processing and analog printing capabilities.

Our foundation photography courses are small studio and lab classes, leading to intermediate and advanced studios and seminars with an emphasis on personal vision developed through lectures, critiques, individual meetings, and research. In addition, guest artists are invited to participate and offer insights.

The video arts concentration is a multidisciplinary field focused on creative video expression and messaging that weaves together art and design foundations; art and design history; video production; cinematic language (including documentary, narrative, and experimental strategies); collaborative frameworks; and theories of social and cultural change. The scope of the video arts curriculum is a broader and more diverse tapestry than traditional video art and it reflects the dynamic evolution of video in multiple contexts. The video arts concentration enables students to explore traditional, alternative, and other artistic means of video art production in a variety of creative and technical contexts. The focus on a multiplicity of artistic formats—hence, the choice of the title video arts—underscores our attention to the training of students who are interested in learning how to experiment with new technical, narrative, and aesthetic practices and incorporate these options into the traditional medium of video art.

Optional study abroad with University of Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second spring semester in London studying fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression and Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.
NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Differences and Diversity (DD), and Ethical Reasoning (ER) must be met through general electives.

Art and Design Core

Code	Title	Hours
Introduction to College		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
Art and Design History		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 3000	Topics in Visual Studies	4
ARTH 4000	Topics in Visual Studies	4

Media Arts Requirements

Code	Title	Hours
ARTD 1001 and ARTD 1002	Media Art, Culture, and Social Justice and Seminar for ARTD 1001	4
Drawing Fundamentals Elective		
ARTF 1120	Observational Drawing	4
or ARTF 1121	Conceptual Drawing	
Media Arts Basics Elective		
Note: If you are pursuing a concentration, select courses not used for your concentration.		
Complete one of the following:		4-5
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Media Arts History Elective		
Complete one of the following:		4
If a topics in course is completed more than once, the additional completions may be allowed toward the electives.		
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2212	Survey of the Still and Moving Image	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
Design Requirement		
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	
Degree Project		
ARTD 4530	Media Arts Degree Project	4

Media Arts Electives or Concentration

Complete the media arts electives or contact your academic advisor to declare one of the following concentrations:

- Animation (p. 189)
- Photography (p. 189)
- Video Arts (p. 189)

Code	Title	Hours
Complete 20 semester hours from the following:		20
If a topics in course is completed more than once, the additional completions may be allowed toward the electives.		
Courses in this requirement may not be used for the drawing fundamentals elective or media arts history elective.		
ARTD 2100	Narrative Basics	
ARTD 2340	Introduction to Computational Creative Practice	
ARTD 3000	Topics in Media Arts	
ARTD 3460	Photography: Concept + Process	
ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
ARTE 2301	The Graphic Novel	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 2501	Art and Design Abroad: History	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	
ARTH 1100	Interactive Media and Society	
ARTH 1400	The Science of Art, the Art of Science	
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2313	Global Networks in Early Modern Art and Visual Culture	
ARTH 3000	Topics in Visual Studies	
ARTH 3211	Performance Art	
ARTH 4000	Topics in Visual Studies	
ARTH 5100	Contemporary Art Theory and Criticism	
ARTH 5600	Landscape and Ecology in Visual Culture	
ARTS 2340	Painting Basics	
ARTS 2341	Figure Drawing	
ARTS 3449	Drawing in Mixed Media	
Sound Management at University of Arts London		
Optional London study abroad for sound management at Central Saint Martins, University of Arts London. Specific courses at University of Arts London are pre-approved for transfer to a student's Northeastern University record to apply toward requirements. Students can consult with a CAMD academic advisor for approval prior to registration.		

Program Requirement

134 total semester hours required

CONCENTRATION IN ANIMATION

Code	Title	Hours
Animation Requirements		
ARTD 2100	Narrative Basics	4
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
ARTD 3000	Topics in Media Arts	4
ARTD 3470	Animation 1	4
ARTD 4570	Animation 2	4
Animation Electives		
Complete three of the following. At least one must be at the 4000 level:		12
If ARTD 3000 is completed more than once, the additional completions may be allowed toward the electives.		
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 4575	Animation 3	
Art and Design Elective		
Complete any one ARTG, ARTE, ARTD, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
If ARTD 3000 (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		
Courses in this requirement may not be used for the drawing fundamentals elective, media arts basics elective, media arts history elective, or animation electives.		

CONCENTRATION IN PHOTOGRAPHY

Code	Title	Hours
Photography Requirements		
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	5
ARTD 3460	Photography: Concept + Process	4
ARTD 4565	Photography: Visual Strategies + Context	4
Photography Elective		
If ARTD 3000 is completed more than once, the additional completions may be allowed toward the electives.		
ARTD 3000	Topics in Media Arts	4
or ARTD 4660	Studio Photography	
or ARTD 4661	Photography: Experimental Processes	
Art and Design Electives		
Complete any three ARTG, ARTE, ARTD, ARTH, ARTS, or GAME courses as long as prerequisites have been met. At least one must be a 4000-level course.		12
If ARTD 3000 (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		
Courses in this requirement may not be used for the drawing fundamentals elective, media arts basics elective, media arts history elective, or photography elective.		

CONCENTRATION IN VIDEO ARTS

Code	Title	Hours
Video Arts Requirements		
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	5
ARTD 3480	Video: Sound and Image	4

Code	Title	Hours
Video Arts Electives		
Complete four of the following:		16
If ARTD 3000 (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		
ARTD 3000	Topics in Media Arts	
ARTD 3485	Experimental Video	

ARTH 2212	Survey of the Still and Moving Image
MSCR 2160	Narrative Filmmaking
MSCR 3389	Screenwriting
MSCR 3446	Documentary Production
THTR 2345	Acting for the Camera

Art and Design Electives

Complete any three ARTG, ARTE, ARTD, ARTH, ARTS, or GAME courses as long as prerequisites have been met. At least one must be a 4000-level course.	12
If ARTD 3000 (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.	
Courses in this requirement may not be used for the drawing fundamentals elective, media arts basics elective, and media arts history elective.	

University of Arts London

Optional London study abroad for sound management at Central Saint Martins, University of Arts London. Specific courses at University of Arts London are pre-approved for transfer to a student's Northeastern University record to apply toward requirements. Students can consult with a CAMD academic advisor for approval prior to registration.	

Program Requirement

134 total semester hours required

Plan of Study

- No Concentration (p. 190)
- Animation (p. 191)
- Photography (p. 192)
- Video Arts (p. 192)

No Concentration

SAMPLE FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1/SAMPLE—ZA PLAN OF STUDY ONLY

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTF 1122 (with optional ARTF 1123)	4	Elective	4	Elective	4
ARTF 1124 and ARTF 1125	5	ARTF 2220 and ARTF 2221	5	Elective	4	Elective	4
Drawing fundamentals elective	4	Media arts history elective	4				
ARTH 1001 and ARTH 1002	4	Elective	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 2223 and ARTF 2224	5	Co-op		Co-op		Elective	4
ARTH 3000	4					Elective	4
Media arts basics elective	4-5						
Elective	4						
EEAM 2000	1						
	18-19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1290 and ARTG 1291	4	Co-op		Co-op		Elective	4
ARTH 4000	4					Elective	4
Media arts elective	4						

Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours			Summer 2	Hours
Media arts elective	4	ARTD 4530	4			Vacation	
Media arts elective	4	Media arts elective	4				
Media arts elective	4	Media arts elective	4				
Elective	4	Elective	4				
	16		**16**				**0**

Total Hours: 133-134

Animation

SAMPLE FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1/SAMPLE—ZA PLAN OF STUDY ONLY

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTF 1122 (with optional ARTF 1123)	4	ARTF 2223 and ARTF 2224	5	Elective	4
Drawing fundamentals elective	4	ARTF 1124 and ARTF 1125	5	Elective	4	Elective	4
ARTF 2220 and ARTF 2221	5	ARTD 2370 and ARTD 2371	5				
ARTH 1001 and ARTH 1002	4	Media arts history elective	4				
ENGW 1111	4						
	18		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 2100	4	Co-op		Co-op		Elective	4
ARTD 3470	4					Elective	4
Animation elective	4						
Media arts basics elective	4-5						
EEAM 2000	1						
	17-18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 4570	4	Co-op		Co-op		Elective	4
ARTG 1290 and ARTG 1291	4					Elective	4
ARTH 3000	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours				
Animation elective	4	ARTD 4530	4				
Art and design elective	4	Elective	4				
Art and design elective	4	Elective	4				
ARTH 4000	4	Elective	4				
	16		**16**				

Total Hours: 134-135

Photography

SAMPLE FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1/SAMPLE—ZA PLAN OF STUDY ONLY

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTF 2220 and ARTF 2221	5	Elective	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTF 2223 and ARTF 2224	5	Elective	4	Elective	4
ARTF 1124 and ARTF 1125	5	ARTD 2360 and ARTD 2361	5				
ARTH 1001 and ARTH 1002	4	Media arts history elective	4				
ENGW 1111	4						
	18		**19**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 3460	4	Co-op		Co-op		Elective	4
Photography elective	4					Elective	4
Drawing fundamentals elective	4						
ARTH 3000	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 4565	4	Co-op		Co-op		Elective	4
ARTG 1290 and ARTG 1291	4					Elective	4
ARTH 4000	4						
Media arts basics elective	4-5						
	16-17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Art and design elective	4	ARTD 4530	4
Art and design elective	4	Art and design elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 134-135

Video Arts

SAMPLE FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1/SAMPLE—ZA PLAN OF STUDY ONLY

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTF 2220 and ARTF 2221	5	Elective	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTF 2223 and ARTF 2224	5	Elective	4	Elective	4
ARTF 1124 and ARTF 1125	5	Art and design elective	4				
ARTH 1001 and ARTH 1002	4	Media arts history elective	4				
ENGW 1111	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 2380 and ARTD 2381	5	Co-op		Co-op		Elective	4
Video arts elective	4					Elective	4
Drawing fundamentals elective	4						
ARTH 3000	4						
EEAM 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 3480	4	Co-op		Co-op		Elective	4
ARTG 1290 and ARTG 1291	4					Elective	4
ARTH 4000	4						
Media arts basics elective	4-5						
	16-17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Video arts elective	4	ARTD 4530	4
Art and design elective	4	Video arts elective	4
Elective	4	Art and design elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 134-135

Notes:

Optional study abroad with University of Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second spring semester in London studying fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/).

Studio Art, BFA

Our Bachelor of Fine Arts in Studio Art is offered in partnership with the School of the Museum of Fine Arts at Tufts (https://smfa.tufts.edu/) University (SMFA at Tufts) across Huntington Avenue from our Boston campus. In this major, your studio art classes are taken at the SMFA at Tufts, which allows students to explore a wide range of artistic media, including ceramics, drawing, film, metalsmithing, painting, performance, printing, sculpture, and sound in their extensive studio environments. Our students complete art and design history courses in our department and they have access to all the elective courses, co-op, and study-abroad programs; student resources; and activities that Northeastern University students experience.

The BFA in studio art degree is awarded by Northeastern.

Optional study abroad with University of the Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second spring semester in London studying fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Differences and Diversity (DD), and Ethical Reasoning (ER) must be met through general electives.

Note: The BFA in studio art is a joint degree program offered in collaboration with the School of the Museum of Fine Arts at Tufts University (SMFA at Tufts), which is affiliated with Tufts University. Art and design history and general education requirements are offered at Northeastern University, and studio art courses, which are determined in consultation with academic advisors at the SMFA at Tufts, are targeted to each student's unique program of study.

Art History Requirements for Studio Art

A cumulative grade-point average of 2.500 or higher is required for the art history requirements.

Code	Title	Hours
Art History Required Courses		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 3000	Topics in Visual Studies	4
ARTH 4000	Topics in Visual Studies	4

Code	Title	Hours
Art and Design History Electives		
Complete two of the following (if ARTH 3000 or ARTH 4000—or any other topics course in the options listed below—is completed more than once, the additional completions may be allowed toward the art and design history electives):		8
ARCH 1310	Buildings and Cities, A Global History	
ARCH 2330	Architecture and the City in the Nineteenth Century	
ARCH 2340	Modern Architecture	
ARTD 2340	Introduction to Computational Creative Practice	
ARTE 2301	The Graphic Novel	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 2501	Art and Design Abroad: History	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	

ARTH 1100	Interactive Media and Society
ARTH 1400	The Science of Art, the Art of Science
ARTH 2200	Topics in Design History
ARTH 2210	Modern Art and Design History
ARTH 2211	Contemporary Art and Design History
ARTH 2212	Survey of the Still and Moving Image
ARTH 2313	Global Networks in Early Modern Art and Visual Culture
ARTH 3000	Topics in Visual Studies
ARTH 3211	Performance Art
ARTH 4000	Topics in Visual Studies
ARTH 5100	Contemporary Art Theory and Criticism
ARTH 5600	Landscape and Ecology in Visual Culture
CLTR 1240	Latin American Film
CLTR 1260	Japanese Film
ECON 1281	Economics of the Creative Industries
GAME 1110	Games and Society
MSCR 1220	Media, Culture, and Society
MSCR 2302	Advertising and Promotional Culture
MSCR 2336	American Film and Culture
MSCR 3392	Gender and Film
MSCR 3600	Film Theory
MSCR 3920	Topics in Film Studies
MUSC 1113	Film Music

Studio Art Courses

Code	Title	Hours
Studio Art		
Specific courses are targeted to each student's unique program of study, which is determined in consultation with an academic advisor at SMFA at Tufts and CAMD. Optional credits for London study abroad or SMFA at Tufts. These courses generally have the following course number:		68
SMFA 3000	Museum of Fine Arts Studio (4 to 12 SH)	
Optional London study abroad for sound management at Central Saint Martins, University of the Arts London. Specific courses at University of the Arts London are preapproved for transfer to a student's Northeastern University record to apply toward requirements. Students can consult with a CAMD academic advisor for approval prior to registration.		
Senior Thesis Capstone		
Senior thesis is a self-directed studio practice and exhibition under consultation of senior thesis faculty at SMFA at Tufts. These courses are generally in the SMFA subject area. Complete 8 semester hours of capstone or consult with an advisor.		8
SMFA 4000	Museum of Fine Arts Capstone	

Studio Art Major Credit Requirement

Complete 96 semester hours in the major.

Program Requirement

136 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1 Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	SMFA 3000	10	Elective	4	Vacation	0
ARTH 1001 and ARTH 1002	4	ENGW 1111	4	Elective	4		
SMFA 3000	10	Art history elective 2	4				
ENGW 1111	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTH 3000	4	Co-op	0	Co-op	0	Elective	4
SMFA 3000	10					Elective	4
SMFA 3000	4						
EEAM 2010	1						
	19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTH 4000	4	Co-op	0	Co-op	0	Elective	4
SMFA 3000	10	ENGW 3314 (Online)	4			Elective	4
SMFA 3000	4						
	18		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
SMFA 3000	10	SMFA 3000	10
SMFA 4000	4	SMFA 4000	4
Art history elective	4	Elective	4
	18		**18**

Total Hours: 138

Notes:

Optional study abroad with University of the Arts London (https://www.arts.ac.uk/?utm_source=qs&utm_medium=profile&utm_campaign=referralsites), based in the heart of one of the world's creative capitals, London. Students from this program will have the opportunity to spend their second spring semester in London studying fine art at Central Saint Martins (https://www.arts.ac.uk/subjects/fine-art/undergraduate/ba-hons-fine-art-csm/).

Behavioral Neuroscience and Design, BS

Overview

The behavioral neuroscience and design combined major engages students in an interdisciplinary study across the biology, psychology, and Art + Design departments to integrate fundamental design courses with a strong foundation in the physiological brain mechanisms that give rise to behavioral functions. The latest research in neuroscience and psychology enables designers to maximize the impact of their designs and, conversely, complex neuroscientific concepts can be made intelligible to a wider public through creative visual works. Students in this major have the opportunity to learn about the inner workings of the brain and how its various structures interact to enhance their approach to design methodologies. Students can then apply these principles to biomimetic medical devices as well as data and network visualization.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Behavioral Neuroscience Requirements

Code	Title	Hours
Behavioral Neuroscience Overview		
BNSC 1000	Behavioral Neuroscience at Northeastern [1]	1
EESC 2000	Professional Development for Co-op [2]	1
COS Foundations		
PSYC 1101	Foundations of Psychology	4
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
Mathematics Foundation		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
Statistics Foundation		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
PSYC 2320	Statistics in Psychological Research	
Behavioral Neuroscience Foundations		
PSYC 3200	Clinical Neuroanatomy	4
PSYC 3452	Sensation and Perception	4
PSYC 3458	Biological Psychology	4
Behavioral Neuroscience Core Courses		
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	

BIOL 4705	Neurobiology of Cognitive Decline
BIOL 4709	Neurobiology of Learning and Memory
BIOL 5595	Cell and Molecular Neuroscience
BIOL 5601	Multidisciplinary Approaches in Motor Control
PSYC 3506	Neuropsychology of Fear
PSYC 3508	Behavioral Endocrinology
PSYC 3510	Brain, Behavior, and Immunity
PSYC 4510	Psychopharmacology
PSYC 4512	Neuropsychology
PSYC 4514	Clinical Neuroscience
PSYC 4570	Behavioral Genetics

1 Students entering through CAMD may take Art and Design at Northeastern (ARTF 1000).
2 Students entering through CAMD may take Professional Development for Co-op (EEAM 2000).

Design Requirements

Code	Title	Hours
Art + Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art and Design Fundamentals Elective		
Complete one of the following:		5
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Art + Design History Elective		
Complete any one ARTH course.		4
Art + Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		

ARTG 2400	Interaction Design Principles (with optional ARTG 2401)
ARTG 3700	Interaction Design 2: Mobile

Integrative Requirements

Code	Title	Hours
Integrative Courses		
ARTG 5310	Visual Cognition	4
BIOL 5587	Comparative Neurobiology	4
The following course is already required in major:		
ARTG 4550	Design Degree Project	
Upper-Division Elective		
Complete one course that is not already taken as long as prerequisites have been met:		4
Any ARTG course not already required or ARTG 5000 Topics in Design, as long as prerequisites have been met.		
BIOL 3403 or higher		
BNSC 4970 or higher		
PSYC 3404 or higher		

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Major Credit Hour Requirement

104 semester hours in the major.

Program Requirements

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1001 and ARTG 1002	4	ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4	ARTG 1290 and ARTG 1291	4
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	PSYC 2320	4	PSYC 3452	4
BNSC 1000 or ARTF 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PSYC 1101	4						
	19		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op		Co-op		Art + Design Fundamentals Elective	4

CHEM 2311 and CHEM 2312	5					General elective	4
EESC 2000 or EEAM 2000	1						
PSYC 3458	4						
Design Option course 1	4						
	19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 5310	4	Co-op		Co-op		ENGW 3315	4
PSYC 3200	4					General elective	4
Design option course 2	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
BIOL 5587	4	ARTG 4550	4
Art + Design Elective	4	BNS core course	4
Art and Design History elective	4	Upper-division elective	4
BNS core course	4	General elective	4
	16		**16**

Total Hours: 134

FIVE YEARS, THREE CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1001 and ARTG 1002	4	ARTF 1122 (with optional ARTF 1123)	4	Vacation		Vacation	
BIOL 1107 and BIOL 1108	5	BIOL 2299	4				
BNSC 1000 or ARTF 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PSYC 1101	4						
	19		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	Co-op		Co-op		PSYC 2320	4
ARTG 1290 and ARTG 1291	4					General Elective	4
CHEM 2311 and CHEM 2312	5						
EESC 2000 or EEAM 2000	1						
PSYC 3452	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op		Co-op		Vacation	
PSYC 3200	4						
PSYC 3458	4						

Design Option course 1		4					
		17		**0**		**0**	**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art and Design History elective		4 Co-op		Co-op		ENGW 3315	4
Art + Design Elective		4				General elective	4
BNS core course		4					
Elective		4					
		16		**0**		**0**	**8**

Year 5

Fall	Hours	Spring	Hours
ARTG 5310	4	ARTG 4550	4
BIOL 5587	4	Art+Design Elective	4
Art+Design History Elective	4	BNS core course	4
Design Option level 2	4	Upper-division elective	4
	16		**16**

Total Hours: 134

Business Administration and Design, BS

The combined major in business administration and design integrates fundamental design courses with the theory and practice of management through active learning, problem-driven research, corporate partnerships, and experiential assignments. The BS degree can be accomplished using the four-year co-op plan.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Core Requirements

Code	Title	Hours
Introduction to College		
BUSN 1102	Personal Skill Development for Business	1
or ARTF 1000	Art and Design at Northeastern	
Mathematics		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1260	Math Fundamentals for Games	
Macroeconomics and Microeconomics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Business Statistics		
MGSC 2301	Business Statistics	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Finance		
FINA 2201	Financial Management	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Strategy in Action		
STRT 4501	Strategy in Action	4
Business Core Option		
Complete one of the following:		4
ACCT 2301	Managerial Accounting	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	
Professional Development		

BUSN 1103	Professional Development for Business Co-op	1
or EEAM 2000	Professional Development for Co-op	

Business Concentration

Complete one of the following business concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Second Business Concentration (Optional)

A second business concentration is optional and may be chosen from the following list:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startup (p. 659)s
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Design Requirements

Students interested in design PlusOne programs are recommended to consult with faculty coordinator and advisor during sophomore year to register for 5000-level courses in junior and senior years.

Code	Title	Hours
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	
Art and Design Fundamentals Elective		
Complete one of the following:		5
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	

ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262 (or ARTG Design Elective) [1]	4
Art and Design History Elective		
Complete any one ARTH course.		4
Art and Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course for which prerequisites have been met.		4
If any topics course is completed more than once, the additional completions may be allowed toward the electives.		
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

[1] For students interested in the PlusOne in Information Design and Data Visualization, speak with an advisor about an alternative course option to Prototyping with Code (ARTG 2262) and Lab for ARTG 2262 (ARTG 2263).

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3700	Interaction Design 2: Mobile	

[2] For students interested in the PlusOne in Information Design and Data Visualization, speak with an advisor about an alternative course option to Topics in Information Design Inquiry (ARTG 3444).

Integrative Course

Code	Title	Hours
Note: Integrative course is required above.		
ARTG 4550	Design Degree Project	

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Business Cooperative Education

Complete one cooperative education experience.

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ARTG 1270 and ARTG 1271	4	ARTG 1290 and ARTG 1291	4	Art and design fundamentals elective	4
ARTF 1122 (with optional ARTF 1123)	4	ECON 1115 or 1116	4	Elective	4	Elective	4
ARTG 1001 and ARTG 1002	4	MGSC 2301	4				
BUSN 1102 or ARTF 1000	1	MATH elective	4				
ENGW 1111	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	BUSN 1103 or EEAM 2000	1	FINA 2201	4	Co-op	0
INTB 1203	4	Art and design history elective	4	Elective	4		
MKTG 2201	4	Business concentration introductory course	4				
Design option level 1	4	Business core option	4				
		Design option level 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3314 or 3315	4	Business concentration elective 2	4	Co-op	0
		ORGB 3201	4	Elective	4		
		Art and design elective	4				
		Business concentration elective 1	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 4550	4
		STRT 4501	4
		Business concentration	4
		Elective	4
	0		**16**

Total Hours: 130

Computer Science and Design, BS

The combined major in computer science and design integrates fundamental design courses with a strong programming foundation. Students will declare a concentration in interaction design, graphic and information design, or experience design. Students in this major often have an interest in human-centered design methods used in developing digital interfaces and applications.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction	4
Computer Science Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Design Requirements

Code	Title	Hours
Art + Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art + Design Fundamentals Elective		
Complete one of the following:		4

ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Design Elective		
Complete any one ARTG course, as long as prerequisites have been met and that is not used to fulfill other requirements of the program. ARTG 2262 and ARTG 2263 are recommended. [1]		4
Art + Design History Elective		
Complete any one ARTH course.		4
Art + Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

[1] Instead of ARTG 2262 and ARTG 2263, ARTG 5330 is recommended for students considering the Plus One in Information Design and Data Visualization.

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry [2]	
Interaction Design Option		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3700	Interaction Design 2: Mobile	

[2] Instead of ARTG 3444, ARTG 5100 is recommended for students considering the Plus One in Information Design and Data Visualization.

Degree-Focused Electives

Code	Title	Hours
Complete two courses from the following lists:		8
Art + Design		
Complete any ARTG course as long as prerequisites have been met. If ARTG 5000 (or any other topics course in the subject listed) is completed more than once, the additional completions may be allowed toward the electives.		
Psychology		
PSYC 1101	Foundations of Psychology	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	

Computer Science

CS 3200	Database Design
CS 3520	Programming in C++
CS 3540	Game Programming
CS 3650	Computer Systems
CS 3800	Theory of Computation
CS 4100	Artificial Intelligence
CS 4150	Game Artificial Intelligence
CS 4300	Computer Graphics
CS 4400	Programming Languages
CS 4520	Mobile Application Development
CS 4550	Web Development
CS 4700	Network Fundamentals
CS 4730	Distributed Systems
CS 4850	Building Game Engines
CS 4991	Research
CS 4992	Directed Study
CS 4993	Independent Study
DS 3000	Foundations of Data Science
DS 4200	Information Presentation and Visualization
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
DS 4420	Machine Learning and Data Mining 2
IS 2000	Principles of Information Science

Integrative Requirement

Code	Title	Hours
The following courses are used in the major but also count as the integrative requirement:		
IS 4300	Human Computer Interaction	
ARTG 4550	Design Degree Project	

Supporting Course

Code	Title	Hours
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3314	Advanced Writing in the Arts, Media, and Design
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS and IS courses

Computer Science and Design Major Credit Requirement

96 SH are required in the major.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4	CS 3500 and CS 3501	5	Vacation	
ARTG 1001 and ARTG 1002	4	ARTG 1290 and ARTG 1291	4	A+D Fundamentals Elective	4		
CS 1200 or ARTF 1000	1	CS 2510 and CS 2511	5				
CS 1800 and CS 1802	5	ENGW 1111	4				
CS 2500 and CS 2501	5						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	Co-op		Co-op		Elective	4
CS 1210 or EEAM 2000	1					Elective	4
CS 3000	4						
Design Option level 1	4						
Degree-focused elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
IS 4300	4	Co-op		Co-op		Elective	4
Art+Design History elective	4			ENGW 3302	4	Elective	4

Computing and social issues		4					
Design Option level 2		4					
		16		**0**		**4**	**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	ARTG 4550	4
Art+Design elective	4	CS elective	4
Elective	4	CS elective	4
Elective	4	Degree-focused elective 2	4
	16		**16**

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1001 and ARTG 1002	4	ARTG 1270 and ARTG 1271	4	CS 3500 and CS 3501	5	Vacation	
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1290 and ARTG 1291	4	A+D Fundamentals Elective	4		
CS 1200 or ARTF 1000	1	CS 2510 and CS 2511	5				
CS 1800 and CS 1802	5	ENGW 1111	4				
CS 2500 and CS 2501	5						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	CS 1210	1	Elective	4	Co-op	
CS 3000	4	IS 4300	4	Elective	4		
Design Option level 1	4	A+D History Elective	4				
Degree-focused elective 1	4	Computing and Social Issues	4				
		Design Option level 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4530	4	Elective	4	Co-op	
		Art + Design Elective	4	Elective	4	ENGW 3302	4
		Elective	4				
		Elective	4				
	0		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		ARTG 4550	4
		CS elective	4
		CS elective	4
		Degree-focused elective 2	4
	0		**16**

Total Hours: 130

Computer Science and Game Development, BS

The computer science and game development combined major focuses on the specific skills needed to succeed in the highly competitive game industry. Students will engage in building and developing games and playable media experiences while completing courses in computer science and specialized game technology and design. Interdisciplinary courses enable students to develop their creative and entrepreneurial abilities, as well as create a strong portfolio of game pieces.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3520	Programming in C++ (Integrative course)	4
CS 3540	Game Programming (Integrative course)	4
CS 3650	Computer Systems	4
CS 4300	Computer Graphics (Integrative course)	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
CS 4850	Building Game Engines (Integrative course)	4
Computer Science Elective Course		
CS 4150	Game Artificial Intelligence (Integrative course)	4
or IS 4300	Human Computer Interaction	

Game Design Courses

Code	Title	Hours
Game Design Required		
GAME 1110	Games and Society	4
GAME 2500	Foundations of Game Design	4
GAME 2950	Game Studio	4

GAME 3400	Level Design and Game Architecture	4
GAME 3700	Rapid Idea Prototyping for Games	4
GAME 3800	Game Concept Development	4
GAME 4700	Game Design Capstone	4
Game Design Elective		
Complete one of the following:		
GAME 1850	Experimental Game Design	4
or GAME 3300	Game Interface Design	
or GAME 4000	Topics in Game Design	
Khoury/Game-Related Electives		
Complete three of the following:		12
Any course in ARTD, ARTE, ARTF, ARTG, ARTH, and GAME subject areas as long as prerequisites have been met.		
If GAME 4000 (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the Game Design electives.		
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
MATH 1342	Calculus 2 for Science and Engineering	
MATH 2331	Linear Algebra	
ECON 2350	Statistics for Economists	
or PSYC 2320	Statistics in Psychological Research	

Supporting Courses

Code	Title	Hours
Psychology		
PSYC 1101	Foundations of Psychology	4
Mathematics		
MATH 1260	Math Fundamentals for Games (Integrative course)	4
Complete one course from the following:		4
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342 or higher		

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Khoury College GPA Requirements

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year

- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Understanding Societies and Institutions
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or ARTF 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Vacation	0
CS 1800 and CS 1802	5	GAME 2500	4	Elective	4		
CS 2500 and CS 2501	5	PSYC 1101	4				
ENGW 1111	4	Math Elective	4				
GAME 1110	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210 or EEAM 2000	1	Math Elective	4	Co-op	
CS 3520 (*)	4	CS 3540[1]	4	Elective	4		
GAME 2950[1]	4	CS 3650	4				
GAME 3700	4	GAME 3400	4				
		Khoury/game elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 4300	4	Co-op	0	Co-op	0
		CS 4850[1]	4				
		GAME 3800	4				
		ENGW 3302	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours			Summer 2	Hours
CS 4500 or 4530	4	GAME 4700	4			Vacation	0
CS 4700 or 4730	4	Computer science elective	4				
Game design elective (*)	4	Khoury/game elective	4				
Khoury/game elective	4	Elective	4				
	16		**16**				**0**

Total Hours: 134

[1] Indicates courses that must be taken in the semester listed.

Computer Science and Media Arts, BS

The computer science and media arts combined major is ideal for creative students who love technology. Students will acquire a solid foundation in both fields through a curriculum that spans photography, animation, video, database design, computer graphics, and human-computer interaction.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4300	Computer Graphics	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction	4
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3314	Advanced Writing in the Arts, Media, and Design
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Media Arts Courses

Code	Title	Hours
Required Media Arts Courses		
ARTD 2100	Narrative Basics	4
ARTD 3000	Topics in Media Arts	4
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
Media Arts Electives		
Complete any six courses as long as prerequisites have been met. At least two must be a 3000-level course.		24-25
Basics		
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Photography		
ARTD 3460	Photography: Concept + Process	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
Animation		
ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
Video		
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
History		
ARTH 2212	Survey of the Still and Moving Image	
Media Arts Capstone		
ARTD 4530	Media Arts Degree Project	4

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 2331	Linear Algebra	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	

INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Integrative Courses

Code	Title	Hours
The following courses are fulfilled through the computer science requirement:		
CS 4300	Computer Graphics	
IS 4300	Human Computer Interaction	

Required General Electives

Code	Title	Hours
Complete 16 SH of general electives.		16

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Integrating Knowledge and Skills Through Experience
- Demonstrating Thought and Action in a Capstone

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

137 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1124 and ARTF 1125	5	ARTD 2100	4	ARTF 2223 and ARTF 2224	5	Elective	4
CS 1200 or ARTF 1000	1	ARTF 1122 (with optional ARTF 1123)	4	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	CS 3200	4				
ENGW 1111	4						
	20		**17**		**10**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 2220 and ARTF 2221	5	Co-op		Co-op		MATH 2331	4
CS 1210 or EEAM 2000	1					Elective	4
CS 3000	4						
IS 4300	4						
Khoury Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4300	4	Co-op	0	Co-op	0	ENGW 3302, 3314, or 3315	4
Khoury Elective	4					Elective	4
Media Arts Elective	4						
Media Arts Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTD 3000	4	ARTD 4530	4
CS 4500 or 4530	4	Computing and Social Issues	4
Media Arts Elective	4	Media Arts Elective	4
Media Arts Elective	4	Media Arts Elective	4
	16		**16**

Total Hours: 137

SAMPLE FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1124 and ARTF 1125	5	ARTD 2100	4	ARTF 2223 and ARTF 2224	5	Elective	4
CS 1200 or ARTF 1000	1	ARTF 1122 (with optional ARTF 1123)	4	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	CS 3200	4				
ENGW 1111	4						
	20		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 2220 and ARTF 2221	5	CS 1210 or EEAM 2000	1	MATH 2331	4	Co-op	
CS 3500 and CS 3501	5	IS 4300	4	Elective	4		
Computing and Social Issues	4	Khoury Elective	4				
Khoury Elective	4	Media Arts Elective	4				
		Media Arts Elective	4				
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARTD 3000	4	ENGW 3302, 3314, or 3315	4	Co-op	
		CS 4300	4	Elective	4		

		Media Arts Elective	4				
		Media Arts Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		ARTD 4530	4
		CS 4530	4
		Media Arts Elective	4
		Media Arts Elective	4
	0		**16**

Total Hours: 137

Communication Studies and Graphic and Information Design, BA

The Department of Communication Studies and the Department of Art + Design offer a combined major in communication studies and graphic and information design. Students interested in the combined major integrate the study of communication skills and processes with the design of message and meaning, integrating text, image, and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Differences and Diversity (DD) may be met through electives in the major.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Courses		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	

COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Electives		
Complete three COMM courses.		12

Graphic and Information Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2220)	4
Art and Design History		
Complete any one ARTH course as long as prerequisites have been met.		4
Design		
ARTG 1270 and 1270	Design: Process + Practices and Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2252	Graphic Design Principles	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
Degree Project		
ARTG 4550	Design Degree Project	4
Art and Design Electives		
Complete two courses with the corresponding tools course, if indicated, from the following:		8-10
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220	Movement and Time (with optional ARTF 2221)	
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	
ARTG 2400	Interaction Design Principles	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	

Integrative Requirement

Code	Title	Hours
Integrative Courses		
COMM 2200	Visual Communication	4
The following course is already required in major:		
ARTG 4550	Design Degree Project	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Communication Studies and Graphic and Information Design Major Credit Requirement

84 semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or COMM 1000	1	ARTG 1270 and ARTG 1271	4	ARTG 1290 and ARTG 1291	4	A + D Foundation	4
ARTF 1122 (with optional ARTF 1123)	4	COMM 1112 or 2301	4	Communication studies cluster course	4	Elective	4
COMM 1101	4	Communication studies foundation course	4				
ENGW 1111	4	Elective	4				
Art History Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2252	4	EEAM 2000	1	Communication studies elective 2	4	Co-op	0
ARTG 3350	4	Art + Design elective	4	Elective	4		
Communication studies writing-intensive 1	4	Communication studies elective 1	4				
Design option 1	4	Design option 2	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3314 or 3315	4	Communication studies elective 3	4	Co-op	0
		Communication writing-intensive 2	4	Elective	4		
		Design elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 4550	4
		COMM 2200	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

English and Graphic and Information Design, BA

The Department of English and the Department of Art + Design offer an interdisciplinary combined major in English and graphic and information design. Students interested in the combined major in English and graphic and information design integrate the study of literature and writing with the design of message and meaning, integrating text, image, and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
English Course-Level Requirement		
In addition to the capstone, two of the courses chosen from the lists below must be numbered 3000–4999.		
Introduction to College		
ENGL 1000	English at Northeastern	1
Foundational Courses		
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1400	Introduction to Literary Studies	4
Diversity		
Complete one of the following courses. This course may also be used to fulfill an additional English requirement below:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre-Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2330	The American Renaissance	

ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3720	19th-Century Major Figure	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	

ENGL 3384	The Writer's Marketplace	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
English Electives		
Complete two additional ENGL electives.		8

Graphic and Information Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
or ENGL 1000	English at Northeastern	
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
Art and Design History		
Complete any one ARTH course as long as prerequisites have been met.		4
Design		
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2242	Information Design Principles	4
ARTG 2252	Graphic Design Principles	4
ARTG 3350	Typography 2	4
Degree Project		
ARTG 4550	Design Degree Project	4
Art and Design Electives		
Complete two of the following:		8-10
ARTD 2360	Introduction to Photography (with optional ARTD 2361)	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124	Form and Structure (with optional ARTF 1125)	
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	
ARTG 2260	Programming Basics	
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3444	Topics in Information Design Inquiry	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	

Integrative Requirement

Code	Title	Hours
Integrative English Course		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2780	Visual Writing	
ENGL 3340	Technologies of Text	

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops (Spring/Summer)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4	ARTF 2220 and ARTF 2221	5	Elective	4
ENGL 1000 or ARTF 1000	1	ARTG 1290 and ARTG 1291	4	Elective	4	Elective	4
ENGL 1400	4	ENGW 1111	4				
ENGL 1450	4	ENGL 1160 or 1410	4				
Art + Design Elective (Recommended: ARTG 1001 & ARTG 1002)	4						
	17		**16**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2252	4	Co-op	0	Co-op	0	ARTG 3350	4
ENGL 1700	4					ENGL Elective	4
Art + Design Elective	4						
ENGL pre-19th century requirement	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art + Design History Elective	4	Co-op	0	Co-op	0	ENGL writing requirement	4
ENGL 19th-century requirement	4					ENGL elective	4
ENGL theories & methods requirement	4						
Integrative course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTG 2242	4	ARTG 4550	4
ENGL 20th-century requirement	4	ENGL 4710	4
ENGL comparative requirement	4	ENGL elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Game Art and Animation, BFA

Game art and animation offers students an opportunity to master visual arts and animation within the game medium. The program focuses on developing the depth of knowledge required to be successful in a highly competitive industry. The continuing revolution in digital computing and animation has produced a rapidly evolving field for artists who create aesthetics, characters, and environments for games. The major encourages students to think critically and work collaboratively in multidisciplinary teams. The collaborative approach helps all team members to understand the context in which their asset contributions are used and to develop visual design skills in the service of larger experiential goals. Students have many opportunities to collaborate with their peers and work with students in the BS in computer science and game development and BFA in games majors, culminating in a two-semester senior capstone. Students will have a home college in the College of Arts, Media and Design but will have a minimum of four interdisciplinary courses where students interact and work together with students in the other degrees.

Working in the interdisciplinary game areas, the program fosters experiential learning opportunities utilizing diverse intersections of skills merging artistic practice and expression blended with technology. Focus is on establishing core skills that engage critical thinking in preparation for professional practice in game art and asset creation or moving on to advanced study. Students will have an opportunity to develop tools to succeed, eagerness to innovate, and skills to become next-generation entrepreneurs in an ever-changing games and media landscape. Practical and technical experiential training will be offered via Northeastern's world-renowned co-op program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Analyzing/Using Data (AD) are met through the major course requirements. All other NUpath requirements must be met through electives.

Game Art Courses

Code	Title	Hours
ARTF 1000	Art and Design at Northeastern	1
Foundations		
ARTF 1120	Observational Drawing	4
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 2212	Survey of the Still and Moving Image	4
GAME 1110	Games and Society	4
Art History Elective		
Complete one of the following:		4
ARTH 1100	Interactive Media and Society	
ARTH 2200	Topics in Design History	
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2215	History of Graphic Design	
ARTH 2313	Global Networks in Early Modern Art and Visual Culture	
ARTH 3000	Topics in Visual Studies	
ARTH 3211	Performance Art	
ARTH 4000	Topics in Visual Studies	

ARTH 5100	Contemporary Art Theory and Criticism	
ARTH 5600	Landscape and Ecology in Visual Culture	
Media Arts Required		
ARTD 2100	Narrative Basics	4
or GAME 2355	Narrative for Games	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
GAME 2500	Foundations of Game Design	4
Complete one of the following:		5
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	

Animation Courses

Code	Title	Hours
Animation		
ARTD 3000	Topics in Media Arts	4
ARTD 3470	Animation 1	4
ARTD 3472	Character Design for Animation	4
ARTD 3473	Animation for Games	4
ARTD 4570	Animation 2	4
ARTD 4575	Animation 3	4

Code	Title	Hours
Electives		
Complete two of the following as long as prerequisites have been met. At least one must be at the 4000 level:		8
Game Design		
GAME 1850	Experimental Game Design	
GAME 2010	The Business of Games	
GAME 2650	Introduction to Game Research Methods	
GAME 2750	Games Criticism and Theory	
GAME 2755	Games and Social Justice	
GAME 2950	Game Studio	
GAME 3300	Game Interface Design	
GAME 3400	Level Design and Game Architecture	
GAME 3700	Rapid Idea Prototyping for Games	
GAME 3800	Game Concept Development	
GAME 4000	Topics in Game Design	
GAME 4155	Designing Imaginary Worlds	
GAME 4460	Generative Game Design	
GAME 4600	Game Production	
Art and Design		
If ARTD 3000 Topics in Media Arts (or any other topics course in the options listed below) is completed more than once, the additional completions may be allowed toward the electives.		
ARTD 3000	Topics in Media Arts	
ARTD 3460	Photography: Concept + Process	
ARTD 3471	Virtual Environment Design	
ARTD 3480	Video: Sound and Image	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 2501	Art and Design Abroad: History	
ARTE 4901	Special Topics in Art and Design Studio	

ARTG 2252	Graphic Design Principles
ARTG 2260	Programming Basics
ARTG 3100	Physical and Digital Fabrication
ARTG 3250	Physical Computing
ARTH 1100	Interactive Media and Society
ARTS 2340	Painting Basics
ARTS 2341	Figure Drawing
ARTS 3449	Drawing in Mixed Media
Other	
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500
PSYC 1101	Foundations of Psychology

Capstone Requirement

Code	Title	Hours
ARTD 4530	Media Arts Degree Project	4

Supporting Course

Code	Title	Hours
MATH 1260	Math Fundamentals for Games	4

Writing Requirement

Code	Title	Hours
ENGW 3314	Advanced Writing in the Arts, Media, and Design	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Major Credit Requirement

89 semester hours required in the major

Program Requirement

133 total semester hours required

Plan of Study
Sample Four Years, Two Co-ops in Spring/Summer 1
ZA Plan of Study Only

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000	1	ARTD 2370 and ARTD 2371	5	ARTF 2223 and ARTF 2224	5	Elective	4
ARTF 1120	4	ARTF 1122 (with optional ARTF 1123)	4	Elective	4	Elective	4
ARTF 2220 and ARTF 2221	5	ARTF 1124 and ARTF 1125	5				
GAME 2500	4	GAME 1110	4				
ENGW 1111	4						
	18		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 3470	4	Co-op		Co-op		Elective	4
ARTD 3473	4					Elective	4
ARTH 1001 and ARTH 1002	4						
EEAM 2000	1						
GAME 2355 or ARTD 2100	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTD 3472	4	Co-op		Co-op		Elective	4
ARTD 4570	4					Elective	4
ARTH 2212	4						
Advanced Writing in the Disciplines	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTD 4575	4	ARTD 4530	4
Art history elective	4	Game Design or A + D elective	4
Game Design or A + D elective	4	Elective	4
Intro to Photo or Video Basics	5	Elective	4
	17		**16**

Total Hours: 135

Architectural Studies and Design, BS

Students integrate the study of architecture with strategies of graphic and information design, interaction design, or experience design. A flexible curriculum focused on key contemporary topics related to the built environment is combined with a broad understanding of the principles and systems of perception, communication, and action. Students integrate text and image to visualize concepts and data, create navigable interfaces and systems that allow audiences to take an active role to achieve meaningful goals, and take a holistic and integrative approach that focuses on the quality of the human experience in concrete situations. Successful students emerge with a strong portfolio suited to further graduate education or experience in architecture and design-related fields.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Engaging with the Natural and Designed World (ND), Exploring Creative Expression and Innovation (EI), Interpreting Culture (IC), Analyzing and Using Data (AD), and Engaging Differences and Diversity (DD) are met through the major course requirements.

In order to graduate, students must complete Formal and Quantitative Reasoning (FQ) and Ethical Reasoning (ER) in their electives.

*Note: Students who wish to be eligible for the two-year Master of Architecture degree should take the following courses: Architectonic Systems (ARCH 2240), Architecture, Infrastructure, and the City (ARCH 3170), Structural Systems (ARCH 5230), along with calculus and physics.

Architectural Studies Courses

Code	Title	Hours
Required Courses		
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
ARCH 2130	Site, Space, Program	6
ARCH 2260	Introduction to Building Systems	4
ARCH 3450	Advanced Architectural Communication	4
Architecture History Elective		
Either ARCH 1370 or any ARCH 2300-level history course		4
Electives		
Complete two of the following:		8
ARCH 1370	Special Topics in Architectural History	
ARCH 1450	Understanding Design	
ARCH 2140	Urban Housing	
Any second ARCH 2300-level history course		
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 3370	Advanced Topics in Architectural History	
ARCH 4850	Urban and Architectural History Abroad	
ARCH 5310	Design Tactics and Operations	

Design Requirements

Code	Title	Hours
Art + Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art + Design Fundamentals Elective		
Complete one of the following:		5

ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Design Elective		
Complete any 4 SH ARTG course not otherwise required in the curriculum. [1]		4
Art + Design History Elective		
Complete any one art history course within the ARTH subject code.		4
Art + Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
If ARTG 5000 Topics in Design (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

[1] Successful completion of *both* ARTG 2262 Prototyping with Code (2 SH) and Lab for ARTG 2262 (ARTG 2263) (2 SH) may satisfy this requirement.

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3700	Interaction Design 2: Mobile	

Integrative Requirement

Code	Title	Hours
ARTG 4550	Design Degree Project	4

Major Credit Requirement

Complete 89 semester hours for the major.

Program Requirement

132 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1310 and ARCH 1311	4	ARCH 1110	4	A+D Fundamentals Elective	5	Vacation	
ARTF 1000 or ARCH 1000	1	ARCH 1120	6	Elective	4		
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4				
ARTG 1001 and ARTG 1002	4	Architecture history elective	4				
ENGW 1111	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2130	6	ARCH 2340 and ARCH 2341	4	Elective	4	Co-op	0
ARCH 2260	4	ARCH 3450	4	Elective	4		
ARTG 1290 and ARTG 1291	4	EEAM 2000	1				
Architecture elective	4	Art+Design History elective	4				
		Design Option level 1	4				
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Architecture elective	4	Elective	4	Co-op	0
ENGW 3314 or 3302 (online)	4	Art + Design elective	4	Elective	4		
		Design Option level 2	4				
		Elective	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 4550	4
Elective (online)	4	Architecture elective	4
		Design elective	4
		Elective	4
	4		**16**

Total Hours: 135

Game Design and Music with Concentration in Music Technology, BS

The game design and music combined major with a concentration in music technology is designed to prepare students to manage all aspects of music and sound design integral to the creative process in game design. Students focus on the digital sound technologies, audiovisual integration techniques, and collaborative skills, grounded in real-world experience, that are necessary to apply one's musical imagination effectively in a game design environment. Also emphasized are the aesthetic, expressive, psychological and social perspectives essential to meaningful engagement across a broad range of applications in the game industry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Analyzing/Using Data (AD), Interpreting Culture (IC), Natural/Designed World (ND), Differences/Diversity (DD), Writing-Intensive (WI), and Capstone Experience(CE) are met through the major course requirements. All other NUpath requirements must be met through electives.

Game Design Courses

Code	Title	Hours
ARTF 1000	Art and Design at Northeastern	1
Game Design Required		
GAME 1110	Games and Society	4
GAME 2500	Foundations of Game Design	4
GAME 2950	Game Studio	4
GAME 3400	Level Design and Game Architecture	4
GAME 3700	Rapid Idea Prototyping for Games	4
GAME 3800	Game Concept Development	4
Art + Design Electives		
Complete four courses from the following:		16
Any course in ARTD, ARTE, ARTF, ARTG, ARTH, and GAME subject areas as long as prerequisites have been met.		
If GAME 4000 Topics in Game Design or ARTD 3000 Topics in Media Arts (or any other topics course in the subjects listed above) is completed more than once, multiple completions may be allowed toward the electives.		

Music Requirements

Code	Title	Hours
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4
Complete two of the following:		8
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition	
MUSC 3541	Music Analysis Seminar	
MUST 2320	Sound Design	
Music in Context		
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Contemporary / Popular Music		
Complete one of the following:		4

MUSC 2101	Black Popular Music	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Technology Requirements		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2102	Composing with Digital Technologies	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete two of the following:		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	

Integrative Requirement

Code	Title	Hours
Note: MUST 1220 is already required in the Music Technology Requirements section.		
MUST 1220	Introduction to Music Technology	
Capstone		
GAME 4700	Game Design Capstone	4
MUST 4611	Music Technology Capstone/Senior Recital	4

Combined Major Credit Requirement

Complete 96 semester hours in the major.

Music Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or MUSC 1000	1	GAME 2500	4	Art + design elective	4	Vacation	0
ENGW 1111	4	MUSC 1202	4	Art + design elective	4		
GAME 1110	4	MUSC 2350	4				
MUSC 1201	4	MUST 1220	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		ENGW 3302	4
GAME 2950	4	Elective (online)	4			Art + design elective	4
GAME 3400	4						
MUSC 1002 and MUSC 1003	4						
MUST 2102	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
GAME 3700	4	Co-op		Co-op		Elective	4
MUSC 3541, 2111, or 3300	4	Elective (online)	4			Elective	4
MUST 2431	4						
Contemporary music requirement	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
GAME 3800	4	GAME 4700	4
MUSC 3541, 2111, or 3300	4	Computing and social issues	4
Art + design elective	4	Music technology elective	4
Music technology elective	4	Elective	4
	16		**16**

Total Hours: 130

Graphic and Information Design and Mathematics, BS

The Department of Mathematics and the Department of Art + Design offer a combined major in mathematics and graphic and information design. Students interested in the combined major integrate the study of mathematical reasoning including methods for analyzing and solving problems encountered in the physical world with the design of message and meaning, integrating text and image to visualize concepts and data to enhance human understanding of complex and vital knowledge.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Difference and Diversity (DD), and Ethical Reasoning (ER) must be met through electives.

Graphic and Information Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
or MATH 1000	Mathematics at Northeastern	
Art and Design Fundamentals		
Complete one course in the following range. ARTF 1143 is recommended.		4
ARTF 1141 to ARTF 1149		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art and Design History		
ARTH 2210	Modern Art and Design History	4
ARTH 2215	History of Graphic Design	4
Design		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optinal ARTG 2251)	4
ARTG 2252	Graphic Design Principles	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
Degree Project		
ARTG 4550	Design Degree Project	4
Art and Design Elective		
Complete one of the following:		4
ARTD 2360	Introduction to Photography (with optional ARTD 2361)	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTG 2260	Programming Basics	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	
ARTG 2400	Interaction Design Principles (with optinal ARTG 2401)	
ARTG 3450	Graphic Design 2	

ARTG 3460	Identity and Brand Design
ARTG 4554	Typography 3

Mathematics Requirements

Code	Title	Hours
Math Reasoning		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
A grade of C or higher is required:		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate Math		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Advanced Elective		
Complete one of the following:		4
MATH 3150	Real Analysis	
MATH 3175	Group Theory	
MATH 3560	Geometry	
Mathematics Elective		
MATH 4025 can count as an upper-level math elective as well as a capstone.		
Complete one course in the following range:		4
MATH 3101 to MATH 4899		

Integrative Requirement

Code	Title	Hours
ARTG 3451	Information Design 1	4

Combined-Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample 5-Year Plan of Study , 2 Co-op

Year 1

Fall	Hours	Spring	Hours
ARTF 1000	1	MATH 1342	4
Art and Design Fundamentals	4	ARTF 1122 (with optional ARTF 1123)	4
MATH 1365	4	ARTG 1250	4
MATH 1341	4	ARTH 2210	4
ENGW 1111	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours
MATH 2321	4	MATH 2341	4
ARTG 2250	4	ARTG 2252	4
ARTH 2215	4	Math elective	4
Elective	4	Elective	4
	16		**16**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours
MATH 2331	4	Co-op		Co-op	
ARTG 3350	4				
Elective	4				
Elective	4				
EEAM 2000	1				
	17		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
MATH 3081	4	Co-op		Co-op	
ARTG 3451	4				
Elective	4				
Elective	4				
	16		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
ARTG 4550	4	Capstone	4
Art and Design Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Journalism and Interaction Design, BS

The School of Journalism and the Department of Art + Design offer an interdisciplinary combined major in journalism and interaction design. Broadly speaking, students in the combined major in journalism and interaction design at Northeastern University integrate the study of journalism with the study of art and design.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), Difference and Diversity (DD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirement Analyzing and Using Data (AD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Introduction to College

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or ARTF 1000	Art and Design at Northeastern	

Journalism Major Requirements

Code	Title	Hours
Journalism Introductory Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundations		
Must receive a C or better in the following:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete three JRNL courses.		12

Art and Design Core

Code	Title	Hours
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	4
Art and Design History		
Complete two of the following:		8
ARTH 1111	Global Art and Design History: Renaissance to Modern	
ARTH 2210	Modern Art and Design History	
ARTH 2215	History of Graphic Design	

Design Requirements

Code	Title	Hours
Design Courses		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optional ARTG 2251)	4
ARTG 2260	Programming Basics	4
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
ARTG 3700	Interaction Design 2: Mobile	4
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

Design Elective

Code	Title	Hours
Complete one of the following:		4-5
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124	Form and Structure	
ARTF 2220	Movement and Time	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	

Integrative Requirements

Code	Title	Hours
Note: ARTG 4550 counts in the design requirements above and is also an integrative course.		
ARTG 4550	Design Degree Project	4
JRNL 5311	Design for Storytelling	4

Program Requirement

131 total semester hours required

Plan of Study
Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1000 or ARTF 1000	1	JRNL 1101 and JRNL 1102	5	ARTG 2250 (with optional ARTG 2251)	4	Elective	4
JRNL 1150	4	ARTF 2223 (with optional ARTF 2224)	4	Elective	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1250	4				
ARTH elective 1	4	ARTG 2260	4				
ENGW 1111	4	MATH elective	4				
	17		**21**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	Co-op	0	Co-op	0	Elective	4
JRNL 5311	4					Elective	4

EEAM 2000	1						
ARTG 2400 (with optional ARTG 2401)	4						
ARTG 3350	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	Elective	4
JRNL elective 1	4					Elective	4
ARTG 3700	4						
Art and design elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 3610	4	JRNL 3550 or 4650	4
JRNL elective 2	4	JRNL elective 3	4
ARTG 3451	4	ARTH elective 2	4
ARTG 4550	4		
	16		**12**

Total Hours: 131

Sample Five Years, Three Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1000 or ARTF 1000	1	JRNL 1101 and JRNL 1102	5	Elective	4	Vacation	
JRNL 1150	4	ARTG 1250	4	Elective	4		
ENGW 1111	4	ARTH elective 1	4				
ARTF 1143	4	Elective	4				
ARTF 1122 (with optional ARTF 1123)	4						
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	Co-op		Co-op		Vacation	
EEAM 2000	1						
ARTG 2250	4						
ARTG 2260	4						
Elective	4						
	17		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op		Co-op		Elective	4
JRNL elective 1	4					ENGW 3302	4
ARTG 2400 (with optional ARTG 2401)	4						
ARTG 3350	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 3610	4	Co-op		Co-op		Vacation	0
JRNL elective 2	4						
ARTH elective 2	4						

ARTG 3700		4					
		16		**0**		**0**	**0**

Year 5

Fall	**Hours**		**Spring**	**Hours**			
JRNL 5311		4	JRNL 3550 or 4650	4			
JRNL 3550 or 4650		4	JRNL elective 3	4			
ARTG 3451		4	Art and design elective	4			
ARTG 4550		4	Elective	4			
		16		**16**			

Total Hours: 131

Media and Screen Studies and Media Arts, BA

The Media and Screen Studies Program and the Department of Art + Design offer a combined major in media studies and media arts. Students pursuing the combined major are able to integrate the theory and practice of contemporary media studies with the deep appreciation of the narrative arts that is required for professional work in documentary film, game art and promotion, visualization, motion graphics, interactive art, illustration, and short animated films.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Analyzing and Using Data (AD), Differences and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 3392	Gender and Film	
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3600	Film Theory	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
Recommendation: Complete MSCR 4623 as one of your MSCR electives to fulfill NUpath capstone.		
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Media Arts Courses

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
Drawing Fundamentals		
ARTF 1120	Observational Drawing	4
or ARTF 1121	Conceptual Drawing	
Art and Design History		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 2212	Survey of the Still and Moving Image	4
Media Arts Basics Electives		
Complete two of the following sets:		10
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Media Arts Capstone		
ARTD 4530	Media Arts Degree Project	4
Art and Design Electives		
Complete any two courses not previously completed in ARTG, ARTE, ARTD, ARTH, or ARTS courses as long as prerequisites or corequisites have been met.		8-9
If ARTD 3000 Topics in Media Arts (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		

Integrative Course

Code	Title	Hours
MSCR 3600	Film Theory	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to fulfill degree requirements.

Program Requirement

131 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or MSCR 1000	1	MSCR 1320 or 1420	4	Elective	4	Elective	4
MSCR 1220	4	ARTH 1001 and ARTH 1002	4	Elective	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTF 1120 or 1121	4				
ARTF 2220 and ARTF 2221	5	Elective	4				
ENGW 1111	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR foundation	4	Co-op		Co-op		Elective	4
MSCR elective	4					Elective	4
Media arts basics elective	5						
ARTH 2212	4						
EEAM 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR diversity/ globalization	4	Co-op		Co-op		Elective	4
MSCR writing-intensive	4					Elective	4
Media arts basics elective	5						
Art and design elective	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MSCR 3600	4	ARTD 4530	4
MSCR writing-intensive	4	MSCR elective	4
Art and design elective	4	MSCR elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Media Arts and Communication Studies, BA

The Department of Communication Studies and the Department of Art + Design offer a combined major in media arts and communication studies. Students interested in the combined major integrate the study of communication skills and processes with the study of the creation of the narrative arts, required for professional work in documentary film, game art and promotion, visualization, motion graphics, interactive art, illustration, and short animated films.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Creative Expression and Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

In order to graduate, students must complete Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) in their electives.

Media Arts Courses

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Foundations		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
Drawing Fundamentals		
ARTF 1120	Observational Drawing	4
or ARTF 1121	Conceptual Drawing	
Art and Design History		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 2212	Survey of the Still and Moving Image	4
Degree Project		
ARTD 4530	Media Arts Degree Project	4
Media Art Basics Electives		
Complete two of the following:		8-9
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Art and Design Electives		
Complete any two courses not previously taken in ARTG, ARTE, ARTD, ARTH, or ARTS courses as long as prerequisites or corequisites have been met.		8-9

If ARTD 3000 Topics in Media Arts (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.

Communication Studies Courses

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Integrative Requirement

Code	Title	Hours
Bridge/Integrative Requirement		
COMM 3415	Communication Criticism	4

Communication Studies Grade Requirement

No more than two grades below a C in COMM courses may be used to fulfill degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or COMM 1000	1	ARTF 2220 and ARTF 2221	5	Communicaton studies elective	4	Communicaton studies elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTH 2212	4	Elective	4	Elective	4
ARTH 1001 and ARTH 1002	4	COMM 1112 or 2301	4				
COMM 1101	4	Drawing elective	4				
ENGW 1111	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Media arts basics elective	4	Co-op		Co-op		Communication studies elective	4
Communication studies cluster	4					Elective	4
Communication studies foundation	4						
Communication studies writing-intensive	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Media arts basics elective	4	Co-op		Co-op		Foreign language	4
Communication studies writing-intensive	4					Elective	4
Art + design elective	4						
Art + design elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTD 4530	4	Foreign language	4
COMM 3415	4	Elective	4
Foreign language	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

Theatre and Interaction Design, BA

This program is designed for students who want to combine a knowledge of the art of theatre with the theories and practice-based design disciplines. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design practices. Design is the practice-based discipline raising important questions about—and providing significant answers to—how we live. Designers are needed when we don't know what is needed. Designers propose alternative futures and create new choices using design principles and processes to create, compose, and construct meaning in diverse knowledge fields. Designers seek a broad understanding of principles and systems of perception, communication, and action.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Theatre Requirements

A minimum grade of C is required for all theatre courses.

Code	Title	Hours
Foundational Stages		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
THTR 4702	Capstone: Creative Practice Research Project	4
Major Elective		
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3200	Queer Theatre and Performance	
Intermediate/Advanced Electives		
Complete two of the following:		8
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 4345	Advanced Acting for the Camera

Interaction Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	4
Design		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optional ARTG 2251)	4
ARTG 2260	Programming Basics	4
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
ARTG 3700	Interaction Design 2: Mobile	4
Design Project		
ARTG 4550	Design Degree Project	4
Major Electives		
Art and Design History		
Complete two of the following:		8
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 2210	Modern Art and Design History	
ARTH 2215	History of Graphic Design	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
Art and Design Elective		
Complete one of the following:		4
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220	Movement and Time (with optional ARTF 2221)	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	
ARTG 5000	Topics in Design	

Integrative Requirement

Code	Title	Hours
Note: ARTG 4550 double counts with the specified requirements above.		
ARTG 4550	Design Degree Project	4
THTR 4702	Capstone: Creative Practice Research Project	4

Theatre and Interaction Design Combined-Major Credit Requirement

Complete 94 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1000 or ARTF 1000	1	THTR 1101	4	Elective	4	Elective	4
THTR 1120	4	THTR 1131	4	Elective	4	Elective	4
ENGW 1111	4	ARTF 2223 (with optional ARTF 2224)	4				
ARTF 1122 (with optiional ARTF 1123)	4	ARTG 2250 (with optional ARTG 2251)	4				
ARTG 1250	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1		Co-op 1		Elective	4
Art and design history elective 1	4					Elective	4
THTR 2000	1						
THTR 1270	4						
ARTG 2260	4						
THTR 3325	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2400 (with optional ARTG 2401)	4	Co-op 2		Co-op 2		Elective	4
ARTG 3350	4					Elective	4
Art and design elective 1	4						
THTR elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art and design history elective 2	4	THTR 4702	4				0
THTR elective	4	THTR advanced technique	4				
ARTG 3700	4	ARTG 3451	4				
ARTG 4550	4	Elective	4				
	16		**16**		**0**		**0**

Total Hours: 131

Theatre and Interaction Design, BS

This program is designed for students who want to combine a knowledge of the art of theatre with the theories and practice-based design disciplines. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design practices. Design is the practice-based discipline raising important questions about—and providing significant answers to—how we live. Designers are needed when we don't know what is needed. Designers propose alternative futures and create new choices using design principles and processes to create, compose, and construct meaning in diverse knowledge fields. Designers seek a broad understanding of principles and systems of perception, communication, and action.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Theatre Requirements

A minimum grade of C is required for all theatre courses.

Code	Title	Hours
Foundational Stages		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
THTR 4702	Capstone: Creative Practice Research Project	4
Major Elective		
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3200	Queer Theatre and Performance	
Intermediate/Advanced Electives		
Complete two of the following:		8
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	

THTR 3550	Directing for the Stage
THTR 4345	Advanced Acting for the Camera

Interaction Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	4
Design		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optionals ARTG 2251)	4
ARTG 2260	Programming Basics	4
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
ARTG 3700	Interaction Design 2: Mobile	4
Design Project		
ARTG 4550	Design Degree Project	4
Major Electives		
Art and Design History		
Complete two of the following:		8
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 2210	Modern Art and Design History	
ARTH 2215	History of Graphic Design	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
Art and Design Elective		
Complete one of the following. If ARTG5000 Topics in Design (or any other topics course in the options listed below) is completed more than once, the additional completions may be allowed toward the electives.		4
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220	Movement and Time	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	
ARTG 5000	Topics in Design	

Integrative Requirement

Code	Title	Hours
Note: ARTG 4550 double counts with the specified requirements above.		
ARTG 4550	Design Degree Project	4
THTR 4702	Capstone: Creative Practice Research Project	4

Theatre and Interaction Design Combined-Major Credit Requirement

Complete 94 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1000 or ARTF 1000	1	THTR 1101	4	Elective	4	Elective	4
THTR 1120	4	THTR 1131	4	Elective	4	Elective	4
ENGW 1111	4	ARTF 2223 and ARTF 2224	5				
ARTF 1122 (with optional ARTF 1123)	4	ARTG 2250 and ARTG 2251	5				
ARTG 1250	4						
	17		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1		Co-op 1		Elective	4
Art and design history elective 1	4					Elective	4
THTR 2000	1						
THTR 1270	4						
ARTG 2260	4						
THTR 3325	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2400 (with optional ARTG 2401)	4	Co-op 2		Co-op 2		Elective	4
ARTG 3350	4					Elective	4
Art and design elective 1	4						
THTR elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art and design history elective 2	4	THTR 4702	4				0
THTR elective	4	THTR advanced technique	4				
ARTG 3700	4	ARTG 3451	4				
ARTG 4550	4	Elective	4				
	16		**16**		**0**		**0**

Total Hours: 133

Mechanical Engineering and Design, BSME

The combined major in mechanical engineering and design is designed to educate students in topics of both disciplines and the interface between them. Mechanical engineering involves the design, development, and manufacture of machinery and devices to transmit power or to convert energy from thermal to mechanical form in order to power the modern world and its machines. Its current practice has been heavily influenced by recent advances in computer hardware and software. Today, engineers also play a primary role in the development of new technologies in a variety of fields —energy conversion, solar energy utilization, environmental control, prosthetics, transportation, manufacturing, and new-materials development. Design is the discipline that shapes human experiences in specific situations to improve quality. Designers pose important questions about—and provide significant answers to—how we live. Designers are needed when we don't know what is needed as well as when we think we do. Students in this program will combine the disciplines in order to address complex problems with human-centered solutions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience may fulfill the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
Senior Capstone Design Project		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Technical Electives		
Complete two of the following (at least one must be ME 4550 or ME 4570):		8
ME 4508	Mechanical Engineering Computation and Design	
or ME 4565	Introduction to Computational Fluid Dynamics	
ME 4550	Mechanical Engineering Design	
ME 4555	System Analysis and Control	
ME 4570	Thermal Systems Analysis and Design	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	

3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Design Requirements

Code	Title	Hours
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art and Design Fundamentals Elective		
Complete one of the following:		5
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Requirements		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262 (or ARTG Design elective)	4
Art and Design History Elective		**4**
Complete any one ARTH course.		
Art and Design Elective		**4**
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		

Design Options

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		
ARTG 2400 and ARTG 2401	Interaction Design Principles and Interaction Design Principles Tools	
ARTG 3700	Interaction Design 2: Mobile	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4

MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses. Recommend selecting a course to fulfill NUpath DD.		4

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
MEIE 4702	Capstone Design 2	

Major GPA Requirement

2.000 minimum GPA required in IE, ME, and MEIE courses

Program Requirement

141 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation		Vacation	

CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and 1270	4	ME 3475 or 3480	4	Vacation	
MATH 2321 (FQ)	4	ENCP 2000	1	Art and design fundamentals elective	5		
ME 2350	4	MATH 2341	4				
PHYS 1155 (ND)	3	ME 2355	4				
PHYS 1156 (AD)	1	ME 2356	1				
PHYS 1157	1	ME 2380	4				
		ME 2381	0				
	17		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1290 and ARTG 1291	4	ME 3455	4	MEIE 4701 (EI, WI, CE)	1	Co-op	0
ENGW 3302 or 3314 (WD)	4	ME 3456	1	Art and design elective	4		
ME 2340 (WI)	4	ME 4505 (AD)	4	Engineering tech elective	4		
ME 2341	1	ME 4506	1				
Design Option course 1	4	Design Option course 2	4				
		Engineering tech elective	4				
	17		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 2262 and ARTG 2263	4
		ENCP 3000	1
		MEIE 4702 (EI, WI, CE)	5
		Art and design history elective	4
		General elective (NUPath DD)	4
	0		**18**

Total Hours: 140

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation	0	Vacation	0
CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	MATH 2341	4	Vacation	0	ARTF 1122 (EI)	4
ENCP 2000	1	ME 2340 (WI)	4			ME 3475 or 3480	4
MATH 2321 (FQ)	4	ME 2341	1				
ME 2350	4	ME 2355	4				
PHYS 1155 (ND)	3	ME 2356	1				
PHYS 1156 (AD)	1	ME 2380	4				
PHYS 1157	1	ME 2381	0				
	18		**18**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1290 and ARTG 1291	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
ME 3455	4					MEIE 4701 (EI, WI, CE)	1
ME 3456	1					Engineering tech elective	4
ME 4505 (AD)	4						
ME 4506	1						
Design Option course 1	4						
	18		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
ENCP 3000	1	ARTG 2262 and ARTG 2263	4
MEIE 4702 (EI, WI, CE)	5	Art and Design elective	4
Art and design history elective	4	Art and design fundamentals elective	5
Design Option course 2	4	Engineering tech elective	4
General elective (NUPath DD)	4		
	18		**17**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation		Vacation	
CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	ARTF 1122 (EI)	4	Vacation		Co-op	0
MATH 2321 (FQ)	4	ENCP 2000	1				
ME 2350	4	MATH 2341	4				
PHYS 1155 (ND)	3	ME 2340 (WI)	4				
PHYS 1156 (AD)	1	ME 2341	1				
PHYS 1157	1	ME 2380	4				

		ME 2381	0				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	ARTG 1290 and ARTG 1291	4	Co-op	0
		ME 2355	4	ME 3475 or 3480	4		
		ME 2356	1				
		Art and design fundamentals elective	5				
		Design Option course 1	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	MEIE 4701 (EI, WI, CE)	1	Co-op	0
		ME 3455	4	Art and design elective	4		
		ME 3456	1	Engineering tech elective	4		
		ME 4505 (AD)	4				
		ME 4506	1				
		Art and design history elective	4				
		Design Option course 2	4				
	0		**19**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ARTG 2262 and ARTG 2263	4
		MEIE 4702 (EI, WI, CE)	5
		Engineering tech elective	4
		General elective (NUPath DD)	4
	0		**17**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation		Vacation	
CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	Co-op	0	Co-op	0	ARTF 1122 (EI)	4
ENCP 2000	1					ME 3475 or 3480	4
MATH 2321 (FQ)	4						
ME 2350	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						

PHYS 1157	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2341	4	Co-op	0	Co-op	0	Vacation	
ME 2355	4						
ME 2356	1						
ME 2380	4						
ME 2381	0						
Art and Design fundamentals elective	5						
	18		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op	0	Co-op	0	ARTG 1290 and ARTG 1291	4
ME 2340 (WI)	4					MEIE 4701 (EI, WI, CE)	1
ME 2341	1					General elective (NUPath DD)	4
ME 3455	4						
ME 3456	1						
ME 4505 (AD)	4						
ME 4506	1						
Design Option course 1	4						
	20		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
MEIE 4702 (EI, WI, CE)	5	ARTG 2262 and ARTG 2263	4
Art and Design history elective	4	ENGW 3302 or 3315 (WD)	4
Design Option course 2	4	Art and Design elective	4
Engineering tech elective	4	Engineering tech elective	4
	17		**16**

Total Hours: 140

Animation, Minor

The animation minor immerses students in the creation of animated artwork and assets for short animated films, game art and promotion, documentary films, visualization, motion graphics, illustration, and interactive art. An intensive studio program, this curriculum seeks to immerse students in the knowledge, experience, and techniques of animation, informed by theory, experimentation, and critique. Extensive digital imaging and interactive media editing and production facilities afford students the opportunity to become proficient in the emerging practices necessary for remarkable work.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art + Design Majors

Code	Title	Hours
Required Courses		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
ARTD 3470	Animation 1	4
ARTD 3000	Topics in Media Arts	4

Requirements for Art + Design Majors

Note: This minor is not available to students in the BFA in media arts program or any media arts combined major.

Code	Title	Hours
Required Courses		
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
ARTD 3470	Animation 1	4
ARTD 3000	Topics in Media Arts	4

Code	Title	Hours
Electives		
Complete two of the following (if ARTD 3000 Topics in Media Arts, or any other topics course in the options listed below, is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 2100	Narrative Basics	
ARTD 3000	Topics in Media Arts	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	
ARTH 2212	Survey of the Still and Moving Image	

GPA Requirement

2.500 GPA required in the minor

Art, Minor

The art minor allows students to complement any degree with a broad exploration of visual studies, fine arts, and design. Following an introduction to the fundamentals of drawing and two-dimensional design, students select from courses in time-based media, interaction, sculpture, painting, and art history. The department's exceptional Dialogues of Civilization are popular among art minors, who are able to complete a large portion of their coursework during culturally immersive and focused studio residencies in places such as Ireland, Iceland, Cuba, and the Galapagos Islands.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art + Design Majors

Code	Title	Hours
Required Courses		
ARTF 1120	Observational Drawing	4
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Elective Courses		
Complete three of the following (if a topics course is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
ARTD 3000	Topics in Media Arts	
ARTE 2301	The Graphic Novel	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 2501	Art and Design Abroad: History	
ARTE 3901	Art and Design Special Topics	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 1400	The Science of Art, the Art of Science	
ARTH 2200	Topics in Design History	
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2212	Survey of the Still and Moving Image	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
ARTS 2340	Painting Basics	
ARTS 2341	Figure Drawing	
ARTS 3449	Drawing in Mixed Media	

Requirements for Art + Design Majors

Note: This minor is not available to students in the BA in art program or any art combined major.

Code	Title	Hours
Required Courses		
ARTF 1120	Observational Drawing	4
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Elective Courses		
Complete three of the following (if a topics course is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
ARTD 3000	Topics in Media Arts	
ARTE 2301	The Graphic Novel	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 2501	Art and Design Abroad: History	
ARTE 3901	Art and Design Special Topics	
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 1400	The Science of Art, the Art of Science	
ARTH 2200	Topics in Design History	
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2212	Survey of the Still and Moving Image	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
ARTS 2340	Painting Basics	
ARTS 2341	Figure Drawing	
ARTS 3449	Drawing in Mixed Media	

GPA Requirement

2.500 GPA required in the minor

Art History, Minor

An ideal complement to many majors, the art history minor builds the techniques of visual intelligence necessary to successfully navigate an increasingly image-driven world. Students learn to interpret visual evidence as well as written documents to understand and interrogate how evolving ideas about quality and judgment have shaped the institutions of art, including the growing art market. A diverse and strong faculty brings its own research into the classroom, allowing students to gain international exposure and real-world experience with world-class museums and cultural centers in Boston, Cambridge, and the greater metropolitan area. Art history minors often have opportunities to conduct independent research, develop publishable texts, and gain exposure to the dynamic fields of visual art and curatorial practice.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four (4) courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Note: This minor is not available to students in the BA in art program or any art combined major.

Requirements

Code	Title	Hours
Required Course		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
Elective Courses		
Complete four of the following:		16
If ARTH 3000 or ARTH 4000 (or any other topics course in the options listed below) is completed more than once, the additional completions may be allowed toward the electives.		
ARTE 2501	Art and Design Abroad: History	
ARTH 1100	Interactive Media and Society	
ARTH 1400	The Science of Art, the Art of Science	
ARTH 2200	Topics in Design History	
ARTH 2210	Modern Art and Design History	
ARTH 2211	Contemporary Art and Design History	
ARTH 2212	Survey of the Still and Moving Image	
ARTH 2215	History of Graphic Design	
ARTH 2313	Global Networks in Early Modern Art and Visual Culture	
ARTH 3000	Topics in Visual Studies	
ARTH 3211	Performance Art	
ARTH 4000	Topics in Visual Studies	
ARTH 5100	Contemporary Art Theory and Criticism	
ARTH 5600	Landscape and Ecology in Visual Culture	

GPA Requirement

2.500 GPA required in the minor

Creative Computing, Minor

Overview

The minor in creative computing is designed to equip students to use code as a medium for art, design, and games, focusing on the expressive, aesthetic, and reflexive dimensions of programming. It introduces students to computational forms of creative and critical thinking, bolstering Northeastern University's offering of humanics-centered courses.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Required

Code	Title	Hours
ARTD 2340	Introduction to Computational Creative Practice	4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	4

Electives

Code	Title	Hours
Complete two of the following (note that some courses may require prerequisites). At least one course must be above 3000 level.		8
ARTD 2000	Introduction to Immersive Media	
ARTD 3471	Virtual Environment Design	
ARTD 3490	Data Art and Hacktivism	
ARTG 2400	Interaction Design Principles (with optional ARTG 2400)	
ARTG 3100	Physical and Digital Fabrication	
ARTG 3250	Physical Computing	
GAME 3400	Level Design and Game Architecture	
GE 1501	Cornerstone of Engineering 1	
JRNL 3610	Digital Storytelling and Social Media	
JRNL 3700	Data Storytelling	
MUST 2431	Computer Music Fundamentals	
MUST 3603	Embedded Audio Programming	
THTR 2370	Lighting Design	

GPA Requirement

A 2.500 GPA is required in the minor.

Creative Fabrication, Minor

The creative fabrication minor is comprised of a suite of courses that introduces the student to studio principles and practices that will inform the creative, intuitive, and critical processes that are vital when realizing ideas into physical material form. The minor is designed to train and prepare the student with a skill set of traditional and emerging tools and methods for inventing, fabricating, constructing, shaping, and prototyping innovative work in a wide range of materials for a variety of products, places, and purposes. This minor offers the challenge of creating a project that demonstrates and tests the student's competence with the making of artifacts that align with the intentions and aspirations of the maker.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Required Courses

Code	Title	Hours
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5

Electives

Code	Title	Hours
Complete four courses; two courses must be taken in the same department.		16
Art + Design		
If ARTD 3000 Topics in Media Arts (or any other topics course in the options listed below) is completed more than once, the additional completions may be allowed toward the electives.		
ARTD 3000	Topics in Media Arts	
ARTG 3100	Physical and Digital Fabrication	
ARTG 3250	Physical Computing	
ARTE 3901	Art and Design Special Topics	
Theatre		
THTR 1131	Introduction to Technical Theatre	
THTR 1270	Introduction to Theatrical Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
Architecture		
ARCH 1110 and ARCH 1120	Fundamental Architectural Representation and Fundamental Architectural Design	
ARCH 2240	Architectonic Systems	
ARCH 3450	Advanced Architectural Communication	
Engineering		
GE 1501	Cornerstone of Engineering 1	
GE 1502	Cornerstone of Engineering 2	
GE 5030	Iterative Product Prototyping for Engineers	

GPA Requirement

2.000 GPA required

Experience Design, Minor

Experience design is a holistic approach that utilizes investigation into human environments in specific situations to improve quality. Given an understanding of goals, needs, and desires, it seeks to improve the various contexts by identifying and studying events and how they can be turned into beneficial practices.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Any prerequisites should be taken before registering for 2000-level courses and above.

A student pursuing this minor must complete a minimum of four (4) courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art and Design Majors

Code	Title	Hours
Required		
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 3462	Experience Design Principles	4
Electives		
Complete two of the following:		8-9
ARTD 2100	Narrative Basics	
ARTD 3000	Topics in Media Arts	
ARTE 3901	Art and Design Special Topics	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	
ARTG 2400 and ARTG 2401	Interaction Design Principles and Interaction Design Principles Tools	
ARTG 3250	Physical Computing	
ARTG 3463	Experience Design 2	
ARTG 5000	Topics in Design	
GE 1501	Cornerstone of Engineering 1	
GE 1502	Cornerstone of Engineering 2	
IE 2310 and IE 2311	Introduction to Industrial Engineering and Recitation for IE 2310	

Requirements for Art and Design Majors

Note: This minor is not open to students pursuing the BFA in design program or any design combined major.

Code	Title	Hours
Required Courses		
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 3462	Experience Design Principles	4
ARTG 3463	Experience Design 2	4
Electives		
Complete two of the following:		8-9
ARTD 2100	Narrative Basics	
ARTD 3000	Topics in Media Arts	
ARTE 3901	Art and Design Special Topics	
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	

ARTG 2400 and ARTG 2401	Interaction Design Principles and Interaction Design Principles Tools
ARTG 3250	Physical Computing
ARTG 5000	Topics in Design

GPA Requirement

2.500 GPA required in the minor

Game Art, Minor

The game art minor offers students an opportunity to become immersed in the study and practice of the visual arts and animation within the game medium. Students are afforded the opportunity to think critically and work collaboratively in multidisciplinary teams to produce art and animation assets that are critical to the success of projects in the game medium. Working in the interdisciplinary game areas, the program fosters experiential learning opportunities utilizing diverse intersections of skills merging artistic practice and expression blended with technology. Students will be immersed in experiences to develop tools to succeed, eagerness to innovate, and skills to become next-generation entrepreneurs in the ever-changing games and media landscape.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art + Design Majors

Code	Title	Hours
Required Courses		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
ARTD 3000	Topics in Media Arts	4
ARTD 3470	Animation 1	4

Requirements for Art + Design Majors

Note: This minor is not available to students in the BFA in media arts program or any media arts combined major.

Code	Title	Hours
Required Courses		
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	5
ARTD 3000	Topics in Media Arts	4
ARTD 3470	Animation 1	4

Code	Title	Hours
Electives		
Complete two of the following (if ARTD 3000 Topics in Media Arts, or any other topics course in the options listed below, is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 2100	Narrative Basics	
ARTD 3000	Topics in Media Arts	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	
GAME 2500	Foundations of Game Design	

GPA Requirement

2.500 GPA required in the minor

Game Design, Minor

The game design minor allows students in other areas of study to become familiarized with the basics of game design. Game design minor students can collaborate with students in the game design major, as well as the combined majors in game art and animation and computer science and game development. Students make games and create portfolio pieces. Students will also be encouraged to apply principles from their own discipline to the game designs they create.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements

Code	Title	Hours
Required Courses		
GAME 1110	Games and Society	4
GAME 2500	Foundations of Game Design	4
Elective Courses		
Complete two of the following:		8
GAME 3700	Rapid Idea Prototyping for Games	
GAME 3800	Game Concept Development	
GAME 4000	Topics in Game Design	
ARTG 2260	Programming Basics	

GPA Requirement

2.000 GPA required in the minor

Graphic and Information Design, Minor

Graphic design makes messages and meaning using visual form and the integration of text and image. It often has a persuasive intention and uses rules of visual composition, form, and pattern to enable storytelling or to create attention and an ambience for consideration. Information design focuses on visualizing concepts and data to enhance human understanding of complex and vital knowledge.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Any prerequisites should be taken before registering for 2000-level courses and above.

A student pursuing this minor must complete a minimum of four (4) courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art and Design Majors

Code	Title	Hours
Required Courses		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Electives		
Complete two of the following:		8-9
ARTD 3000	Topics in Media Arts	
ARTE 3901	Art and Design Special Topics	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTG 2242	Information Design Principles	
ARTG 2252	Graphic Design Principles	
ARTG 3350	Typography 2	
ARTG 3450	Graphic Design 2	
ARTG 5000	Topics in Design	
ARTH 2215	History of Graphic Design	

Requirements for Art and Design Majors

Note: This minor is not open to students pursuing the BFA in design program or any design combined major.

Code	Title	Hours
Required Courses		
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Electives		
Complete three of the following:		12
ARTD 3000	Topics in Media Arts	
ARTE 3901	Art and Design Special Topics	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3350	Typography 2	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	
ARTG 4555	Graphic Design Synthesis	
ARTG 5000	Topics in Design	
ARTH 2215	History of Graphic Design	

GPA Requirement

2.500 GPA required in the minor

Immersive Media, Minor

This is an interdisciplinary minor that provides a foundation in the design and development of immersive experiences in the exploration of human connection and interaction through media and technology. Focusing on the core principles, tools, and techniques of immersive media development, students have an opportunity to learn to tell stories, prototype new worlds, and explore creative workflows that will help shape the future of design.

The minor serves students who are interested in the following areas: human-computer interaction, enhanced realities, virtual reality, augmented reality, augmented virtuality, extended reality, and cross reality.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements

Some of the courses for the minor require prerequisites not listed here.

Code	Title	Hours
Extended Realities		
ARTD 2000	Introduction to Immersive Media	4
Complete the following course after all required and elective courses:		
ARTG 3100	Physical and Digital Fabrication	4

Electives

Code	Title	Hours
Object-Oriented Programming Elective		
Complete one from the following list:		4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	
CS 2510	Fundamentals of Computer Science 2	
EECE 2560	Fundamentals of Engineering Algorithms	
EXRE 5020	Developing Extended Realities (XR)	
MUST 3540	Special Topics in Music Technology	
PHYS 1211	Computational Problem Solving in Physics	
Extended Realities Electives		
Complete two of the following:		8
Content Creation		
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 3000	Topics in Media Arts	
ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3473	Animation for Games	
CS 1100	Computer Science and Its Applications	
CS 3540	Game Programming	
EXRE 5010	Immersive Media: Extended Realities (XR) History, Theory, and Impact	
EXRE 5030	Designing Extended Realities (XR)	
GAME 2950	Game Studio	
GAME 3700	Rapid Idea Prototyping for Games	
GAME 4000	Topics in Game Design	
GE 1111	Engineering Problem Solving and Computation	
GE 1501	Cornerstone of Engineering 1	
GE 2500	Design Analysis and Innovation	
IS 1500	Introduction to Web Development	

Narrative Development	
ARTD 2100	Narrative Basics
ARTE 2301	The Graphic Novel
ENTR 3330	Design Thinking for Startups
GAME 2355	Narrative for Games
INNO 2301	Innovation!
JRNL 1101	Journalism 1: Fundamentals of Reporting and Writing
JRNL 3370	Podcast and Radio Journalism
JRNL 3610	Digital Storytelling and Social Media
JRNL 3630	Magazine Writing
MSCR 2160	Narrative Filmmaking
Business and Innovation	
Only one course may be taken from this area:	
MISM 3501	Information Visualization for Business
MKTG 4502	Managing Customer Engagement in a Service World
MKTG 4508	Digital Marketing

GPA Requirement

2.500 GPA required in the minor

Interaction Design, Minor

Interaction design focuses on the creation of navigable interfaces and systems that allow audiences to achieve meaningful goals, connecting people to people and people to information and environments.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Any prerequisites should be taken before registering for 2000-level courses and above.

A student pursuing this minor must complete a minimum of four (4) courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art and Design Majors

Code	Title	Hours
Required Courses		
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 2400 and ARTG 2401	Interaction Design Principles and Interaction Design Principles Tools	5
Choose one of the programming courses with lab course:		4-5
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
Elective		
Complete one of the following:		4-5
ARTD 3000	Topics in Media Arts	
ARTF 1122	Color and Composition (with optional ARTF 1123)	
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	
ARTG 2252	Graphic Design Principles	
ARTG 3462	Experience Design Principles	
ARTG 3700	Interaction Design 2: Mobile	
ARTG 5000	Topics in Design	

Requirements for Art and Design Majors

Note: This minor is not open to students pursuing the BFA in design program or any design combined major.

Code	Title	Hours
Required Courses		
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2400 and ARTG 2401	Interaction Design Principles and Interaction Design Principles Tools	5
Electives		
Complete two of the following:		8
ARTD 3000	Topics in Media Arts	
ARTE 3901	Art and Design Special Topics	
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	
ARTG 3462	Experience Design Principles	
ARTG 3700	Interaction Design 2: Mobile	
ARTG 5000	Topics in Design	

GPA Requirement

2.500 GPA required in the minor

Photography, Minor

The photography minor immerses students in the creation of photographs. The curriculum seeks to involve students in the knowledge, experience, and techniques of photography, informed by theory, experimentation, and critique. Digital imaging, editing, and production facilities afford students the opportunity to become proficient in the emerging practices necessary for a variety of creative and technical contexts.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students who wish to register for 2000-level courses and above need to plan ahead in order to complete prerequisite course(s) ahead of time.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art + Design Majors

Code	Title	Hours
Required Courses		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	5
ARTD 3460	Photography: Concept + Process	4
Elective Courses		
Complete two of the following (if ARTD 3000 Topics in Media Arts, or any other topics course in the options listed below, is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 3000	Topics in Media Arts	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
ARTH 2212	Survey of the Still and Moving Image	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	

Requirements for Art + Design Majors

Note: This minor is not available to students in the BFA in media arts program or any media arts combined major.

Code	Title	Hours
Required Courses		
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	5
ARTD 3460	Photography: Concept + Process	4
ARTD 4565	Photography: Visual Strategies + Context	4
Elective Courses		
Complete two of the following (if ARTD 3000 Topics in Media Arts, or any other topics course in the options listed below, is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 3000	Topics in Media Arts	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
ARTH 2212	Survey of the Still and Moving Image	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	

GPA Requirement

2.500 GPA required in the minor

Photojournalism, Minor

As our society continues to move toward a world of technology, the power of photos become that much more important. This minor will engage students on how to visually tell a compelling story. It will give students the skill sets needed to succeed in that endeavor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: A student pursuing the minor in Photojournalism must complete a minimum of three (3) courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Required Courses

Code	Title	Hours
Photography Foundation		
Complete one of the following:		4-5
ARTE 2500	Art and Design Abroad: Studio	
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
Photography Requirement		
ARTD 3460	Photography: Concept + Process	4
Integrative		
JRNL 5310	Photojournalism	4
Electives		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 5314	Video News Reporting and Producing	

GPA Requirement

2.000 GPA required in the minor

Video Arts, Minor

The video arts minor is based on a multidisciplinary field focused on creative video expression and messaging. It weaves together collaborative frameworks, theories of social and cultural change, and video production (sound and image) alongside cinematic language (including documentary, imaginative, narrative, and experimental strategies). The scope of the video arts minor is a broader and more diverse tapestry than traditional video arts, and it reflects the dynamic evolution of video in multiple contexts, including the workplace. This minor enables students to explore contemporary, alternative, and other artistic means of video production in a variety of creative and technical contexts.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Any prerequisites should be taken before registering for 2000-level courses and above.

A student pursuing this minor must complete a minimum of four courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Requirements for Non–Art + Design Majors

Code	Title	Hours
Required Courses		
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	5
ARTD 3480	Video: Sound and Image	4
Electives		
Complete two of the following (if ARTD 3000 Topics in Media Arts, or any other topics course in the options listed below, is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 3000	Topics in Media Arts	
ARTD 3485	Experimental Video	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	
ARTH 2212	Survey of the Still and Moving Image	

Requirements for Art + Design Majors

Note: This minor is not available to students in the BFA Media Arts program or any media arts combined major.

Code	Title	Hours
Required Courses		
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	5
ARTD 3480	Video: Sound and Image	4
ARTD 3485	Experimental Video	4
Electives		
Complete two of the following (if ARTD 3000 Topics in Media Arts, or any other topics course in the options listed below, is completed more than once, the additional completions may be allowed toward the electives):		
ARTD 3000	Topics in Media Arts	
ARTE 2500	Art and Design Abroad: Studio	
ARTE 3901	Art and Design Special Topics	
ARTE 4901	Special Topics in Art and Design Studio	
ARTH 2212	Survey of the Still and Moving Image	

GPA Requirement

2.500 GPA required in the minor

Communication Studies

Website (https://camd.northeastern.edu/communication-studies/)

Maria Elena Villar, PhD
Chair
617.373.5517
commstudies@northeastern.edu

Craig Robertson, PhD
Associate Chair
617.373.5517
commstudies@northeastern.edu

The Department of Communication Studies is committed to providing students with both the communication skills and the understanding of the communication process required to thrive in a complex and changing society. Majors are required to demonstrate a mastery of the fundamentals of effective communication, to learn the fundamentals of communication theory and practice, and to develop a distinct area of emphasis. Some of the more popular areas include argumentation and advocacy, organizational and health communication, international and intercultural communication, digital communication and social media, and media production. The curriculum is designed to enhance the understanding of human communication in a variety of contexts, to empower students to become informed and engaged citizens, and to provide the knowledge and skills required to live a rich personal and professional life.

Media and Screen Studies

Website (https://camd.northeastern.edu/program/media-and-screen-studies/)

Maria Elena Villar, PhD
Chair
617.373.5517
mscr@northeastern.edu

Craig Robertson, PhD
Associate Chair
617.373.5517
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Media and screen studies educates students in the analysis and production of media. Taught from a liberal arts perspective, a MSCR degree seeks to give students the ability to think critically about the continually changing media industry and the complex world in which it exists and to apply that knowledge to media production. MSCR is a challenging degree that is not limited to what is traditionally offered at a film school or in a visual and performing arts degree.It gives students the tools to become engaged citizens equipped to meet the challenges of living in a global culture defined by technological and social change.

The Bachelor of Arts in Media and Screen Studies offers courses in analysis and practice. Required courses offer students an opportunity to obtain the critical thinking skills necessary to better understand media content, media technology, and media production. Students then decide how many production and analysis courses they want to take. Choosing from a broad range of electives, students can take more than half their major in media and film production courses, can take a majority of courses that critically examine media content and technology, or can combine courses in other ways.

Students may also enroll in one of the preexistent MSCR combined majors: communication studies, English, journalism, political science, sociology, and theatre.

Academic Progression Standards

Departmental probation will result from a cumulative grade-point average below 2.000. No more than two grades below a C in MSCR courses can be used to fulfill degree requirements. Dismissal from the major may occur as a result of two consecutive semesters on departmental probation.

Programs

Bachelor of Arts (BA)

- Communication Studies (p. 283)
- Communication Studies and Graphic and Information Design (p. 219)
- Communication and Media Studies (p. 286)
- Communication Studies and Sociology (p. 292)
- Communication Studies and Theatre (p. 295)
- English and Communication Studies (p. 299)
- Human Services and Communication Studies (p. 1757)

- Journalism and Communication Studies (p. 304)
- Linguistics and Communication Studies (p. 307)
- Political Science and Communication Studies (p. 311)
- Public Health and Communication Studies (p. 316)
- Media and Screen Studies (p. 321)
- Africana Studies and Media and Screen Studies (p. 324)
- Media and Screen Studies and English (p. 327)
- Media and Screen Studies and History (p. 332)
- Media and Screen Studies and Journalism (p. 335)
- Media and Screen Studies and Media Arts (p. 243)
- Media and Screen Studies and Philosophy (p. 341)
- Media and Screen Studies and Political Science (p. 344)
- Media and Screen Studies and Sociology (p. 349)
- Media and Screen Studies and Theatre (p. 352)
- Media Arts and Communication Studies (p. 246)

Bachelor of Science (BS)

- Business Administration and Communication Studies (p. 359)
- Communication Studies and Speech-Language Pathology and Audiology (p. 368)
- Computer Science and Communication Studies (p. 363)
- Health Science and Communication Studies (p. 371)
- Media and Screen Studies and Theatre (p. 375)
- Music and Communication Studies with Concentration in Music Industry (p. 379)
- Political Science and Communication Studies (p. 383)

Minors

- Argumentation and Law (p. 388)
- Cinema Studies (p. 389)
- Communication Studies (p. 390)
- Digital Communication (p. 391)
- Film Production (p. 392)
- Film Studies (p. 393)
- Human Communication (p. 394)
- Improvisation and Storytelling (p. 395)
- Media and Screen Studies (p. 396)
- Media Production (p. 397)
- Oratory and Public Speaking (p. 398)
- Political Communication (p. 399)
- Rhetoric (p. 400)
- Social Activism (p. 401)
- Sports, Media, and Communication (p. 402)

Communication Studies, BA

The communication studies major offers students an opportunity to obtain the communication skills and the understanding of the communication process required to thrive in a complex and changing society. Majors are required to demonstrate a mastery of the fundamentals of effective communication, to learn the fundamentals of communication theory and practice, and to develop a distinct area of emphasis. Some of the more popular areas include argumentation and advocacy, organizational and health communication, international and intercultural communication, digital communication and social media, and media production. The curriculum is designed to enhance the understanding of human communication in a variety of contexts, to empower students to become informed and engaged citizens, and to provide the knowledge and skills required to live a rich personal and professional life.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Societies and Institutions (SI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), and Difference and Diversity (DD) may be met through electives in the major.

Communication Studies Major Requirements

Code	Title	Hours
Introduction to College		
COMM 1000	Communication Studies at Northeastern	1
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
COMM 2301	Communication Research Methods	4
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two writing-intensive courses in communication studies from the following list:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	

COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Capstone		
Complete one of the following:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	
Communication Studies Electives		
Complete five communication studies courses not used to satisfy requirements above.		20

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Communication Studies Major Credit Requirement

Complete 52 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000	1	ENGW 1111	4	COMM Elective	4	Elective	4
COMM 1101	4	COMM Foundational Course	4	COMM Elective	4	Elective	4
COMM 1112	4	Elective	4				
Elective	4	Elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 2301	4	Co-op		Co-op	0	COMM writing-intensive	4
COMM Cluster Course	4					COMM Elective	4
Elective	4						
Elective	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM writing-intensive	4	Co-op		Co-op		Elective	4
COMM Elective	4					Elective	4
Elective	4						

Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM Elective	4	Capstone	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Total Hours: 130

Communication and Media Studies, BA

The Department of Communication Studies offers majors in both communication studies and in media and screen studies. The department also offers an integrated major that allows students to combine COMM and MSCR courses to create a unique plan of study that features courses on the theory and practice of communication along with the study of media, cultural, and creative industries. Students graduating with a communication and media studies major can pursue a graduate degree or enter careers in advertising, communication education, healthcare, journalism, law, public relations, government/politics, media and film production, and social and human services.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Societies and Institutions (SI), Difference and Diversity (DD), Creative Expression/Innovation (EI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) may be met through electives in the major.

Communication and Media Studies Requirements

Code	Title	Hours
Introduction to College		
COMM 1000	Communication Studies at Northeastern	1
or MSCR 1000	Media and Screen Studies at Northeastern	
Common Requirements		
COMM 1101	Introduction to Communication Studies	4
MSCR 1220	Media, Culture, and Society	4
COMM 2301	Communication Research Methods	4
Communication Studies Foundational Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Media Studies Foundational Course		
Complete one of the following:		4
MSCR 1320	Media and Social Change	
MSCR 1420	Media History	
MSCR 2220	Understanding Media	
Diversity and Difference Cluster		
Complete one of the following:		4
COMM 2304	Communication and Gender	
COMM 3304	Communication and Inclusion	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	

Globalization Cluster		
Complete one of the following:		4
COMM 2303	Global and Intercultural Communication	
MSCR 2325	Global Media	
Creative Expression Cluster		**4**
Complete one of the following:		
COMM 1112	Public Speaking	
MSCR 1230	Introduction to Film Production	
MSCR 3389	Screenwriting	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	
Capstone		
Complete one of the following:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	
COMM 4755	Production Capstone	
COMM 4901	Seminar in Communications	
MSCR 4623	Media and Screen Studies Capstone	
Elective courses		
Choose five from the following list:		20
Any COMM courses not already counting above		
Any MSCR courses not already counting above		
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTD 3480	Video: Sound and Image	

Major Grade Requirement

No more than three grades below a C in COMM and MSCR courses may be used to fulfill major requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000 or MSCR 1000	1	COMM foundational course	4	COMM 2301	4	Writing-intensive course	4
COMM 1101	4	MSCR foundational course	4	Cluster 1: Difference and diversity course	4	Elective	4
MSCR 1220	4	Foreign language	4				
ENGW 1111	4	Elective	4				
Foreign language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Cluster 2: Globalization course	4	Co-op		Co-op		Major elective 3	4
Cluster 3: Creative expression course	4					Elective	4
Major elective 1	4						
Major elective 2	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Writing-intensive course	4	Co-op		Co-op		Elective	4
Major elective 4	4					Elective	4
Major elective 5	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Capstone	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Communication Studies and Graphic and Information Design, BA

The Department of Communication Studies and the Department of Art + Design offer a combined major in communication studies and graphic and information design. Students interested in the combined major integrate the study of communication skills and processes with the design of message and meaning, integrating text, image, and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Differences and Diversity (DD) may be met through electives in the major.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Courses		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	

COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Electives		
Complete three COMM courses.		12

Graphic and Information Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2220)	4
Art and Design History		
Complete any one ARTH course as long as prerequisites have been met.		4
Design		
ARTG 1270 and 1270	Design: Process + Practices and Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2252	Graphic Design Principles	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
Degree Project		
ARTG 4550	Design Degree Project	4
Art and Design Electives		
Complete two courses with the corresponding tools course, if indicated, from the following:		8-10
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220	Movement and Time (with optional ARTF 2221)	
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262	
ARTG 2400	Interaction Design Principles	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	

Integrative Requirement

Code	Title	Hours
Integrative Courses		
COMM 2200	Visual Communication	4
The following course is already required in major:		
ARTG 4550	Design Degree Project	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Communication Studies and Graphic and Information Design Major Credit Requirement

84 semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or COMM 1000	1	ARTG 1270 and ARTG 1271	4	ARTG 1290 and ARTG 1291	4	A + D Foundation	4
ARTF 1122 (with optional ARTF 1123)	4	COMM 1112 or 2301	4	Communication studies cluster course	4	Elective	4
COMM 1101	4	Communication studies foundation course	4				
ENGW 1111	4	Elective	4				
Art History Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2252	4	EEAM 2000	1	Communication studies elective 2	4	Co-op	0
ARTG 3350	4	Art + Design elective	4	Elective	4		
Communication studies writing-intensive 1	4	Communication studies elective 1	4				
Design option 1	4	Design option 2	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3314 or 3315	4	Communication studies elective 3	4	Co-op	0
		Communication writing-intensive 2	4	Elective	4		
		Design elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 4550	4
		COMM 2200	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

Communication Studies and Sociology, BA

The communication studies department and the sociology department offer an interdisciplinary combined major in communication studies and sociology. The combined major integrates the study of communication skills and processes with the study of social behaviors.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Societies and Institutions (SI) and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Difference and Diversity (DD), and Analyzing and Using Data (AD) may be met through electives in the major.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1000	Communication Studies at Northeastern	1
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	

COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two courses between SOCL 1200 and SOCL 1999.		8
Intermediate-Level Elective		
Complete two courses between SOCL 2000 and SOCL 2999.		8
Advanced-Level Elective		
Complete one course above SOCL 3000.		4

Capstone and Integrative Requirements

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
COMM 3320	Political Communication	
COMM 3532	Theories of Conflict and Negotiation	
SOCL 3450	Class, Power, and Social Change	
Capstone/Senior Seminar Option		
Complete one of the following two options:		8
Communications Capstone Option		
Complete one COMM course and one SOCL course from the following list:		
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4625	Online Communities	
SOCL 3000 to SOCL 4999		
Sociology Senior Seminar Option		
Complete SOCL 4600 and one COMM course from the following list:		
SOCL 4600	Senior Seminar	
COMM 3000 to COMM 4999		

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Communication Studies and Sociology Combined Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000	1	ENGW 1111	4	Communication Studies cluster course	4	Introductory Sociology elective	4
COMM 1101	4	SOCL 2320	4	Elective	4	Elective	4
COMM 1112 or 2301	4	SOCL 2321	4				
SOCL 1101	4	Communication Studies foundation course	4				
SOCL 3300	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op	0	Co-op	0	Communication Studies elective	4
Communication Studies elective	4					Communication Studies writing-intensive	4
Introductory Sociology elective	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Advanced Writing in the Discipline	4	Co-op	0	Co-op	0	Communication Studies elective	4
Communication Studies writing-intensive	4					Elective	4
Intermediate Sociology elective	4						
Intermediate sociology elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Advanced Sociology elective	4	Communication Studies or Sociology capstone	4
Integrative course	4	Communication Studies or Sociology capstone elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Communication Studies and Theatre, BA

The Departments of Communication Studies and Theatre offer an interdisciplinary combined major that unites the practical skills and theories in communication studies with the artistic dimensions of theatre. The program provides both the creative study of theater performance, literature, playwriting, and directing with the ability to research and deliver a compelling speech and think critically and write effectively. The two disciplines unite in shared values of original personal expression, professional collaboration, and experiences in the cultural, social, and ethical impact of theatre as human communication.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Creative Expression/Innovation (EI), Societies and Institutions (SI), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Differences and Diversity (DD) may be met through electives in the major.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1000	Communication Studies at Northeastern	1
or THTR 1000	Theatre at Northeastern	
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	

COMM 3304	Communication and Inclusion
COMM 3320	Political Communication
COMM 3415	Communication Criticism
COMM 3445	Public Relations Principles
COMM 3500	Environmental Issues, Communication, and the Media
COMM 3501	Free Speech: Law and Practice
COMM 3530	Communication and Sexualities
COMM 3532	Theories of Conflict and Negotiation
COMM 4535	Nonverbal Social Interaction
COMM 4605	Youth and Communication Technology
COMM 4631	Crisis Communication and Image Management
Communication Studies Electives	
Complete three COMM courses.	12

Theatre Requirements

A minimum grade of C is required in all THTR & INAM courses.

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Choose one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Choose two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	

THTR 2400	Scenic Design
THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2993	Topics in Dance
THTR 2983	Topics in Theatre History and Culture
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirements

Code	Title	Hours
INAM 2000	Ethics in Creativity	4
Choose from one of the following:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
THTR 4702	Capstone: Creative Practice Research Project	

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

130 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000 or THTR 1000	1	COMM 1112 or 2301	4	Communicaton studies foundation course	4	Vacation	
COMM 1101	4	ENGW 1111	4	Communicaton studies elective	4		
THTR 1100	1	INAM 2000	4				
THTR 1101	4	THTR 1131	4				
THTR 1120	4						
Foreign language elective or THTR elective	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op #1	0	Co-op #1	0	Elective	4
THTR 2000	1					Elective	4
THTR 3325	4						
Communicaton studies cluster course	4						
Communicaton studies elective	4						

THTR Text, Community, & Social Context Course		4					
		18		**0**		**0**	**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3314 or 3315		4 Comm writing intensive	4	Optional Co-op #2	0	Optional Co-op #2	0
THTR 1270		4 Comm elective	4				
THTR Elective		4 THTR Elective	4				
Foreign language or elective		4 Elective	4				
		16	**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Communication studies writing-intensive		4 Integrative course	4
Elective		4 Elective	4
Elective		4 Elective	4
Elective		4 Elective	4
		16	**16**

Total Hours: 132

English and Communication Studies, BA

The English department and the communication studies department offer an interdisciplinary combined major in English and communication studies. Broadly speaking, students in the combined major in English and communication studies at Northeastern integrate the study of literature and writing with studies of media, social, corporate, and political communications.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	

or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	

ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	

COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three additional COMM courses.		12

Integrative Requirement

Code	Title	Hours
Integrative English Course		
Complete one of the following:		4
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
Integrative Communication Studies Course		
COMM 3415	Communication Criticism	4
or COMM 4602	Contemporary Rhetorical Theory	

Communication Studies Grade Requirements

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	ENGL 1160 or 1410	4	Communication Studies cluster course	4	Foreign Language	4
COMM 1112 or 2301	4	Communication Studies foundational course	4	Communication Studies elective	4	Communication Studies elective	4
ENGL 1000 or COMM 1000	1	English diversity course	4				
ENGL 1400	4	English Pre-19th Century Literature elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Communication Studies writing-intensive	4
English 19th-20th-21st Century Literature elective	4					Communication Studies elective	4
English Theories and Methods course	4						
Foreign Language	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Communication Studies writing-intensive	4	Co-op		Co-op		Elective	4
English Comparative Literature elective	4					Elective	4
English Writing elective	4						
Foreign Language	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
English elective	4	English capstone	4
English elective	4	Integrative COMM Course	4
Integrative ENGL course	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Journalism and Communication Studies, BA

Overview

This interdisciplinary combined major offers students an opportunity to integrate the study and practice of journalism with an opportunity to obtain the communication skills and the understanding of the communication process required to thrive in a complex and changing society. The curriculum is designed to allow students to enhance the understanding of human communication as well as the tools needed to be able to tell powerful stories.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Journalism Requirements

Code	Title	Hours
Foundation Courses		
C or better in JRNL 1101, JRNL 1102, and JRNL 2201 is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling Requirement		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 3700	Data Storytelling	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5311	Design for Storytelling	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete four JRNL electives. Two must be 3000 level or above.		16

Communication Studies Requirements

Code	Title	Hours
Common Requirements		
COMM 1101	Introduction to Communication Studies	4
Complete one of the following:		
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Distributed Requirements		

Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3330	Argumentation Theory	
COMM 3415	Communication Criticism	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Electives		
Complete three COMM courses.		12

Introductory

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or COMM 1000	Communication Studies at Northeastern	

Co-op

Code	Title	Hours
EEAM 2000	Professional Development for Co-op	1

Writing Requirement (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
ENGW 3314	Advanced Writing in the Arts, Media, and Design	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or JRNL 2301	Visual Storytelling in Journalism	
or COMM 3409	Advocacy Writing	

Integrative Requirement

Code	Title	Hours
Complete one COMM course and one JRNL course:		8
COMM 2550	Television Field Production	
COMM 4755	Production Capstone	
JRNL 3425	Public Relations Principles	
or COMM 3445	Public Relations Principles	

JRNL 5314	Video News Reporting and Producing
JRNL 5316	The Newsroom

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirements

81 semester hours in the major

129 overall semester hours required

Plan of Study

Sample Four-Years, Two-Co-ops Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	COMM elective	4	Elective	4
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
JRNL 1000 or COMM 1000	1	Language	4				
JRNL 1150	4	Elective	4				
Language	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
JRNL 2201	4					Elective	4
COMM foundation course	4						
JRNL elective	4						
Language	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM cluster	4	Co-op	4	Co-op		COMM elective	4
COMM writing-intensive	4					Elective	
JRNL visual storytelling	4						
JRNL elective	4						
	16		**4**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
JRNL 3550 or 4650	4	COMM elective	4
COMM writing-intensive	4	Integrative course	4
Integrative course	4	JRNL elective	4
JRNL elective	4	Elective	4
	16		**16**

Total Hours: 131

Linguistics and Communication Studies, BA

Overview

In the combined major in linguistics and communication studies, students learn about the formal structures and analysis of human languages across multiple levels (sounds, words, phrases and sentences, meaning) while simultaneously mastering the fundamentals of effective communication and of communication theory and practice. Students receive extensive training in writing and speaking, both for a technical audience and more generally; and they explore the role of language and communication in society, both from a broad theoretical perspective and in narrower, more focused and applied domains.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete two courses not used to fulfill other degree requirements from the following options.		8
LING 3000 to LING 4999 [1]		
DEAF 2700	ASL Linguistics	

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Required Courses		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
COMM 2301	Communication Research Methods	4
Foundation Course		
Complete one course from the following:		4
COMM 1210	Persuasion and Rhetoric	

COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one course from the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Course		
Complete one course from the following:		4
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete two additional COMM courses		8

Integrative Requirement

Code	Title	Hours
Sociolinguistics		
LING 3442	Sociolinguistics	4
Communication Studies Integrative Course		
Complete one of the following, not used to fulfill above requirements:		4
COMM 3415	Communication Criticism	
COMM 4602	Contemporary Rhetorical Theory	
Capstone Experience		
Complete one of the following, not used to fulfill above requirements:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	
LING 4654	Seminar in Linguistics	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Linguistics and Communication Studies Combined Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Patterns:

FOUR YEARS, TWO SUMMER 2/FALL CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	LING 2350	4	COMM Studies Elective	4	Elective	4
COMM 1112	4	LING 3412	4	Elective	4	Elective	4
ENGW 1111	4	COMM Studies Foundation Course	4				
LING 1000	1	Elective	4				
LING 1150	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 2301	4	LING 3442 (Or Linguistics Elective)	4	COMM Studies Elective	4	Co-op	
EEAM 2000 or EESC 2000	1	COMM Studies Elective	4	Elective	4		
COMM Studies Cluster Course	4	Foreign Language Course	4				
Foreign Language Course	4	Linguistic Structure or Linguistics Elective	4				
Linguistic Structure or Linguistics Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	COMM Studies Writing Intensive	4	Co-op	
		LING 3442 (or Linguistics Elective)	4	Elective	4		
		Foreign Language Course	4				
		Linguistic Structure or Linguistics Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		COMM 3415 or 4602	4
		COMM Studies Writing Intensive	4
		Integrative Capstone Experience	4
		Linguistic Structure or Linguistics Elective	4
	0		**16**

Total Hours: 130

FIVE YEARS, THREE SUMMER 2/FALL CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	LING 2350	4	Vacation		Vacation	
COMM 1112	4	LING 3412	4				
ENGW 1111	4	COMM Studies Foundation Course	4				
LING 1000	1	Elective	4				

LING 1150	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 2301	4	EEAM 2000 or EESC 2000	1	Vacation		Co-op	
COMM Studies Cluster Course	4	COMM Studies Elective	4				
Foreign Language Course	4	COMM Studies Elective	4				
Linguistic Structure or Linguistics Elective	4	Foreign Language Course	4				
		Linguistic Structure or Linguistics Elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	COMM Studies Elective	4	Co-op	
		LING 3442 (or Linguistics Elective)	4	Elective	4		
		Foreign Language Course	4				
		Linguistic Structure or Linguistics Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		LING 3442 (or Linguistics Elective)	4	Elective	4	Co-op	
		COMM Studies Writing Intensive	4	Elective	4		
		Linguistic Structure or Linguistics Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		COMM 3415 or 4602	4
		COMM Studies Elective	4
		Integrative Capstone Experience	4
		Elective	4
	0		**16**

Total Hours: 130

Political Science and Communication Studies, BA

The combined major in political science and communication studies offers students the opportunity to integrate the study of politics and government with different forms and mediums of communication. Students complete the core courses in political science along with core courses in communication studies that cover public speaking and persuasion. This combined major highlights the important role played by different forms of communication in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Methodology		
POLS 2399	Research Methods in Political Science	4
or COMM 2301	Communication Research Methods	
Political Science Electives		
Complete four courses in the following range:		16
POLS 3000 to POLS 5999		

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 313).

- American Political Institutions (p. 313)
- Campaigns and Elections (p. 313)
- Comparative Politics (p. 313)
- Identity, Culture, and Politics (p. 314)
- International Relations and Diplomacy (p. 314)
- Law and Legal Studies (p. 314)
- Public Policy (p. 314)
- Security Studies (p. 315)

Communication Studies Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Communication Studies Electives

Code	Title	Hours
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three additional communication studies courses.		12

Integrative Requirements

Code	Title	Hours
Integrative Courses		
POLS 3320	Politics and Mass Media	4
or COMM 3320	Political Communication	
Capstone Requirement		
Complete one of the following. This course also counts toward the political science or communication studies elective requirement:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	

COMM 4755	Production Capstone
POLS 4701	Political Science Senior Capstone
POLS 4703	Senior Thesis

Political Science and Communication Studies Combined Major Credit Requirement

Complete 84 semester hours in the major.

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4

POLS 4915	Model Arab League
POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	Communication Studies Foundation Course	4	Communication Studies Cluster Course	4
ENGW 1111	4	POLS 1155	4	Communication Studies Elective	4	Elective	4
POLS 1000 or COMM 1000	1	Foreign Language 2	4				
POLS 1150	4	Elective	4				
Foreign Language 1	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000 or EEAM 2000	1	Co-op		Co-op		Communication Studies Writing Intensive	4
POLS 1160	4					Elective	4
POLS 2400	4						
Communication Studies Elective	4						
Foreign Language Culture Course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399 or COMM 2301	4	Co-op		Co-op		Communication Studies Writing Intensive	4
Political Thought Course	4					Political Science Elective	4
Communication Studies Elective	4						
Political Science Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative Course	4	Capstone	4
Political Science Elective	4	Elective	4
Political Science Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Public Health and Communication Studies, BA

Overview

The combined Bachelor of Arts in Public Health and Communication Studies offers an interdisciplinary approach to public health communication. Students combine courses from public health, social sciences, and communication studies to study the important role of communication in shaping the public's understanding of health issues. The interdisciplinary curriculum is enhanced by experiential learning opportunities and is designed to prepare students for challenging careers that involve crafting messages about health, developing strategies for promoting access to healthcare services, and specific applications such as disease awareness and prevention.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE REQUIREMENTS

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Upper-Level Course		
Complete one of the following:		3-4
Society and Behavior		
ANTH 3441	Medical Anthropology	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
SOCL 3241	Violence and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4520	Race, Class, and Gender	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
INTL 5100	Climate and Development	
or PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	

ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Communication Studies Requirements

REQUIRED COURSES

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

FOUNDATION COURSE

Code	Title	Hours
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	

CLUSTER COURSE

Code	Title	Hours
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	

WRITING-INTENSIVE COURSES

Code	Title	Hours
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

COMMUNICATION STUDIES ELECTIVES

Code	Title	Hours
Complete three additional COMM courses.		12

Supporting Course Requirements

Code	Title	Hours
Introduction to College (based on home college)		**1**
HSCI 1000	College: An Introduction	
COMM 1000	Communication Studies at Northeastern	
Co-op Preparation (based on home college)		**1**

HSCI 2000	Professional Development for Bouvé Co-op	
EEAM 2000	Professional Development for Co-op	
Writing Courses		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		*4*
Complete one of the following:		
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
Capstone and Integrative Course		**4**
Complete one of the following:		
HSCI 4720	Health Science Capstone—Service (Prerequisite course#HSCI#4700)	
HSCI 4730	Health Science Capstone—Research (Prerequisite course#HSCI#4700)	
HSCI 4740	Health Science Capstone Seminar (Prerequisite course#HSCI#4700)	
COMM 4102	Health Communication Campaigns	

General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Communication Studies Grade Requirement

No more than two grades below a C in COMM courses may be used to fulfill degree requirements.

Public Health and Communication Studies Major Credit Requirement

Minimum of 91 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/Two Co-ops in Spring/Summer 1—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
HSCI 1000	1	ENGW 1111	4	PHTH 2350	4
PHTH 1260	4	BIOL course—see options	4	General elective	4
PSYC 1101	4	Elementary language course	4		
BIOL course—see options	4	General elective	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2300	4
PHTH 2210 and PHTH 2211	4			General elective	4	ENGW 3306	4
COMM 1101	4						
COMM 1112 or PHTH 2301	4						
COMM elective	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2515	4	Co-op		Co-op		PHTH 4120	4

Social science course	4			General elective	4	PHTH 4540	4
COMM foundation course	4					HSCI 4700	0
COMM elective	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
PHTH 4202	4	COMM elective	4
COMM cluster course	4	COMM writing-intensive course	4
HSCI 4720, 4730, or 4740	4	Social science course	4
COMM writing-intensive course	4	Intermediate language course	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CAMD Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
COMM 1000	1	PSYC 1101	4	PHTH 2515	4
PHTH 1260	4	BIOL course—see options	4	General elective	4
ENGW 1111	4	Elementary language course	4		
BIOL course—see options	4	General elective	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	EEAM 2000	1	PHTH 2300	4	Co-op	
COMM 1112 or 2301	4	PHTH 2210 and PHTH 2211	4	ENGW 3314	4		
COMM foundation course	4	PHTH 2350	4				
COMM elective	4	COMM cluster course	4				
		Social science course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHTH 4202	4	PHTH 4120	4	Co-op	
General elective	4	COMM writing-intensive course	4	PHTH 4540	4		
		COMM elective	4				
		Intermediate language course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		COMM 4102	4
General elective	4	COMM elective	4
		COMM writing-intensive course	4
		Social science course	4
	4		**16**

Total Hours: 130

Media and Screen Studies, BA

The Bachelor of Arts in Media and Screen Studies offers courses in analysis and practice. Required courses offer students an opportunity to obtain the critical-thinking skills necessary to better understand media content, media technology, and media production. Students then decide how many production and analysis courses they want to take. Choosing from a broad range of electives, students can take more than half their major in media and film production courses, can take a majority of courses that critically examine media content and technology, or can combine courses in other ways.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), and Analyzing and Using Data (AD) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Introduction to College		
MSCR 1000	Media and Screen Studies at Northeastern	1
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
MSCR 1420	Media History	4
Foundation Course (Production or Theory)		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensives		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3600	Film Theory	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3700	Queer Media	

MSCR 4208	TV History	
Capstone (Production or Theory)		
Complete one of the following:		4
MSCR 4623	Media and Screen Studies Capstone	
COMM 4755	Production Capstone	
Media and Screen Studies Electives		
Complete five courses from the following list or media and screen studies courses not used to satisfy requirements above:		20
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
MSCR 2160	Narrative Filmmaking	
MSCR 2336	American Film and Culture	
MSCR 3389	Screenwriting	
MSCR 3446	Documentary Production	
MSCR 3920	Topics in Film Studies	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to fulfill degree requirements.

Media and Screen Studies Credit Requirement

52 total semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR 1000	1	MSCR 1320	4	Media and screen studies elective	4	Elective	4
MSCR 1220	4	ENGW 1111	4	Elective	4	Elective	4
Elective	4	Foreign language core course	4				
Elective	4	Elective	4				
Foreign language core requirement	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR 1420	4	Media and screen studies elective	4	Elective	4	Co-op	0
MSCR 1230 or 2220	4	Media and screen studies diversity/globalization course	4	Elective	4		
Foreign language core course	4	Elective	4				
Elective	4	Elective	4				
		EEAM 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Media and screen studies elective	4	Media and screen studies elective	4	Co-op	0
		Media and screen studies writing-intensive	4	Elective	4		
		MSCR Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	MSCR 4623	4
		Media and screen studies writing-intensive	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

Africana Studies and Media and Screen Studies, BA

Overview

The combined major in Africana studies and media and screen studies integrates critical and systemic examination of the cultural, political, social, economic, and historical experiences of the peoples of the global African diaspora along with the analysis, research, and production of traditional and emerging media.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following:		8
AFAM 2296	Early African-American Literature	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Sciences		
Complete two of the following:		8
AFAM 2355	Race, Identity, Social Change, and Empowerment	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 2618	Community Psychology	
AFAM 3270	Race, Ethnicity, and Inequality	
AFAM 5001	Special Topics in Race and the Law	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
Electives		

Complete one AFAM or AFRS course at the 2000 level or above.		4
Complete one AFAM or AFRS course at the 3000 level or above.		4
Senior Capstone		
AFAM 4700	Capstone	4

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3600	Film Theory	
MSCR 3422	Media Audiences	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from the following:		12
MSCR courses at the 1000 level or above		
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Integrative Requirement

Code	Title	Hours
AFAM 2619	Race and Religion in Film	4
MSCR 2335	Race and Social Justice in American Film	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirements

Minimum 2.000 GPA required

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1101	4	AFAM 2690	4	Foreign language course	4	Elective	4
AFAM 1104	4	AFRS 2307	4	Elective	4	Elective	4
AFAM 1113	4	MSCR 1220	4				
CLTR 1000	1	Foreign language course	4				
ENGW 1111	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 2296	4	AFAM 3270	4	AFAM 3664	4	Co-op	
AFRS 2464	4	MSCR 2220	4	COMM 3655	4		
AFRS 3424	4	MSCR 2505	4				
MSCR 1320	4	MSCR 3420	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		AFAM 2619	4	MSCR elective	4	Co-op	
		ARTD 2380	4	Elective	4		
		COMM 2655	4				
		MSCR 2335	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		AFAM 4700	4
		COMM 4755	4
		NUpath elective	4
		NUpath elective	4
	0		**16**

Total Hours: 129

Media and Screen Studies and English, BA

The media and screen studies program and the Department of English offer a combined major in media and screen studies and English. The combined major integrates the analysis, research, and production of traditional and emerging media along with the study of the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures. Majors become familiar with writing practices and media from the Middle Ages through the present, from the quill pen to computer code.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	

ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	

ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace
English Electives	
Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Integrative Requirement

Code	Title	Hours
Integrative Courses		
ENGL 1450	Reading and Writing in the Digital Age	4
or ENGL 3340	Technologies of Text	
MSCR 3600	Film Theory	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Plan of Study
Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1160 or 1410	4	MSCR 1320 or 1420	4	Foreign Language	4	Elective	4
ENGL 1400	4	MSCR foundation	4	MSCR elective	4	Elective	4
MSCR 1000 or ENGL 1000	1	ENGL pre-19th-century literature elective	4				
MSCR 1220	4	Foreign Language	4				
Foreign Language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
ENGL 19th-, 20th-, and 21st-century literature elective	4					Elective	4
ENGL diversity elective	4						
MSCR diversity/ globalization	4						
MSCR elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL theories and methods elective	4	ENGL 1450 or 3340	4	Elective	4	Co-op	
ENGL elective	4	ENGL comparative elective	4	Elective	4		
ENGL elective	4	MSCR writing-intensive	4				
MSCR writing-intensive	4	MSCR elective	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		MSCR 3600	4
		ENGL 4710 or 4720	4
		ENGL writing elective	4
		Elective	4
	0		**16**

Total Hours: 130

Media and Screen Studies and History, BA

The Media and Screen Studies Program and the Department of History offer a combined major in media and screen studies and history. The combined major integrates the analysis, research, and production of traditional and emerging media along with the study of local and regional histories as well as of the global exchanges between nations, regions, and cultures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one course from the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Elective		
Complete two HIST courses at any level in any field.		8
Introductory-Level Course		
Complete one course in the following range, not used to fulfill another requirement:		4
HIST 1001–HIST 1999		
Intermediate/Advanced History		
Complete minimum of one history course numbered 2000 to 2999 (Excluding HIST 2301 and HIST 2302).		4
Advanced History		
Complete minimum of one history course numbered 3000 to 4999 (Excluding HIST 4701).		4
Capstone		
HIST 4701	Capstone Seminar	4

Integrative Requirement

Code	Title	Hours
HIST 1357	History of Information in the United States: Media, Technology, Law	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Foreign Language	4	Elective	4
HIST 1200 and HIST 1201	5	Intro-level HIST course	4	Elective	4	Elective	4
MSCR 1000	1	MSCR foundation course	4				
MSCR 1220	4	Foreign Language	4				
Foreign Language	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
HIST 2301 and HIST 2302	5					Elective	4
MSCR diversity/ globalization	4						
MSCR elective	4						
Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Intermediate/advanced history elective 1	4	Co-op		Co-op		Elective	4
MSCR elective	4					Elective	4
MSCR writing-intensive	4						
Pre-1800 history elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HIST 1357	4	HIST 4701	4
Advanced history elective	4	Intermediate/advanced history elective 3	4
Intermediate/advanced history elective 2	4	MSCR elective	4
MSCR writing-intensive	4	Elective	4
	16		**16**

Total Hours: 132

Media and Screen Studies and Journalism, BA

A Bachelor of Arts in Media and Screen Studies and Journalism is designed for the student who is interested in pursuing a career as a journalist specializing in the film industry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), Difference and Diversity (DD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirement Analyzing and Using Data (AD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from the MSCR subject code or from the following:		12
ARTD 2380	Video Basics	

ARTD 3480	Video: Sound and Image
ARTD 3485	Experimental Video
COMM 1450	Sound Production for Digital Media
COMM 2550	Television Field Production
COMM 2655	Television Studio Production
COMM 3655	Digital Editing for TV
COMM 3750	Special Effects and Postproduction for Television
COMM 4755	Production Capstone

Journalism Requirements

Code	Title	Hours
Journalism Foundations		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox (A grade of C or higher is required)	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting (A grade of C or higher is required)	4
Journalism and Advanced Writing		
JRNL 2301	Visual Storytelling in Journalism (A grade of C or higher is required)	4
Television News		
JRNL 5314	Video News Reporting and Producing	4
Ethics and Issues		
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete three courses in the following range:		12
JRNL 2000–JRNL 5999		

Integrative Requirement

The following course also counts toward the media and screen studies requirements above.

Code	Title	Hours
Integrative Course		
MSCR 4623	Media and Screen Studies Capstone	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1150	4	JRNL 1101 and JRNL 1102	5	Foreign language	4	Foreign language	4
ENGW 1111	4	MSCR 1230 or 2220	4	Elective	4	Elective	4
MSCR 1000 or JRNL 1000	1	MSCR 1320 or 1420	4				
MSCR 1220	4	Foreign language	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op	0	Co-op	0	Elective	4
JRNL 2201	4					Elective	4
Journalism elective 1	4						

MSCR diversity or globalization	4						
MSCR elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	Elective	4
JRNL 5314	4					Elective	4
MSCR 4623	4						
MSCR writing intensive 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 4650	4	MSCR elective 3	4
Journalism elective 2	4	Journalism elective 3	4
MSCR elective 2	4	Elective	4
MSCR writing intensive 2	4	Elective	4
	16		**16**

Total Hours: 131

Media and Screen Studies and Media Arts, BA

The Media and Screen Studies Program and the Department of Art + Design offer a combined major in media studies and media arts. Students pursuing the combined major are able to integrate the theory and practice of contemporary media studies with the deep appreciation of the narrative arts that is required for professional work in documentary film, game art and promotion, visualization, motion graphics, interactive art, illustration, and short animated films.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Analyzing and Using Data (AD), Differences and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 3392	Gender and Film	
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3600	Film Theory	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
Recommendation: Complete MSCR 4623 as one of your MSCR electives to fulfill NUpath capstone.		
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Media Arts Courses

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
Drawing Fundamentals		
ARTF 1120	Observational Drawing	4
or ARTF 1121	Conceptual Drawing	
Art and Design History		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 2212	Survey of the Still and Moving Image	4
Media Arts Basics Electives		
Complete two of the following sets:		10
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Media Arts Capstone		
ARTD 4530	Media Arts Degree Project	4
Art and Design Electives		
Complete any two courses not previously completed in ARTG, ARTE, ARTD, ARTH, or ARTS courses as long as prerequisites or corequisites have been met.		8-9
If ARTD 3000 Topics in Media Arts (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.		

Integrative Course

Code	Title	Hours
MSCR 3600	Film Theory	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to fulfill degree requirements.

Program Requirement

131 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or MSCR 1000	1	MSCR 1320 or 1420	4	Elective	4	Elective	4
MSCR 1220	4	ARTH 1001 and ARTH 1002	4	Elective	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTF 1120 or 1121	4				
ARTF 2220 and ARTF 2221	5	Elective	4				
ENGW 1111	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR foundation	4	Co-op		Co-op		Elective	4
MSCR elective	4					Elective	4
Media arts basics elective	5						
ARTH 2212	4						
EEAM 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR diversity/ globalization	4	Co-op		Co-op		Elective	4
MSCR writing-intensive	4					Elective	4
Media arts basics elective	5						
Art and design elective	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MSCR 3600	4	ARTD 4530	4
MSCR writing-intensive	4	MSCR elective	4
Art and design elective	4	MSCR elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Media and Screen Studies and Philosophy, BA

The Media and Screen Studies Program and the Department of Philosophy and Religion offer a combined major in media and screen studies and philosophy. The combined major integrates the analysis, research, and production of traditional and emerging media along with the study of questions and theories related to morality, society, religion, and the natural and social sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Societies and Institutions (SI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), and Difference and Diversity (DD) may be met through electives in the major.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
(NUpath capstone recommendation: Complete MSCR 4623 as one of your MSCR electives if a philosophy capstone course is not selected for "Restricted Philosophy Electives.")		
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional PHIL electives, not used to satisfy another requirement.		8

Integrative Requirement

Code	Title	Hours
MSCR 3600	Film Theory	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements

Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Foreign Language	4	Elective	4
MSCR 1000	1	PHIL 2325 or POLS 2325	4	Elective	4	Elective	4
MSCR 1220	4	MSCR foundation	4				
PHIL 1115	4	Foreign Language	4				
Foreign Language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	MSCR writing-intensive	4	Elective	4	Co-op	
PHIL 2330	4	Restricted PHIL elective 1	4	Elective	4		
MSCR diversity/ globalization	4	Critical Philosophy Elective	4				
MSCR elective	4	Elective	4				
PHIL elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MSCR writing-intensive	4	Elective	4	Co-op	
		MSCR elective	4	Elective	4		
		Restricted PHIL elective 2	4				
		PHIL elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		MSCR 3600	4
		MSCR elective	4
		Restricted PHIL elective 3	4
		Elective	4
	0		**16**

Total Hours: 130

Media and Screen Studies and Political Science, BA

The Media and Screen Studies Program and the Department of Political Science offer a combined major in media and screen studies and political science. The combined major integrates the analysis, research, and production of traditional and emerging media along with courses on American government, comparative politics, international relations, and research methods.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Societies and Institutions (SI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI) and Difference and Diversity (DD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following (NUpath capstone recommendation: Complete MSCR 4623 as one of your MSCR electives if a political science capstone is not taken for a political science elective):		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Political Science Requirements

Code	Title	Hours
Required Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Elective Courses		
Complete four POLS courses or complete a concentration.		16

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record:

- American Political Institutions (p. 346)
- Campaigns and Elections (p. 346)
- Comparative Politics (p. 346)
- Identity, Culture, and Politics (p. 347)
- International Relations and Diplomacy (p. 347)
- Law and Legal Studies (p. 347)
- Public Policy (p. 347)
- Security Studies (p. 348)

Integrative Requirements

Code	Title	Hours
Required Courses		
MSCR 3437	Media and Identity	4
or COMM 3320	Political Communication	
POLS 3320	Politics and Mass Media	4

Capstone Requirement

Code	Title	Hours
Complete one of the following courses (this course will also fulfill either a MSCR elective or a POLS elective):		4
MSCR 4623	Media and Screen Studies Capstone	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR 1000	1	MSCR 1320 or 1420	4	Foreign language	4	Elective	4
MSCR 1220	4	POLS 1155	4	Elective	4	Elective	4
POLS 1150	4	MSCR foundation	4				
ENGW 1111	4	Foreign language	4				
Foreign language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	Co-op		Co-op		Elective	4
POLS 2400	4					Elective	4
MSCR diversity/ globalization	4						
MSCR elective	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Political thought elective	4	MSCR writing-intensive	4	Elective	4	Co-op	
MSCR writing-intensive	4	Politics in media/art elective	4	Elective	4		
MSCR elective	4	MSCR elective	4				
POLS 3320	4	POLS elective	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Politics in media/art elective	4
		POLS elective	4
		Elective	4
		MSCR 3437 or COMM 3320	4
	0		**16**

Total Hours: 130

Media and Screen Studies and Sociology, BA

The Media and Screen Studies Program and the Department of Sociology and Anthropology offer a combined major in media and screen studies and sociology. The combined major integrates the analysis, research, and production of traditional and emerging media along with the critical perspective needed for studying the social and cultural arrangements in which people live, for understanding how societies function, for investigating the conditions under which people change their institutions, and for describing the modes and conditions of cooperation that make social life possible.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Societies and Institutions (SI), and Difference and Diversity (DD) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Sociology Requirements

Code	Title	Hours
Core Courses in Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two electives between SOCL 1200 and SOCL 2999.		8
Advanced Electives		
Complete three electives between SOCL 3000 and SOCL 4999.		12

Integrative Requirement

Code	Title	Hours
Integrative Courses		
MSCR 3437	Media and Identity	4
SOCL 4600	Senior Seminar	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Foreign language core course	4	Elective	4
MSCR 1000	1	SOCL 3300	4	Elective	4	Elective	4
MSCR 1220	4	MSCR foundation	4				
SOCL 1101	4	Foreign language core course	4				
Sociology elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
SOCL 2320	4					Elective	4

MSCR diversity/ globalization		4					
MSCR elective		4					
Foreign language core course		4					
		17		**0**		**0**	**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2321	4	Co-op		Co-op		Elective	4
MSCR writing-intensive	4					Elective	4
MSCR elective	4						
SOCL elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative course	4	MSCR 3437	4
MSCR writing-intensive	4	SOCL 4600	4
MSCR elective	4	Integrative course	4
SOCL elective	4	Elective	4
	16		**16**

Total Hours: 130

Media and Screen Studies and Theatre, BA

This major is designed for students who want to combine a knowledge of the art of theatre with the theories and conceptual frameworks of media and film studies. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design with related studies in screenwriting, media technology, and media production. Students have an opportunity to develop a personalized technique for the practices of making theatre, film, and television as engaged citizens and creative artists.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirement Natural and Designed World (ND) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirement		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Courses		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Theatre Requirements

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	

THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirement

Code	Title	Hours
Required:		
INAM 2000	Ethics in Creativity	4
Choose one of the following courses:		4
MSCR 4623	Media and Screen Studies Capstone	
THTR 4702	Capstone: Creative Practice Research Project	

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements

Theatre Grade Requirement

A minimum grade of C is required for all THTR and INAM courses.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Elective	4	Elective	4
MSCR 1000 or THTR 1000	1	THTR 1131	4	Elective	4	Elective	4
MSCR 1220	4	THTR 1270	4				
THTR 1101	4	MSCR Foundation	4				
THTR 1120	4						
THTR 1100	1						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Foreign language core course	4
INAM 2000	4					Elective	4
THTR 2000	1						
THTR 3325	4						
MSCR Diversity/ Globalization	4						
MSCR Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR Writing Intensive	4	Co-op		Co-op		Elective	4
MSCR Elective	4					Elective	4
Foreign language core course	4						
THTR Text, Community, & Social Context Course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MSCR Writing Intensive	4	MSCR Elective	4
THTR Elective	4	THTR Elective	4
Foreign language core course	4	Integrative course	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

Media Arts and Communication Studies, BA

The Department of Communication Studies and the Department of Art + Design offer a combined major in media arts and communication studies. Students interested in the combined major integrate the study of communication skills and processes with the study of the creation of the narrative arts, required for professional work in documentary film, game art and promotion, visualization, motion graphics, interactive art, illustration, and short animated films.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Creative Expression and Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

In order to graduate, students must complete Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) in their electives.

Media Arts Courses

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Foundations		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
Drawing Fundamentals		
ARTF 1120	Observational Drawing	4
or ARTF 1121	Conceptual Drawing	
Art and Design History		
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	4
ARTH 2212	Survey of the Still and Moving Image	4
Degree Project		
ARTD 4530	Media Arts Degree Project	4
Media Art Basics Electives		
Complete two of the following:		8-9
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Art and Design Electives		
Complete any two courses not previously taken in ARTG, ARTE, ARTD, ARTH, or ARTS courses as long as prerequisites or corequisites have been met.		8-9

If ARTD 3000 Topics in Media Arts (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the electives.

Communication Studies Courses

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Integrative Requirement

Code	Title	Hours
Bridge/Integrative Requirement		
COMM 3415	Communication Criticism	4

Communication Studies Grade Requirement

No more than two grades below a C in COMM courses may be used to fulfill degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or COMM 1000	1	ARTF 2220 and ARTF 2221	5	Communicaton studies elective	4	Communicaton studies elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTH 2212	4	Elective	4	Elective	4
ARTH 1001 and ARTH 1002	4	COMM 1112 or 2301	4				
COMM 1101	4	Drawing elective	4				
ENGW 1111	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Media arts basics elective	4	Co-op		Co-op		Communication studies elective	4
Communication studies cluster	4					Elective	4
Communication studies foundation	4						
Communication studies writing-intensive	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Media arts basics elective	4	Co-op		Co-op		Foreign language	4
Communication studies writing-intensive	4					Elective	4
Art + design elective	4						
Art + design elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTD 4530	4	Foreign language	4
COMM 3415	4	Elective	4
Foreign language	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

Business Administration and Communication Studies, BS

The combined major between business administration and communication studies provides students with a robust overview of business and communication studies. This combined major seeks to prepare students for career opportunities in growing industry markets such as public relations, marketing communications, and digital media.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Core Requirements

Code	Title	Hours
Introduction to College		
BUSN 1102	Personal Skill Development for Business	1
or COMM 1000	Communication Studies at Northeastern	
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Business Statistics		
MGSC 2301	Business Statistics	4
Business Core Elective 1		
INTB 1203	International Business and Global Social Responsibility	4
or ORGB 3201	Organizational Behavior	
Marketing		
MKTG 2201	Introduction to Marketing	4
Finance		
FINA 2201	Financial Management	4
Business Core Elective 2		
ACCT 2301	Managerial Accounting	4
or INNO 2301	Innovation!	
or MISM 2301	Introduction to Information Systems and Digital Technologies	
or SCHM 2301	Supply Chain and Operations Management	

Business Concentration Required

A concentration is required and may be chosen from the following list:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)

- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Business Courses

Code	Title	Hours
Mathematics		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
Macroeconomics and Microeconomics		
Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
ECON 1116	Principles of Microeconomics	

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 1113	Business and Professional Speaking	
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

Communication Studies Electives		
Complete three additional electives. Choose from any communication studies courses not used to satisfy requirements above or related electives outside of communication studies.		12
ARTD 2360	Introduction to Photography	
ARTD 2380	Video Basics	
ARTD 3460	Photography: Concept + Process	
ARTD 3480	Video: Sound and Image	
ARTF 2220	Movement and Time	
JRNL 1101	Journalism 1: Fundamentals of Reporting and Writing	
JRNL 3425	Public Relations Principles	
JRNL 3610	Digital Storytelling and Social Media	
JRNL 5311	Design for Storytelling	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
MSCR 1230	Introduction to Film Production	
MSCR 2302	Advertising and Promotional Culture	

Integrative Requirement

Code	Title	Hours
Integrative Course		
MKTG 4504	Advertising and Brand Promotion	4
Capstone		
Complete one of the following:		4
COMM 4533	Consultation Skills	
COMM 4608	Strategic Communication Capstone	
STRT 4501	Strategy in Action	

Business GPA Requirement

Minimum 2.000 GPA in business courses required

Business Cooperative Education

Complete one cooperative education experience.

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	COMM 1112, 1113, or 2301	4	Communication studies elective	4	Elective	4
BUSN 1102 or COMM 1000	1	MGSC 2301	4	NUpath course	4	Elective	4
COMM 1101	4	MKTG 2201	4				
ENGW 1111	4	Communication studies foundation course	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EEAM 2000	1	COOP 3945	0	COOP 3945	0	Elective	4
FINA 2201	4					Elective	4
ECON 1115 or 1116	4						

Business core option	4						
Communication studies cluster course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MKTG 4504	4	COOP 3945	0	COOP 3945	0	Communication studies elective	4
Business core option 1	4					NUpath course	4
Communication studies writing-intensive 1	4						
Concentration course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Communication studies writing-intensive 2	4	COMM 3409, ENGW 3304, ENGW 3314, or ENGW 3315	4
Communication studies elective	4	COMM 4608, STRT 4501, or COMM 4533	4
Concentration course	4	Concentration course	4
Concentration course	4	Elective	4
	16		**16**

Total Hours: 130

Computer Science and Communication Studies, BS

The computer science and communication studies combined major integrates practical skills and theory. Students will gain both a strong computer science foundation and a deep understanding of the major conceptual frameworks for human communication—plus how to apply this knowledge to solve problems in today's society.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or COMM 1000	Communication Studies at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
CS 4550	Web Development	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Communication Studies Courses

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		

Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three courses in the following range: [1]		12
COMM 1131 to COMM 4996		

[1] Junior/Senior Honors Project 1 (COMM 4970) is excluded.

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
COMM 3409	Advocacy Writing [2]	

[2] If Advocacy Writing (COMM 3409) is selected it will also satisfy a communication studies elective requirement. One additional general elective will be then required in its place.

Integrative Course

Code	Title	Hours
CS 4120	Natural Language Processing	4

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS

Communication Studies GPA Requirement

Minimum 2.000 GPA required in all COMM courses

Program Requirement

133 total semester hours required

Plan of Study

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	CS 3500 and CS 3501	5	Vacation	
CS 1200 or COMM 1000	1	CS 2510 and CS 2511	5	Elective	4		
CS 1800 and CS 1802	5	CS 3200	4				

CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EEAM 2000	1	Co-op	0	Co-op	0	Elective	4
CS 3000	4					Elective	4
MATH 1341	4						
Communication studies foundation course	4						
Khoury elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Communication studies cluster course	4	Co-op	0	Co-op	0	ENGW 3302 or 3315	4
Communication studies writing-intensive course	4					Elective	4
Communication studies elective 1	4						
Khoury elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
CS 4120	4	CS 4550	4	Elective	4		
CS 4500 or 4530	4	Communication studies elective 3	4	Elective	4		
Communication studies writing-intensive course	4	Computing and Social Issues	4				
Communication studies elective 2	4	Elective	4				
	16		**16**		**8**		

Total Hours: 134

Sample Pattern, Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	CS 3500 and CS 3501	5	Vacation	
CS 1200 or COMM 1000	1	CS 2510 and CS 2511	5	Elective	4		
CS 1800 and CS 1802	5	CS 3200	4				
CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210 or EEAM 2000	1	Elective	4	Co-op	
MATH 1341	4	Communication studies cluster course	4	Elective	4		
Communication studies foundation course	4	Communication studies writing intensive	4				

Khoury elective	4	Communication studies elective 1	4				
		Khoury elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4120	4	ENGW 3302	4	Co-op	
		CS 4530	4	Elective	4		
		Communication studies writing intensive	4				
		Communication studies elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		CS 4550	4	Elective	4
		Communication studies elective 3	4	Elective	4
		Computing and Social Issues	4		
		Elective	4		
	0		**16**		**8**

Total Hours: 134

Communication Studies and Speech-Language Pathology and Audiology, BS

The combined Bachelor of Science in Communication Studies and Speech-Language Pathology and Audiology offers an interdisciplinary approach to human communication and its disorders. Coursework focuses on the scientific and theoretical frameworks of speech, language, and hearing. Students will also be introduced to the fundamentals of communication theory, and they have an opportunity to acquire the practical skills necessary to thrive in a complex and changing society. The curriculum is enhanced by experiential learning opportunities in a clinical setting that prepare the students for a variety of professional careers.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

First-Year Seminar

Code	Title	Hours
COMM 1000	Communication Studies at Northeastern	1
or SLPA 1000	College: An Introduction	

Communication Studies Requirements

Code	Title	Hours
No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.		
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following (COMM 3201 is strongly recommended):		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	

COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Speech-Language Pathology and Audiology Requirements

Code	Title	Hours
All courses in these sections must be completed with a C or better.		
SLPA Requirements		
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1200	Phonetics	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 2000	Introduction to Co-op	1
or EEAM 2000	Professional Development for Co-op	
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3

Supporting Courses

Code	Title	Hours
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
ENGW 1111	First-Year Writing	4
HLTH 2100	Interprofessional Ethics for Individual and Population Health	4
PHTH 2210	Foundations of Biostatistics	4
PHTH 2300	Communication Skills for the Health Professions	4
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
PSYC 1101	Foundations of Psychology	4

Integrative Course

Code	Title	Hours
Note: The selected integrative course counts toward the COMM writing-intensive (COMM 3201) or COMM elective (COMM 4102) as appropriate.		
COMM 3201	Health Communication (WI)	
or COMM 4102	Health Communication Campaigns	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirements

132 total semester hours required

Plan of Study

Sample 4 Years, 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	COMM 1112	4	Communication studies elective	4
COMM 1000 or SLPA 1000	1	SLPA 1101	4	Communication studies elective	4	General elective	4
COMM 1101	4	SLPA 1205	4				
ENGW 1111	4	Communication studies foundation course	4				
PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000 or SLPA 2000	1	Co-op	0	Co-op	0	Vacation	0
PHYS 1145 and PHYS 1146	5						
SLPA 1103	4						
SLPA 1203	4						
Communication studies cluster course	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 3409 or ENGW 3306	4	PHTH 2210	4	Vacation or optional co-op #2	0	Vacation or optional co-op #2	0
HLTH 2100 or PHIL 1165	4	SLPA 1102	4				
PHTH 2300	4	SLPA 1200	4				
Communication studies elective	4	Communication studies writing-intensive	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
SLPA 5107	4	COMM 3201	4
SLPA 5110	4	SLPA 4651	4
General elective	4	SLPA 6219	3
General elective	4	General elective	4
	16		**15**

Total Hours: 132

A general elective or a COMM elective (e.g., Principles of Argumentation (COMM 1120)) can be taken to fulfill the NUpath Formal/Quantitative Reasoning (FQ) requirement.

Health Science and Communication Studies, BS

The combined Bachelor of Science degree program in health science and communication studies offers an interdisciplinary approach to public health communication. Students combine courses from health sciences and communication studies to learn about health and illness and the important role of communication in shaping the public's understanding of health issues. The interdisciplinary curriculum is enhanced by experiential learning opportunities and is designed to prepare students for challenging careers that involve crafting messages about health, developing strategies for promoting healthcare services, and specific applications such as disease awareness and prevention.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Communication Studies Major Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Code	Title	Hours
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

Communication Studies Electives	
Complete three additional communication studies courses.	12

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Life Sciences		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Other Requirements

Code	Title	Hours
Intro to College		
HSCI 1000	College: An Introduction	1
or COMM 1000	Communication Studies at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EEAM 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions (or other Advanced Writing course)	4
Electives		
Complete 28 semester hours of electives.		28

Integrative Course

Code	Title	Hours
Capstone		
Complete one of the following courses:		4
COMM 4102	Health Communication Campaigns	
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Communication Studies Major Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, Two Co-ops Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Public health core	4	Vacation	0
BIOL 1112	1	BIOL 1114	1	Elective	4		
HSCI 1000 or COMM 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	Elective	4				
PSYC 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	Co-op		Co-op		ENGW 3306	4
COMM 1112 or 2301	4	Elective	4			Elective	4
HSCI 2000 or EEAM 2000	1						
PHTH 2210 and PHTH 2211	4						
COMM elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Cluster course	4	Co-op		Co-op		Public health core	4
Foundation course	4	Elective	4			Public health core	4
Public health core	4					HSCI 4700	0
Public health core	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
COMM WI course	4	COMM WI course	4
Public health core	4	COMM elective	4
COMM elective	4	Electives	8
HSCI 4720, 4730, or COMM 4102	4		
	16		**16**

Total Hours: 133

Five Years, Two Co-ops in Summer 2/Fall

This is a sample plan of study.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation	0	Vacation	0
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or COMM 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				

MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	Elective	4				
PSYC 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	HSCI 2000 or EEAM 2000	1	Vacation	0	Co-op	0
COMM 1112 or 2301	4	Cluster course	4				
Public health core	4	Foundation course	4				
Public health core	4	Elective	4				
		PHTH 2210 and PHTH 2211	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3306	4	Vacation	0	Vacation	0
		Public health core	4				
		COMM electives	8				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 4202	4	Co-op	0	Co-op	0	Vacation	0
PHTH 4540	4						
COMM WI course	4						
COMM elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
COMM WI course	4	Electives	12
Electives	8	HSCI 4720, 4730, or COMM 4102	4
HSCI 4700	0		
PHTH 4120	4		
	16		**16**

Total Hours: 133

Media and Screen Studies and Theatre, BS

This major is designed for students who want to combine a knowledge of the art of theatre with the theories and conceptual frameworks of media and film studies. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design with related studies in screenwriting, media technology, and media production. Students have an opportunity to develop a personalized technique for the practices of making theatre, film, and television as engaged citizens and creative artists.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirement Natural and Designed World (ND) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	

COMM 1450	Sound Production for Digital Media
COMM 2550	Television Field Production
COMM 2655	Television Studio Production
COMM 3655	Digital Editing for TV
COMM 3750	Special Effects and Postproduction for Television
COMM 4755	Production Capstone

Theatre Requirements

Code	Title	Hours
The following courses are recommended to be taken by the end of the fourth semester (third semester for transfer students):		
THTR 1100	Production Experience 1	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirement

Code	Title	Hours
Required:		
INAM 2000	Ethics in Creativity	4
Choose one of the following courses:		4
MSCR 4623	Media and Screen Studies Capstone	
THTR 4702	Capstone: Creative Practice Research Project	

Media and Screen Studies Grade Requirement

No more than two grades below a C in MSCR courses may be used to satisfy degree requirements.

Theatre Grade Requirement

A minimum grade of C is required for all THTR and INAM courses.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR 1000 or THTR 1000	1	MSCR 1320 or 1420	4	Elective	4	Elective	4
MSCR 1220	4	THTR 1131	4	Elective	4	Elective	4
THTR 1101	4	THTR 1270	4				
THTR 1120	4	THTR 1100	1				
ENGW 1111	4	MSCR foundation	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
INAM 2000	4					Elective	4
THTR 2000	1						
THTR 3325	4						
MSCR diversity/ globalization	4						
MSCR elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR writing-intensive	4	Co-op		Co-op		Elective	4
MSCR elective	4					Elective	4
THTR Texts, Community, & Social Context Course	4						
THTR Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MSCR writing-intensive	4	Integrative course	4
THTR Elective	4	MSCR elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

Music and Communication Studies with Concentration in Music Industry, BS

The Bachelor of Science in Music and Communication Studies with Concentration in Music Industry, the first such undergraduate program offered in Boston, is designed for students with an interest in all aspects of the music industries, including songwriting, recording, production, technology, products, label operations, promotion, marketing, social media, management, finance, economics, data analytics, legal issues, licensing, and intellectual property. Our program encourages learners to become entrepreneurial thought leaders and ethical change agents in the music industries. Communication studies offers students an opportunity to obtain the communication skills and the understanding of the communication process required to thrive in a complex and changing society.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Differences and Diversity (DD) may be met through electives in the major.

Music Industry Requirements

Code	Title	Hours
Introduction to College		
MUSC 1000	Music at Northeastern	1
Music Core		
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Music Theory Placement		
All students must take a theory placement exam. Students who do not place into MUSC 1201 must first take the following:		
MUSC 1119	Fundamentals of Western Music Theory	4
Music Theory Requirement		
MUSC 1201	Music Theory 1	4
Introductory Music Industry		
MUSI 1230	Introduction to Music Industry	4
Music in Context		
Complete one course from one of the following categories:		4
Western Art Music		
MUSC 2105	Songs That Made History	
MUSC 2312	Topics in Western Art Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
Global Music/Ethnomusicology		
MUSC 2101	Black Popular Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2330	Musical Communities of Boston	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	

MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Contemporary/Popular Music		
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
MUSI 3540	Special Topics in Music Industry	
Music Industry Electives		
Complete three of the following:		12
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2210	Introduction to Songwriting	
MUSC 2211	Advanced Songwriting	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSI 1204	Analyzing Popular Genres	
MUSI 2101	Demo Production for Songwriters	
MUSI 2231	Music Licensing for Media	
MUSI 2232	Music Recording 1	
MUSI 2234	Festivals	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2330	Performing Arts Administration	
MUSI 2331	Music Recording 2	
MUSI 2332	Music Publishing and Royalties	
MUSI 2341	Music Supervision 1	
MUSI 2540	Special Topics in Music Industry	
MUSI 3332	Artist Management	
MUSI 3333	The Record Industry	
MUSI 3338	Music Industry Marketing and Promotion	
MUSI 3340	Concert Promotion and Venue Management	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
MUSI 4530	Music Entrepreneurship	
MUSI 4601	Seminar in Music Industry	
MUST 1220	Introduction to Music Technology	
Business Course		
ACCT 1209	Financial Accounting and Reporting	4

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Integrative Requirement

Code	Title	Hours
Complete one of the integrative options below:		4-8
If a communication studies course is taken, an additional music industry course is required. Choose from the list of music industry electives above.		
Music Option		
Complete one of the following:		
MUSI 4530	Music Entrepreneurship	
MUSI 4601	Seminar in Music Industry	
Communication Studies Option		
Complete two of the following. One communication studies course is required:		
COMM 4608	Strategic Communication Capstone	
or COMM 4625	Online Communities	
MUSC 2000 to MUSC 5999		

MUSI 2000 to MUSI 5999

MUST 2000 to MUST 5999

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Music Major Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Music and Communication Studies Credit Requirement

Complete 76 semester hours for the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	ENGW 1111	4	Elective	4	Elective	4
COMM 1112 or 2301	4	MUSC 1201	4	Elective	4	Elective	4
MUSC 1000 or COMM 1000	1	COMM foundational course	4				
MUSC 1002 and MUSC 1003	4	Music in context elective	4				
MUSI 1230	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM cluster course	4	EEAM 2000	1	Elective	4	Co-op	
Music industry elective	4	COMM elective	4	Elective	4		
Elective	4	Music industry elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ACCT 1209	4	COMM writing-intensive	4	Co-op	
		ENGW 3314 or 3315	4	COMM elective	4		
		COMM elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Capstone	4
		Integrative course	4
		COMM writing-intensive	4
		Music industry elective	4
	0		**16**

Total Hours: 130

Political Science and Communication Studies, BS

The combined major in political science and communication studies offers students the opportunity to integrate the study of politics and government with different forms and mediums of communication. Students complete core courses in political science along with core courses in communication studies that cover public speaking and persuasion. This combined major highlights the important role played by different forms of communication in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Methodology		
POLS 2399	Research Methods in Political Science	4
or COMM 2301	Communication Research Methods	
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 385).

- American Political Institutions (p. 385)
- Campaigns and Elections (p. 385)
- Comparative Politics (p. 385)
- Identity, Culture, and Politics (p. 386)
- International Relations and Diplomacy (p. 386)
- Law and Legal Studies (p. 386)
- Public Policy (p. 386)
- Security Studies (p. 387)

Communication Studies Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Communication Studies Electives

Code	Title	Hours
Foundation course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing Intensive		
Complete two writing intensive courses in communication studies.		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three additional Communication Studies courses.		12

Integrative Requirements

Code	Title	Hours
Integrative Courses		
POLS 3320	Politics and Mass Media	4
or COMM 3320	Political Communication	
Capstone Requirement		
Complete one of the following. This course also counts toward the political science or communication studies elective requirement:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	

COMM 4755	Production Capstone
POLS 4701	Political Science Senior Capstone
POLS 4703	Senior Thesis

Political Science and Communication Studies Combined Major Credit Requirement

Complete 84 semester hours in the major.

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4

POLS 4915	Model Arab League
POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1000 or COMM 1000	1	POLS 1155	4	Communication Studies Foundation Course	4	Communication Studies Cluster Course	4
POLS 1150	4	COMM 1112 or 2301	4	Communication Studies Elective	4	Elective	4
COMM 1101	4	Elective	4				
ENGW 1111	4	Elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	Co-op		Co-op		Communication Studies Writing Intensive	4
POLS 2400	4					Elective	4
Communication Studies Elective	4						
Elective	4						
EESH 2000 or EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Political Thought Course	4	Co-op		Co-op		Communication Studies Writing Intensive	4
POLS 2399 or COMM 2301	4					Political Science Elective	4
Communication Studies Elective	4						
Political Science Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Political Science Elective	4	Capstone	4
Political Science Elective	4	Elective	4
Integrative Course	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Argumentation and Law, Minor

The argumentation and law minor is intended for students contemplating law school, students interested in legal issues, or students in fields affected by law (such as journalism, strategic communication, or public policy). To prepare students for successful careers in these areas, this minor combines courses in argumentation, rhetoric, and law. Students are exposed to the principles of argumentation, the fundamentals of free speech, the basics of intellectual property, and issues related to privacy.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Requirements

Code	Title	Hours
Argumentation		
Complete two of the following:		8
COMM 1120	Principles of Argumentation	
COMM 1210	Persuasion and Rhetoric	
COMM 2100	Elements of Debate	
COMM 3310	Rhetoric and Justice	
COMM 3311	Arguing Human Rights	
COMM 3409	Advocacy Writing	
Law		
Complete two of the following:		8
COMM 1331	Legal Argumentation, Advocacy, and Citizenship	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
COMM 3308	Rhetoric and Propaganda	
COMM 3309	Rhetoric of Fascism	
COMM 3501	Free Speech: Law and Practice	
LPSC 1101	Introduction to Law	
LPSC 2301	Introduction to Law, Policy, and Society	
LPSC 3303	Topics in Law and Public Policy	
LPSC 3307	Understanding the Modern Supreme Court	

GPA Requirement

2.000 GPA required in the minor

Cinema Studies, Minor

The interdisciplinary cinema studies minor appeals to students aspiring to supplement their major program of study with courses that promote the study of film, television, and digital media. In addition to film analysis and film theory, students choose from electives on culture and film, film and television history, and gender and film. This results in a minor that combines the academic study of cinema along with the crafts of filmmaking and screenwriting.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Media and Screen Studies majors may not declare the cinema studies minor. Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Requirements

Code	Title	Hours
MSCR 2895	Film Analysis	4
MSCR 3600	Film Theory	4

Electives

Code	Title	Hours
Complete three of the following:		12
ARTH 2212	Survey of the Still and Moving Image	
MSCR 2220	Understanding Media	
MSCR 2336	American Film and Culture	
MSCR 3389	Screenwriting	
MSCR 3392	Gender and Film	
MSCR 4208	TV History	
MUSC 1113	Film Music	

GPA Requirement

2.000 GPA required in the minor

Communication Studies, Minor

The communication studies minor is designed for students interested in acquiring practical skills along with a broad-based understanding of communication theory and research. This minor seeks to provide the knowledge necessary to understand the challenges and opportunities of a diverse and democratic society and the skills to perform effectively and ethically as citizens. Three electives offer students an opportunity to develop an area of expertise (such as strategic communication or media production) within the communication studies minor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Communication studies majors may not declare the communication studies minor. Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Requirements

Code	Title	Hours
Required Courses		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1231	Principles of Organizational Communication	
COMM 1225	Communication Theory	
COMM 1255	Communication in a Digital Age	
Electives		
Complete three of the following or any unused foundational courses from above:		12
COMM 1120 to COMM 4799		

GPA Requirement

2.000 GPA required in the minor

Digital Communication, Minor

The digital communication minor appeals to students interested in studying the relationship between communication, technology, and society. The minor offers students an opportunity to obtain the tools and methods for studying, analyzing, and critically reflecting upon their everyday engagements with digital forms of community and expression. Students pursuing the digital communication minor explore the ethical questions that sit at the core of the digital technologies that shape culture, politics, and the economy. Courses in the minor cover areas of digital communication such as social media, networks and organizing, internet policy and cybersecurity, online communities and collaboration, and children's development and new media.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Requirements

Code	Title	Hours
Foundational Courses		
Complete two of the following:		8
COMM 1255	Communication in a Digital Age	
COMM 2105	Social Networks	
COMM 2551	Free Speech in Cyberspace	
ENGL 1450	Reading and Writing in the Digital Age	
MSCR 2505	Digital Feminisms	
or WMNS 2505	Digital Feminisms	
Advanced Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 4605	Youth and Communication Technology	
COMM 4625	Online Communities	

GPA Requirement

2.000 GPA required in the minor

Film Production, Minor

The interdisciplinary film production minor appeals to students interested in film production. This minor is particularly appealing to students studying art and art history, English, and theatre. In addition to a foundational course in film production, students take a combination of courses dealing with documentary filmmaking, film analysis, screenwriting, and storytelling. The film production minor is designed to prepare students for graduate school, careers in media production, and positions in the entertainment industry.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Required Course

Code	Title	Hours
MSCR 1230	Introduction to Film Production	4

Electives

Code	Title	Hours
Complete four of the following:		16
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
MSCR 2160	Narrative Filmmaking	
MSCR 2895	Film Analysis	
MSCR 3389	Screenwriting	
MSCR 3446	Documentary Production	
THTR 2345	Acting for the Camera	

GPA Requirement

2.000 GPA required in the minor

Film Studies, Minor

Overview

The film studies minor focuses on one of the most influential art forms of the 20th century and provides the tools required to analyze the formal aspects of cinema, as well as the broader aesthetic, social, cultural, political, and technological contexts. The minor has been structured to ground students in basic aspects of the field—a foundational course, an analysis course, a creative course, and a theory course. By design, many of the courses included in the film studies minor explore questions of class, ethnicity, gender, identity, nationality, race, and sexual orientation.

Minor Requirements

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Required Courses

Code	Title	Hours
Foundation		
Complete one of the following:		4
MSCR 1100	Film 101	
MSCR 2895	Film Analysis	
Analysis		
Complete one of the following:		4
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 2212	Survey of the Still and Moving Image	
MSCR 2330	Film Genres	
MSCR 2335	Race and Social Justice in American Film	
MSCR 2336	American Film and Culture	
Creative		
Complete one of the following:		4
ARTD 3485	Experimental Video	
MSCR 1230	Introduction to Film Production	
MSCR 2160	Narrative Filmmaking	
MSCR 3389	Screenwriting	
MSCR 3390	Screenwriting: Feature Films	
MSCR 3446	Documentary Production	
THTR 3670	Mixed-Media Performance Lab	
Theory		
Complete one of the following:		4
MSCR 3392	Gender and Film	
MSCR 3600	Film Theory	
MUSC 1113	Film Music	

GPA Requirement

2.000 GPA required in the minor.

Human Communication, Minor

The human communication minor is intended for students interested in studying the role of interpersonal communication in relationships, including romantic relationships, friendships, and relationships in groups or in organizations. Successful students gain an in-depth understanding of how communication can affect the quality of relationships, the satisfaction that is derived from relationships, and whether a relationship is likely to last or dissolve. Courses in the minor focus on research-validated theories, concepts, and models that aid students in understanding the many different types of relationships that exist in their personal and professional lives.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Courses

Code	Title	Hours
Complete two of the following:		8
COMM 1131	Sex, Relationships, and Communication	
COMM 1231	Principles of Organizational Communication	
COMM 2131	Dark Side of Interpersonal Communication	
COMM 2135	Sex and Interpersonal Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2500	Analyzing Conversations in Everyday Life	
COMM 2534	Group Communication	
COMM 2535	Family Communication	

Advanced Courses

Code	Title	Hours
Complete two of the following:		8
COMM 2301	Communication Research Methods	
COMM 3230	Interpersonal Communication	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	

GPA Requirement

2.000 GPA required in the minor

Improvisation and Storytelling, Minor

The minor in improvisation and storytelling is intended for students interested in integrating the creativity of actor training and the practical techniques of public speaking. Students are encouraged to choose courses to empower their voice and speech, cultivate their onstage persona, and develop high-impact presentation skills to enhance career prospects. This minor, which features classes offered by the Department of Theatre and the Department of Communication Studies, seeks to create more confident, creative, and compelling communicators.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Common Requirements

Code	Title	Hours
COMM 1511	Communication and Storytelling	4
THTR 1125	Improvisation	4

Communication Studies Elective

Code	Title	Hours
Complete one of the following:		4
COMM 1112	Public Speaking	
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	

Theatre Elective

Code	Title	Hours
Complete one of the following:		4
THTR 1130	Introduction to Acting	
THTR 2345	Acting for the Camera	

GPA Requirement

2.000 GPA required in the minor

Media and Screen Studies, Minor

The media and screen studies minor appeals to students interested in how media shapes society and is designed to prepare students for careers in arts and industry, politics, and popular culture. The minor offers students an opportunity to obtain the analytical skills necessary for the rigorous analysis of media within the humanities and social sciences. Students with a media and screen studies minor often find employment in film and television production, media marketing, film/media journalism, and other positions within the entertainment industry.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Media and screen studies majors may not declare the media and screen studies minor. Students must complete a minimum of three (3) courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Required Courses

Code	Title	Hours
MSCR 1220	Media, Culture, and Society	4
MSCR 2220	Understanding Media	4

Electives

Code	Title	Hours
Complete three courses in the following range:		12
MSCR 2000 to MSCR 4999		

GPA Requirement

2.000 GPA required in the minor

Media Production, Minor

The media production minor is designed to foster an awareness of the important cultural, rhetorical, and critical contexts of media development. Successful students develop creative and artistic abilities through studying contemporary practices and standards and developing original creative work. The technical aspects of camera operation, audio design, lighting design, digital editing, and live broadcast are also covered.

Minor Requirements

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Required Courses

Code	Title	Hours
COMM 1450	Sound Production for Digital Media	4
COMM 2350	Producing for the Entertainment Industry	4
COMM 2550	Television Field Production	4
COMM 2655	Television Studio Production	4

Elective Courses

Code	Title	Hours
Complete two of the following:		8
COMM 2650	The Business of Entertainment	
COMM 2750	Beyond Television	
COMM 3307	Production Practicum Abroad	
COMM 3450	Voice-Over Artist	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

GPA Requirement

2.000 GPA required in the minor

Oratory and Public Speaking, Minor

The oratory and public speaking minor is designed for students aspiring to develop exemplary oral communication skills. The courses that comprise the minor provide a coherent program of study that includes the principles of argumentation, the practice of public speaking, and the theory of narrative and storytelling.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Course

Code	Title	Hours
COMM 1112	Public Speaking	4

Electives

Code	Title	Hours
Complete four of the following:		16
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	
COMM 1331	Legal Argumentation, Advocacy, and Citizenship	
COMM 1511	Communication and Storytelling	
COMM 2100	Elements of Debate	
COMM 3450	Voice-Over Artist	

GPA Requirement

2.000 GPA required in the minor

Political Communication, Minor

The political communication minor is a joint program offered through the departments of communication studies, political science, and journalism. The minor appeals to students interested in the electoral process, campaign rhetoric, and the role of media in political life. It is intended to address the interests and needs of students considering careers in the political sphere, either as candidates, employees, volunteers, or reporters in political organizations and campaigns. The political communication minor is designed to prepare students for careers in communication, law, politics, public administration, public policy, and other professions that deal with issues in public settings.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Introductory Courses

Code	Title	Hours
Complete two of the following:		8
COMM 1210	Persuasion and Rhetoric	
COMM 1331	Legal Argumentation, Advocacy, and Citizenship	
COMM 1412	Social Movement Communication	
JRNL 1150	Understanding Today's News	
POLS 1150	American Government	

Intermediate/Advanced Courses

Code	Title	Hours
Complete four courses from the following lists (at least one course must be taken from each department):		16
Communication Studies		
COMM 3320	Political Communication	
COMM 3409	Advocacy Writing	
COMM 4602	Contemporary Rhetorical Theory	
Journalism		
JRNL 2350	The History of Journalism: How the News Became the News	
JRNL 3550	The First Amendment and the Media	
Political Science		
POLS 3310	Public Opinion, Voting, and Elections	

GPA Requirement

2.000 GPA required in the minor

Rhetoric, Minor

The rhetoric minor appeals to students interested in history, theory, and the criticism of civic discourse and cultural practices. The minor integrates courses from the Department of Communication Studies and the Department of English that explore the nature and function of rhetoric in politics, the professions, and the media. The rhetoric minor offers students an opportunity to be better citizens, members of the community, and leaders in the workplace by learning how to use language strategically, to speak with integrity, and to appreciate the power of their own voice.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where indicated.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Course

Code	Title	Hours
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
ENGL 1160	Introduction to Rhetoric	

Electives

Code	Title	Hours
Note: For English majors, only one course from the major may also count toward this elective section of the minor.		
Complete four of the following:		16
COMM 1331	Legal Argumentation, Advocacy, and Citizenship	
COMM 3415	Communication Criticism	
COMM 3501	Free Speech: Law and Practice	
COMM 4602	Contemporary Rhetorical Theory	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3404	African American Rhetorical Traditions	

GPA Requirement

2.000 GPA required in the minor

Social Activism, Minor

The social activism minor appeals to students interested in exploring a variety of perspectives and practical approaches to social activism. The minor allows students to explore social movements, public advocacy, and citizenship in a wide array of situations. These opportunities arise from the wealth of advocacy organizations in Boston, the access Northeastern students have to co-op experiences nationally and internationally, and Northeastern's service-learning program. Completing course work in a variety of departments provides an interdisciplinary perspective and allows students to apply different skill sets and knowledge bases for careers as lawyers, nonprofit activists, community organizers, lobbyists, and volunteers.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Introductory Courses

Code	Title	Hours
Note: Only one course may be taken from each department/program.		
Complete two of the following:		8
Communication Studies		
COMM 1412	Social Movement Communication	
Political Science		
POLS 1150	American Government	
Sociology		
SOCL 1246	Environment and Society	
Theatre		
THTR 1215	Activism and Performance	

Intermediate/Advanced Courses

Code	Title	Hours
Complete the following:		12
Law and Public Policy		
LPSC 2301	Introduction to Law, Policy, and Society	
Political Science		
POLS 2395	Environmental Politics and Policy	
Sociology		
SOCL 3468	Social Movements	

Service-Learning

Code	Title	Hours
HUSV 1101	Social Change and Human Services	4

GPA Requirement

2.000 GPA required in the minor

Sports, Media, and Communication, Minor

The sports, media, and communication minor appeals to students preparing for careers as sports journalists or advertising/public relations professionals specializing in a sports-related area. The minor includes courses examining the prominent role of sports in society with a special emphasis on gender, race, and public policy. When combined with Northeastern's signature co-op program, the result is an innovative minor that blends theory with practice and prepares students for a broad range of professional opportunities.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Course

Code	Title	Hours
COMM 2110	Sports, Media, and Communication	4

Electives

Code	Title	Hours
Sports Elective		
Complete one of the following:		4
COMM 2700	Sports Promotion in the 21st Century	
JRNL 3455	Sports Writing	
Intermediate Elective		
Complete one of the following:		4
COMM 1450	Sound Production for Digital Media	
COMM 2350	Producing for the Entertainment Industry	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 2800	Sport and Spectacle	
COMM 3451	Advertising Practices	
ECON 3481	Economics of Sports	
Advanced Elective		
Complete one of the following:		4
COMM 4631	Crisis Communication and Image Management	
COMM 4994	Internship in Communication	
JRNL 3945	Internship	
JRNL 4650	Ethics and Issues in Journalism	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	

GPA Requirement

2.000 GPA required in the minor

School of Journalism

Website (https://camd.northeastern.edu/journalism-at-northeastern/)

Jonathan Kaufman, MA
Professor and Director

617.373.3236

The School of Journalism seeks to prepare students for careers in news and related communication fields. The program prepares future journalists and professional communicators in writing, editing, digital and social media, photography, video and audio production, design, and public relations. These skills have broad applications. Graduates of the program also go on to work in government, business, law, and teaching.

Students can graduate in four years with two co-ops. The school strongly advises students to obtain cooperative education experience. The program offers some of the best co-ops and internships anywhere.

Graduates work for some of the world's best newspapers and magazines, radio and television stations, online publications, wire services, public relations departments, and advertising agencies.

Academic Progression Standards

Journalism majors and minors must be in good standing in accordance with university-wide requirements to remain in the major or minor.

Programs

Bachelor of Arts (BA)

- Journalism (p. 404)
- Journalism and Communication Studies (p. 304)
- Journalism and English (p. 410)
- Journalism and International Affairs (p. 414)
- Journalism and Political Science (p. 421)
- Media and Screen Studies and Journalism (p. 335)
- Public Health and Journalism (p. 429)
- Public Relations (p. 433)
- Theatre and Journalism (p. 436)

Bachelor of Science (BS)

- Computer Science and Journalism (p. 440)
- Criminal Justice and Journalism (p. 444)
- Data Science and Journalism (p. 447)
- Economics and Journalism (p. 451)
- Environmental and Sustainability Sciences and Journalism (p. 1481)
- Journalism and Interaction Design (p. 239)

Minors

- Journalism Practice (p. 458)
- Journalism Studies (p. 459)
- Photojournalism (p. 279)
- Public Relations (p. 461)
- Sports, Media, and Communication (p. 402)

Journalism, BA

Website (https://camd.northeastern.edu/program/journalism-ba/)

If you're a news junkie; love to write; want to tell people what's going on in your hometown, around the world, or in an organization, a journalism major at Northeastern University is designed to give you the skills and experience you need to tell your story.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), Difference and Diversity (DD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirement Analyzing and Using Data (AD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Journalism Major Requirements

Students transferring from outside institutions must complete a minimum of five 4-credit journalism courses at Northeastern, and these must include:

Code	Title	Hours
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 4650	Ethics and Issues in Journalism	

Code	Title	Hours
Introduction to College		
JRNL 1000	Journalism at Northeastern	1
Journalism Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Required Journalism		
JRNL 1150	Understanding Today's News	4
JRNL 2350	The History of Journalism: How the News Became the News	4
JRNL 3550	The First Amendment and the Media	4
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete three journalism electives.		12
Journalism-Related Requirement		
HIST 1130	Introduction to the History of the United States	4

Journalism Major Credit Requirement

Complete 49 semester hours in the major.

Upper-Division Electives

Complete three general electives numbered 3000 or above that do not double-count with the major or NUpath.

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1000	1	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
JRNL 1150	4	Foreign language	4	Elective	4	Elective	4
ENGW 1111	4	Elective	4				
HIST 1130	4	Elective	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	JRNL 2350	4	Elective	4	Co-op	0
Journalism elective 1	4	Journalism elective 2	4	Elective	4		
Foreign language	4	EEAM 2000	1				
Elective	4	Foreign language	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	JRNL 2301	4	Elective	4	Co-op	0
		JRNL 3550	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	JRNL 3610	4
		JRNL 4650	4
		Journalism elective 3	4
		Elective	4
	0		**16**

Total Hours: 131

Sample Four Years, Two Co-ops Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1000	1	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
JRNL 1150	4	Foreign language	4	Elective	4	Elective	4
ENGW 1111	4	Elective	4				
HIST 1130	4	Elective	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	Co-op	0	Co-op	0	Elective	4
Journalism elective 1	4					Elective	4
EEAM 2000	1						
Foreign language	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	Elective	4
JRNL 2350	4					Elective	4
Journalism elective 2	4						
Foreign language	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 3550	4	JRNL 4650	4
JRNL 3610	4	Journalism elective 3	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

Journalism and Communication Studies, BA

Overview

This interdisciplinary combined major offers students an opportunity to integrate the study and practice of journalism with an opportunity to obtain the communication skills and the understanding of the communication process required to thrive in a complex and changing society. The curriculum is designed to allow students to enhance the understanding of human communication as well as the tools needed to be able to tell powerful stories.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Journalism Requirements

Code	Title	Hours
Foundation Courses		
C or better in JRNL 1101, JRNL 1102, and JRNL 2201 is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling Requirement		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 3700	Data Storytelling	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5311	Design for Storytelling	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete four JRNL electives. Two must be 3000 level or above.		16

Communication Studies Requirements

Code	Title	Hours
Common Requirements		
COMM 1101	Introduction to Communication Studies	4
Complete one of the following:		
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Distributed Requirements		

Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3330	Argumentation Theory	
COMM 3415	Communication Criticism	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Electives		
Complete three COMM courses.		12

Introductory

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or COMM 1000	Communication Studies at Northeastern	

Co-op

Code	Title	Hours
EEAM 2000	Professional Development for Co-op	1

Writing Requirement (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
ENGW 3314	Advanced Writing in the Arts, Media, and Design	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or JRNL 2301	Visual Storytelling in Journalism	
or COMM 3409	Advocacy Writing	

Integrative Requirement

Code	Title	Hours
Complete one COMM course and one JRNL course:		8
COMM 2550	Television Field Production	
COMM 4755	Production Capstone	
JRNL 3425	Public Relations Principles	
or COMM 3445	Public Relations Principles	

JRNL 5314	Video News Reporting and Producing
JRNL 5316	The Newsroom

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirements

81 semester hours in the major

129 overall semester hours required

Plan of Study

Sample Four-Years, Two-Co-ops Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	COMM elective	4	Elective	4
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
JRNL 1000 or COMM 1000	1	Language	4				
JRNL 1150	4	Elective	4				
Language	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
JRNL 2201	4					Elective	4
COMM foundation course	4						
JRNL elective	4						
Language	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM cluster	4	Co-op	4	Co-op		COMM elective	4
COMM writing-intensive	4					Elective	
JRNL visual storytelling	4						
JRNL elective	4						
	16		**4**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
JRNL 3550 or 4650	4	COMM elective	4
COMM writing-intensive	4	Integrative course	4
Integrative course	4	JRNL elective	4
JRNL elective	4	Elective	4
	16		**16**

Total Hours: 131

Journalism and English, BA

The School of Journalism and the Department of English offer an interdisciplinary combined major in Journalism and English. Broadly speaking, students in the Combined Major in Journalism and English at Northeastern integrate the study of journalism with the study of language, literature and writing.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Societies and Institutions (SI), and Difference and Diversity (DD) are met through the major course requirements.

NUpath requirements Interpreting Culture (IC), Analyzing and Using Data (AD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Journalism Major Requirements

Code	Title	Hours
Journalism Introductory Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundations		
Must receive a C or better in the following:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Take three JRNL courses		12

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	

LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Integrative Requirement

Code	Title	Hours
ENGL 2740	Writing and Community Engagement	4
or ENGL 2850	Writing for Social Media: Theory and Practice	
JRNL 3630	Magazine Writing	4

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1400	4	ENGL 1160 or 1410	4	Foreign language	4	Foreign language	4
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
JRNL 1000 or ENGL 1000	1	English diversity requirement	4				
JRNL 1150	4	Elective	4				
Pre-nineteenth-century literature requirement	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
JRNL 2201	4					Elective	4
Nineteenth-century, twentieth-, and twenty-first-century literature requirement	4						
Theories and methods requirement	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	English elective 1	4
Comparative literature requirement	4					Elective	4
English writing requirement	4						
Journalism elective 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGL 2740 or 2850	4	ENGL 4710	4
JRNL 3610	4	JRNL 3550 or 4650	4
English elective 2	4	JRNL 3630	4
Journalism elective 2	4	Journalism elective 3	4
	16		**16**

Total Hours: 131

Journalism and International Affairs, BA

Overview

This interdisciplinary combined major offers students an opportunity to integrate the study and practice of journalism with the study of global affairs and international issues. Through critical thinking and practical skills, the program engages students in a deep understanding of both disciplines, supporting students to work across national cultures in areas such as foreign correspondence and other fields that require an understanding of complex regional and international issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Journalism Requirements

Code	Title	Hours
Foundation Courses		
C or better required in JRNL 1101, JRNL 1102, and JRNL 2201:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 3680	Advanced Reporting	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete four JRNL electives (two must be 3000 level or above).		16

International Affairs Requirements

Code	Title	Hours
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
or POLS 1155	Comparative Politics	
ECON 1115	Principles of Macroeconomics	4

INTL 1101	Globalization and International Affairs	4
INTL 2718	Research Methods in International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one international semester via study abroad, international internship, international co-op, or two approved short-term programs abroad.		
International Affairs Foreign Language Requirement		
Complete coursework in a language through at least intermediate-level two (language courses numbered 2102). Note: Completing this requirement satisfies the language requirement for the BA degree.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		

HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804

HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis

Code	Title	Hours
Complete two of the following courses, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	

CLTR 1506	Introduction to Chinese Popular Culture
CLTR 1700	Introduction to Japanese Pop Culture
HIST 1246	World War II in the Pacific
HIST 1252	Japanese Literature and Culture
HIST 1500	Modern Chinese History and Culture
HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Introductory

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or INTL 1000	International Affairs at Northeastern	

Co-op

Code	Title	Hours
EEAM 2000	Professional Development for Co-op	1
or EESH 2000	Professional Development for Co-op	

Integrative Requirement

Code	Title	Hours
JRNL 3300	Covering Conflicts: Peace, War, and the Media	4
or JRNL 5360	Global Reporting	
INTL 4700	Senior Capstone Seminar in International Affairs	4

English Requirement (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
ENGW 3308	Advanced Writing in the Social Sciences	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or JRNL 2301	Visual Storytelling in Journalism	

Journalism and International Affairs Major Credit Requirement

85 semester hours required in the major

Program Requirements

129 overall semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ANTH 1101, HIST 2211, HIST 2311, or POLS 1155	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
INTL 1101	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective (Dialogue of Civilizations possible)	4
JRNL 1000 or INTL 1000	1	POLS 1160	4				
JRNL 1150	4	Language	4				
Language	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	Co-op		Co-op		Elective (Dialogue of Civilizations possible)	4
EEAM 2000 or EESH 2000	1					Elective (Dialogue of Civilizations possible)	4
JRNL 2201	4						
JRNL elective	4						
Language	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INTL 2718	4	Co-op		Co-op		Elective (Dialogue of Civilizations possible)	4
INTL 3400	4					Elective (Dialogue of Civilizations possible)	4
JRNL 3550 or 4650	4						
Visual storytelling requirement	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative requirement	4	JRNL elective	4
JRNL elective	4	Integrative requirement	4
JRNL elective	4	Elective	4
Language	4	Elective	4
	16		**16**

Total Hours: 131

Journalism and Political Science, BA

This interdisciplinary combined major offers students an opportunity to integrate the study and practice of journalism and political science. Successful students will gain a deep understanding of both disciplines, allowing them to seek out areas such as political writing, campaigns, and law school.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (CI), Interpreting Culture (IC), Understanding Societies and Institutions (SI), Analyzing and Using Data (AD), Engaging Difference and Diversity (DD), and Employing Ethical Reasoning (ER) are met through the major requirements. All other Nupath requirements must be met through electives.

Journalism Major Requirements

Code	Title	Hours
Journalism Introductory Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundations		
Must receive a C or better in the following:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Ethics		
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Take three JRNL courses.		12

Political Science Requirements

Code	Title	Hours
Political Science Foundation Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

Political Science Capstone or Thesis		
Complete one of the following:		4
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	
Political Science Electives		
Complete three POLS electives or complete a concentration from the following list:		12
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record.

- American Political Institutions (p. 422)
- Campaigns and Elections (p. 422)
- Comparative Politics (p. 423)
- Identity, Culture, and Politics (p. 423)
- International Relations and Diplomacy (p. 423)
- Law and Legal Studies (p. 423)
- Public Policy (p. 424)
- Security Studies (p. 424)

Integrative Requirement

Code	Title	Hours
COMM 3320	Political Communication	4
or POLS 3320	Politics and Mass Media	
JRNL 3550	The First Amendment and the Media	4

Journalism and Political Science Combined Major Credit Requirement

Complete 84 semester hours in the major.

Program Requirement

129 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	

or AFAM 3323	Race, Inequality, and the Law
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3409	Global Governance
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Sample 4 Years, 2 Co-ops
Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Foreign language	4	Foreign language	4
JRNL 1000	1	POLS 1155	4	Elective	4	Elective	4
JRNL 1150	4	POLS 1160	4				
POLS 1150	4	Foreign language	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	EEAM 2000 or EESH 2000	1	Elective	4	Co-op	0
POLS 2399	4	JRNL 2301	4	Elective	4		
Journalism elective 1	4	POLS 2400	4				
Political science elective 1	4	Journalism elective 2	4				
		Political science elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	JRNL 3610	4	Elective	4	Co-op	0
		Political thought requirement	4	Elective	4		
		Journalism elective 3	4				
		Political science elective 3	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	JRNL 3550	4
		JRNL 4650	4
		POLS 3320 or COMM 3320	4
		POLS 4701 or 4703	4
	0		**16**

Total Hours: 131

Media and Screen Studies and Journalism, BA

A Bachelor of Arts in Media and Screen Studies and Journalism is designed for the student who is interested in pursuing a career as a journalist specializing in the film industry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), Difference and Diversity (DD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirement Analyzing and Using Data (AD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from the MSCR subject code or from the following:		12
ARTD 2380	Video Basics	

ARTD 3480	Video: Sound and Image
ARTD 3485	Experimental Video
COMM 1450	Sound Production for Digital Media
COMM 2550	Television Field Production
COMM 2655	Television Studio Production
COMM 3655	Digital Editing for TV
COMM 3750	Special Effects and Postproduction for Television
COMM 4755	Production Capstone

Journalism Requirements

Code	Title	Hours
Journalism Foundations		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox (A grade of C or higher is required)	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting (A grade of C or higher is required)	4
Journalism and Advanced Writing		
JRNL 2301	Visual Storytelling in Journalism (A grade of C or higher is required)	4
Television News		
JRNL 5314	Video News Reporting and Producing	4
Ethics and Issues		
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete three courses in the following range:		12
JRNL 2000–JRNL 5999		

Integrative Requirement

The following course also counts toward the media and screen studies requirements above.

Code	Title	Hours
Integrative Course		
MSCR 4623	Media and Screen Studies Capstone	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1150	4	JRNL 1101 and JRNL 1102	5	Foreign language	4	Foreign language	4
ENGW 1111	4	MSCR 1230 or 2220	4	Elective	4	Elective	4
MSCR 1000 or JRNL 1000	1	MSCR 1320 or 1420	4				
MSCR 1220	4	Foreign language	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op	0	Co-op	0	Elective	4
JRNL 2201	4					Elective	4
Journalism elective 1	4						

MSCR diversity or globalization	4						
MSCR elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	Elective	4
JRNL 5314	4					Elective	4
MSCR 4623	4						
MSCR writing intensive 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 4650	4	MSCR elective 3	4
Journalism elective 2	4	Journalism elective 3	4
MSCR elective 2	4	Elective	4
MSCR writing intensive 2	4	Elective	4
	16		**16**

Total Hours: 131

Public Health and Journalism, BA

Overview

The combined major in public health and journalism addresses the vital interest in society for the ability to communicate scientific understanding to the broad public. This combined major provides a valuable and unique set of competencies, ranging from the statistical analysis and epidemiological best practices gained from the courses in the public health program to the cutting-edge communication skills taught within the university's School of Journalism. The combined major highlights the important role both journalism and public health will surely play in a complex and rapidly changing future.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Requirements		
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Requirements		
Introductory		
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	

ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Upper Level		
Complete one of the following:		3-4
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ANTH 3441	Medical Anthropology	
COMM 3201	Health Communication	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3404	International Food Policy	
ECON 3413	Health Economics and Healthcare Policy	
ECON 3420	Urban Economic Issues	
ECON 3423	Environmental Economics	
ECON 3424	Law and Economics	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
ORGB 3201	Organizational Behavior	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHTH 4511	Healthcare Management	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
POLS 3307	Public Policy and Administration	
POLS 3487	Politics of Developing Nations	
POLS 3900	Social Policy	
PPUA 5100	Climate and Development	
or INTL 5100	Climate and Development	
PPUA 5238	Climate Change and Global Urbanization	
PSYC 3402	Social Psychology	
PSYC 3450	Learning and Motivation	
SOCL 3241	Violence and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4520	Race, Class, and Gender	

Journalism Requirements

Code	Title	Hours
Journalism Foundation		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5

JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
Complete one of the following:		4
JRNL 3550	The First Amendment and the Media	
JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete any four JRNL electives (two must be at the 3000 level or above).		16

Other Requirements

Code	Title	Hours
Intro to College		
HSCI 1000	College: An Introduction	1
or JRNL 1000	Journalism at Northeastern	
Intro to Co-op		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EEAM 2000	Professional Development for Co-op	
Integrative Course		
Complete one of the following:		4
JRNL 3650	Science Writing	
JRNL 3700	Data Storytelling	
Capstone		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service	
HSCI 4740	Health Science Capstone Seminar	
Writing Requirement		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3303	Advanced Writing in the Environmental Professions	

Public Health Grade Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Academic Policies and Procedures

Please visit Bouvé College of Health Sciences Undergraduate page (p. 1156) for academic policies and procedures, including Academic Appeals. (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/)

Program Requirements

Minimum of 129 semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Introductory language course or elective	4	Elective courses*	8
JRNL 1000 or HSCI 1000	1	PSYC 1101	4	Elective	4		
JRNL 1150	4	PHTH core course	4				

PHTH 1260	4	Science course	4				
Science course	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	HSCI 2000 or EEAM 2000	1	ENGW 3306, 3314, or 3303	4	Co-op	
JRNL elective	4	PHTH 2210 and PHTH 2211	4	Social science course	4		
PHTH core course	4	JRNL elective	4				
Elementary-level language course	4	Intermediate-level language course	4				
		Visual storytelling course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHTH 4202	4	PHTH 4120	4	Co-op	
		JRNL elective	4	Elective	4		
		Integrative course	4				
		Law and ethics course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHTH 4540	4
HSCI 4700	0	Capstone course	4
		JRNL elective	4
		Social science course	4
	0		**16**

Total Hours: 131

* These two elective courses may also be taken one at a time while on co-op.

Public Relations, BA

Overview

This program is designed to teach public relations and strategic communication theories and practices, with an emphasis on enhancing the ability to promote the image and mission of an organization or business.

Students study various facets of PR from brand promotion, content creation, and social media to crisis communication, media relations, community relations, reputation management, and marketing communications. A particular focus will be on sophisticated training in the latest communication techniques including social media, web communications and videography, as well as data analytics and data-driven storytelling.

Program graduates will be equipped with the technical skills they need to break into the PR field and the management skills they need to advance in the professional arena. The needs for these skills have increased exponentially in recent years as diverse organizations understand that they need to develop effective messaging communicated in visual, textual, and audio form through multi-, online-, and social media. The goal of the program is to empower students to promote the public agenda of employers ranging from industry leaders, to mission-driven organizations, to strategic communications groups and political consulting firms.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Major Requirements

Code	Title	Hours
Introduction to College		
COMM 1000	Communication Studies at Northeastern	1
or JRNL 1000	Journalism at Northeastern	
Foundation Courses		
COMM 1113	Business and Professional Speaking	4
COMM 3625	Public Relations Practice	4
or JRNL 3625	Public Relations Practice	
JRNL 5311	Design for Storytelling	4
JRNL 5480	Research for Media Strategy	4
A grade of C or better is required for the following:		
COMM 3445	Public Relations Principles	4
or JRNL 3425	Public Relations Principles	
JRNL 2200	Writing for Public Relations	4
Introductory/Intermediate Electives		
Complete two of the following (and any required corequisites):		8
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
COMM 2303	Global and Intercultural Communication	
COMM 2510	Social Media Analytics	
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	

JRNL 1150	Understanding Today's News	
JRNL 2301	Visual Storytelling in Journalism	
Advanced Electives		
Complete three of the following (other courses may be proposed in consultation with your academic advisor):		12
COMM 3320	Political Communication	
or COMM 6320	Political Communication	
COMM 3409	Advocacy Writing	
COMM 3500	Environmental Issues, Communication, and the Media	
or COMM 6500	Environmental Issues, Communication, and Media	
COMM 4102	Health Communication Campaigns	
or COMM 6102	Health Communication Campaigns	
COMM 4631	Crisis Communication and Image Management	
JRNL 3610	Digital Storytelling and Social Media	
JRNL 4650	Ethics and Issues in Journalism	
JRNL 5400	Media and Advocacy in Theory and Practice	
JRNL 5420	Public Relations Strategies for Managing Scandal in Business and Politics	
Subject Expertise		
Complete three electives in the subject of your interest (e.g., public health, computer science, biology) in consultation with your advisor.		12
Capstone		
COMM 4608	Strategic Communication Capstone	4

Program Requirements

60 semester hours in the major

128 overall semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SUMMER2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	COMM 1113	4	Elective	4	Elective	4
JRNL 1000 or COMM 1000	1	JRNL 2200	4	Elective	4	Elective	4
JRNL 3425 or COMM 3445	4	Foreign language	4				
Foreign language	4	Elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 3625	4	EEAM 2000	1	Elective	4	Co-op	0
Foreign langauge	4	JRNL 5480	4	Elective	4		
PR introductory/ intermediate elective	4	PR introductory/ intermediate elective	4				
Elective	4	Subject expertise	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PR advanced elective	4	Elective	4	Co-op	0
		PR advanced elective	4	Elective	4		
		Subject expertise	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	COMM 4608	4
		JRNL 5311	4
		PR advanced elective	4
		Elective	4
	0		**16**

Total Hours: 130

Theatre and Journalism, BA

Overview

This combined major educates students in journalism and theatre and the interface between the two disciplines. The School of Journalism and Media Innovation places the ability to gather, investigate, analyze, and present information at the core of their curriculum. The Department of Theatre's curriculum provides deep knowledge of theatre that spans design, performance, and the production of innovative forms of theatre, including interactive media, computer graphics, human-computer interaction, and more.

Students completing this program of study should be able to understand how the two fields jointly contribute to compelling storytelling and how to create innovative modes of performance based on current events.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Theatre Requirements

A minimum grade of C is required in all THTR & INAM theatre courses.

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8

THTR 2200	The American Black Theatre Experience
THTR 2310	History of Musical Theatre
THTR 2330	Playwriting
THTR 2335	Boston Theatre Experience
THTR 2340	Theatre and Society
THTR 2342	Acting 2
THTR 2345	Acting for the Camera
THTR 2346	Viewpoints
THTR 2370	Lighting Design
THTR 2380	Costume Design
THTR 2385	Fashion Construction and Pattern Making
THTR 2400	Scenic Design
THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Journalism Requirements

Code	Title	Hours
Foundational Courses		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete two of the following:		8
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 3700	Data Storytelling	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
Complete one of the following:		4
JRNL 3550	The First Amendment and the Media	
JRNL 4650	Ethics and Issues in Journalism	
Electives		
Complete four electives in JRNL; two must be at the 3000-level or above.		16

Integrative Requirements

Code	Title	Hours
INAM 2000	Ethics in Creativity	4
THTR 3100	Creative Storytelling for Social Engagement	4
THTR 4702	Capstone: Creative Practice Research Project	4

Supplemental Requirements

Code	Title	Hours
THTR 1000	Theatre at Northeastern	1
or JRNL 1000	Journalism at Northeastern	
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
JRNL 2301	Visual Storytelling in Journalism [1]	
If considering co-op, complete the following:		0-1
EEAM 2000	Professional Development for Co-op	

[1] Visual Storytelling in Journalism (JRNL 2301) may count as both a journalism elective and as the Advanced Writing in the Disciplines option.

Major Credit Requirement

83 semester hours required in the major

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	INAM 2000	4	Foreign language or elective	4	Elective	4
JRNL 1150	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
THTR 1000 or JRNL 1000	1	THTR 1131	4				
THTR 1100	1	JRNL elective	4				
THTR 1101	4						
THTR 1120	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1	0	Co-op 1	0	Elective	4
JRNL 2201	4					Elective	4
THTR 2000	1						
THTR 3325	4						
THTR Text, Community, & Social Engagement Course	4						
Foreign language or elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1270	4	Co-op 2	0	Co-op 2	0	Elective	4
JRNL visual elective or JRNL elective	4					Elective	4
JRNL visual elective or JRNL elective	4						
THTR Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 3550 or 4650	4	THTR 4702	4
JRNL visual elective or JRNL elective	4	JRNL visual elective or JRNL elective	4
THTR Elective	4	JRNL visual elective or JRNL elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Computer Science and Journalism, BS

The computer science and journalism combined major supports students who understand that journalism now takes place in both print and the digital world. Students will learn the principles, practices, and responsibilities of the journalism profession while gaining a deep understanding of the systems and technologies that support digital media.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or JRNL 1000	Journalism at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4200	Information Retrieval	4
or IS 4300	Human Computer Interaction	
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 12 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Journalism Major Requirements

Students transferring from outside institutions must complete a minimum of five 4-credit journalism courses at Northeastern, and these must include:

Code	Title	Hours
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 4650	Ethics and Issues in Journalism	

Code	Title	Hours
Journalism Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Required Journalism		
JRNL 1150	Understanding Today's News	4
JRNL 2350	The History of Journalism: How the News Became the News	4
JRNL 3550	The First Amendment and the Media	4
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete two JRNL courses.		8
Journalism-Related Requirement		
HIST 1130	Introduction to the History of the United States	4

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
This course already fulfills a Journalism requirement above:		
JRNL 2301	Visual Storytelling in Journalism	

Required General Electives

Code	Title	Hours
Complete 28 credits of general electives.		28

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Interpreting Culture
- Engaging Difference and Diversity
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS courses

Journalism GPA Requirement

Minimum 2.000 GPA required in all JRNL courses

Program Requirement

134 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	JRNL 1101 and JRNL 1102	5				
ENGW 1111	4	JRNL 2350	4				
JRNL 1150	4						
	19		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	Elective	4	Co-op	
HIST 1130	4	JRNL 2301	4	Elective	4		
JRNL 2201	4	MATH 1341	4				
Khoury elective	4	Journalism elective 2	4				
		Khoury elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		IS 4200 or 4300	4	Elective	4	Co-op	
		JRNL 3550	4	Elective	4		
		JRNL 3610	4				
		Khoury elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		JRNL 4650	4
		Computing and social issues	4
		Journalism elective 2	4
	0		**16**

Total Hours: 135

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	JRNL 1101 and JRNL 1102	5				
ENGW 1111	4	JRNL 2350	4				
JRNL 1150	4						
	19		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
HIST 1130	4						
JRNL 2201	4						
Khoury elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op		Co-op		Elective	4
MATH 1341	4					Elective	4
Journalism elective 1	4						
Khoury elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours			Summer 2	Hours
IS 4200 or 4300	4	CS 4530	4				
JRNL 3550	4	JRNL 4650	4				
JRNL 3610	4	Computing and social issues	4				
Khoury elective	4	Journalism elective 2	4				
	16		**16**				**0**

Total Hours: 135

Criminal Justice and Journalism, BS

The School of Criminology and Criminal Justice and School of Journalism offer a combined major in criminal justice and journalism. Criminology and criminal justice courses provide a foundation for understanding crime and our criminal justice system. Journalism courses provide students with the skills and experience needed to succeed as a journalist. Together, the combined major is designed to prepare students to report important stories about crime and justice.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Creating Knowledge about Crime and Justice		

How do we know what we know about crime and justice—and how do we develop new knowledge? These courses study harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Solutions and Reform		
How do we reinvent criminal justice institutions and their practice? The capstone experience is project-based and solution-oriented, drawing on knowledge gained in the classroom and through co-op and other experiences.		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete one additional criminal justice elective from the 3000, 4000, or 5000 level.		4

Journalism Requirements

Code	Title	Hours
Introductory Journalism Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundation Courses		
A grade of C or better is required.		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Ethics		
JRNL 4650	Ethics and Issues in Journalism	4

Journalism Electives

Code	Title	Hours
Complete three additional journalism courses.		12

Supporting Courses

Code	Title	Hours
Introduction		
CRIM 1000	Criminal Justice at Northeastern	1
or JRNL 1000	Journalism at Northeastern	
Computer or Data Science		
Complete one of the following:		4
CS 1100	Computer Science and Its Applications	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
JRNL 3700	Data Storytelling	
Co-op Integration Requirements		
Complete before the first co-op:		
EESH 2000	Professional Development for Co-op	
or EEAM 2000	Professional Development for Co-op	
Complete after a criminal justice co-op:		
CRIM 3000	Co-op Integration Seminar 2	

Integrative Requirements

Code	Title	Hours
JRNL 3550	The First Amendment and the Media	4
CRIM 1700	Crime, Media, and Politics	4

Program Requirement

129 total semester hours required

Plan of Study
Four Years, Two Co-ops
Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1000 or JRNL 1000	1	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
CRIM 1100	4	Criminology thematic elective	4	Elective	4	Elective	4
ENGW 1111	4	Computer or data requirement	4				
JRNL 1150	4	Elective	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		Criminology survey elective	4
CRIM 1120	4					Elective	4
EESH 2000 or EEAM 2000	1						
JRNL 2201	4						
Journalism elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1700	4	Co-op		Co-op		Elective	4
CRIM 3000	1					Elective	4
CRIM 3600	4						
JRNL 2301	4						
Journalism elective 2	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CRIM 3700	4	CRIM 4949	4
JRNL 3550	4	JRNL 4650	4
JRNL 3610	4	Criminology elective	4
Criminology systemwide elective	4	Journalism elective 3	4
	16		**16**

Total Hours: 132

Data Science and Journalism, BS

The data science and journalism combined major offers students an opportunity to gain the skills to be able to engage in both the print and digital worlds of journalism. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data. Combined with learning the principles, practices, and responsibilities of journalism, students can extract meaning from massive information flows and utilize it in effective investigative reporting.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or JRNL 1000	Journalism at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Journalism Major Requirements

Students transferring from outside institutions must complete a minimum of five 4-semester-hour journalism courses at Northeastern, and these must include:

Code	Title	Hours
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 4650	Ethics and Issues in Journalism	

Code	Title	Hours
Journalism Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Required Journalism		
JRNL 1150	Understanding Today's News	4
JRNL 3550	The First Amendment and the Media	4
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete three JRNL courses.		12

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics Foundation		
ECON 2350	Statistics for Economists	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		

This course already fulfills a Journalism requirement above.	
JRNL 2301	Visual Storytelling in Journalism

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
JRNL 3700	Data Storytelling	
JRNL 5500	Coding for Digital Storytelling	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS courses

Journalism GPA Requirement

Minimum 2.000 GPA required in all JRNL courses

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or JRNL 1000	1	CS 3200	4	DS 3000	4	Vacation	
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	MATH 1341	4		
DS 2000 and DS 2001	4	JRNL 1101 and JRNL 1102	5				
JRNL 1150	4	JRNL 3550	4				
ENGW 1111	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3500	4	CS 1210 or EEAM 2000	1	ECON 2350	4	Co-op	
JRNL 2201	4	DS 4200	4	Elective	4		
JRNL 2301	4	DS 4300	4				
Computing and social issues	4	JRNL 3610	4				

		JRNL 3700 or 5500	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	Elective	4	Co-op	
		JRNL 4650	4	Elective	4		
		JRNL elective 1	4				
		Khoury Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
Co-op		CY 4170	4	Elective	4		
		DS 4420	4	Elective	4		
		JRNL elective 2	4				
		JRNL elective 3	4				
	0		**16**		**8**		

Total Hours: 133

Economics and Journalism, BS

The combined major in economics and journalism integrates the analytical and critical thinking skills from economics with the versatile and dynamic world of journalism. Combined with studying the principles, practices, and responsibilities of journalism, students have an opportunity to develop analytical skills that are useful to understand today's current economic events and debates. The skill sets students acquire allow them to better communicate information in areas such as public policy, business, law, and the media. The combined major highlights the important role journalism plays in shaping how economic issues are conveyed to the public.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Introduction

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or ECON 1000	Economics at Northeastern	

Co-op Course

Code	Title	Hours
EESH 2000	Professional Development for Co-op	1
or EEAM 2000	Professional Development for Co-op	

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete three electives from the following ranges with one of those courses, at most, at the 1000 level:		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		

Journalism Requirements

Code	Title	Hours
Introductory		
JRNL 1150	Understanding Today's News	4
Foundation Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4

Law and Ethics		
Taking either course fulfills both the capstone requirement and the journalism law and ethics requirement:		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete three JRNL electives.		12

Supporting Courses

Code	Title	Hours
Calculus		
It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Integrative Courses

Code	Title	Hours
Complete one of the following (may not overlap with courses used for electives):		4
JRNL 3680	Advanced Reporting	
JRNL 3700	Data Storytelling	
Complete one of the following (may not overlap with courses used for electives):		4
ECON 1260	Contested Issues in the U.S. Economy	
ECON 3423	Environmental Economics	
ECON 3440	Public Finance	
ECON 3635	International Economics	
ECON 4640	Financial Economics	

Capstone

Fulfilled by the journalism law and ethics requirement.

Economics GPA/Credit Requirements

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Program Requirements

89 semester hours in the major

129 overall semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, ***and*** CS 1101, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111 or 1102	4	ECON 1116	4	Elective	4	Elective	4
JRNL 1000 or ECON 1000	1	JRNL 1101 and JRNL 1102	5				
JRNL 1150	4	Elective	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Elective	4	Co-op	
JRNL 2201	4	ECON 2350	4	Elective	4		
ECON elective 1	4	EESH 2000 or EEAM 2000	1				
JRNL elective 1	4	JRNL 2301	4				
		JRNL elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ECON 1260, 3423, 3440, 3635, or 4640	4	Co-op	
		JRNL 3700 or 3680	4	Elective	4		
		JRNL 3610	4				
		ECON elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ECON 4692 or 4997	4
		JRNL 3550 or 4650	4
		ECON elective 3	4
		JRNL elective 3	4
	0		**16**

Total Hours: 131

Journalism and Interaction Design, BS

The School of Journalism and the Department of Art + Design offer an interdisciplinary combined major in journalism and interaction design. Broadly speaking, students in the combined major in journalism and interaction design at Northeastern University integrate the study of journalism with the study of art and design.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), Difference and Diversity (DD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirement Analyzing and Using Data (AD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Introduction to College

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or ARTF 1000	Art and Design at Northeastern	

Journalism Major Requirements

Code	Title	Hours
Journalism Introductory Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundations		
Must receive a C or better in the following:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete three JRNL courses.		12

Art and Design Core

Code	Title	Hours
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	4
Art and Design History		
Complete two of the following:		8
ARTH 1111	Global Art and Design History: Renaissance to Modern	
ARTH 2210	Modern Art and Design History	
ARTH 2215	History of Graphic Design	

Design Requirements

Code	Title	Hours
Design Courses		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optional ARTG 2251)	4
ARTG 2260	Programming Basics	4
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
ARTG 3700	Interaction Design 2: Mobile	4
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

Design Elective

Code	Title	Hours
Complete one of the following:		4-5
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124	Form and Structure	
ARTF 2220	Movement and Time	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	

Integrative Requirements

Code	Title	Hours
Note: ARTG 4550 counts in the design requirements above and is also an integrative course.		
ARTG 4550	Design Degree Project	4
JRNL 5311	Design for Storytelling	4

Program Requirement

131 total semester hours required

Plan of Study
Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1000 or ARTF 1000	1	JRNL 1101 and JRNL 1102	5	ARTG 2250 (with optional ARTG 2251)	4	Elective	4
JRNL 1150	4	ARTF 2223 (with optional ARTF 2224)	4	Elective	4	Elective	4
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1250	4				
ARTH elective 1	4	ARTG 2260	4				
ENGW 1111	4	MATH elective	4				
	17		**21**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	Co-op	0	Co-op	0	Elective	4
JRNL 5311	4					Elective	4

EEAM 2000	1						
ARTG 2400 (with optional ARTG 2401)	4						
ARTG 3350	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	Elective	4
JRNL elective 1	4					Elective	4
ARTG 3700	4						
Art and design elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 3610	4	JRNL 3550 or 4650	4
JRNL elective 2	4	JRNL elective 3	4
ARTG 3451	4	ARTH elective 2	4
ARTG 4550	4		
	16		**12**

Total Hours: 131

Sample Five Years, Three Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 1000 or ARTF 1000	1	JRNL 1101 and JRNL 1102	5	Elective	4	Vacation	
JRNL 1150	4	ARTG 1250	4	Elective	4		
ENGW 1111	4	ARTH elective 1	4				
ARTF 1143	4	Elective	4				
ARTF 1122 (with optional ARTF 1123)	4						
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	Co-op		Co-op		Vacation	
EEAM 2000	1						
ARTG 2250	4						
ARTG 2260	4						
Elective	4						
	17		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op		Co-op		Elective	4
JRNL elective 1	4					ENGW 3302	4
ARTG 2400 (with optional ARTG 2401)	4						
ARTG 3350	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 3610	4	Co-op		Co-op		Vacation	0
JRNL elective 2	4						
ARTH elective 2	4						

ARTG 3700		4					
		16		**0**		**0**	**0**

Year 5

Fall	Hours		Spring	Hours			
JRNL 5311		4	JRNL 3550 or 4650	4			
JRNL 3550 or 4650		4	JRNL elective 3	4			
ARTG 3451		4	Art and design elective	4			
ARTG 4550		4	Elective	4			
		16		**16**			

Total Hours: 131

Journalism Practice, Minor

With the explosion of websites, podcasts, and social media, more and more people find themselves using the skills of a journalist in the dissemination of information in both their private and professional lives. This minor is intended for those students who wish to bring more professionalism and sophistication to the things they post online or who hope to offer a skill set that will make them more versatile and employable in their chosen field. It will also serve those who may be considering a career in journalism but find themselves too late in their college careers to switch majors.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Any student wishing to satisfy a minor in both journalism studies and journalism practice must take eight unique courses. No double counting. Journalism majors are not eligible for a minor in journalism practice.

Required Courses

Code	Title	Hours
Required Courses		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
Restricted Elective		
Complete one course from the following:		4
JRNL 3370	Podcast and Radio Journalism	
JRNL 3455	Sports Writing	
JRNL 3610	Digital Storytelling and Social Media	
JRNL 3630	Magazine Writing	
JRNL 3650	Science Writing	
JRNL 3680	Advanced Reporting	
JRNL 3700	Data Storytelling	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5311	Design for Storytelling	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
JRNL 5360	Global Reporting	
JRNL 5460	POV: The Art and Craft of Opinion Journalism	
JRNL 5500	Coding for Digital Storytelling	
Elective		
Complete one additional JRNL course.		4

GPA Requirement

2.000 GPA required in the minor

Journalism Studies, Minor

With an ever-growing array of information options available, and with the news media making news in the early days of the new administration in Washington, interest in the workings of journalism has never been higher. This minor is intended for those students who wish for a sophisticated media literacy, an understanding of the field that goes deeper than what can be gained in our popular Understanding Today's News course.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Any student wishing to satisfy a minor in both journalism studies and journalism practice must take eight unique courses. No double counting. Journalism majors are not eligible for a minor in journalism studies.

Required Courses

Code	Title	Hours
Foundation		
JRNL 1150	Understanding Today's News	4
JRNL 2350	The History of Journalism: How the News Became the News	4
Law		
JRNL 3550	The First Amendment and the Media	4
Elective		
Take one JRNL course.		4

GPA Requirement

2.000 GPA required in the minor

Photojournalism, Minor

As our society continues to move toward a world of technology, the power of photos become that much more important. This minor will engage students on how to visually tell a compelling story. It will give students the skill sets needed to succeed in that endeavor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: A student pursuing the minor in Photojournalism must complete a minimum of three (3) courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Required Courses

Code	Title	Hours
Photography Foundation		
Complete one of the following:		4-5
ARTE 2500	Art and Design Abroad: Studio	
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
Photography Requirement		
ARTD 3460	Photography: Concept + Process	4
Integrative		
JRNL 5310	Photojournalism	4
Electives		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 5314	Video News Reporting and Producing	

GPA Requirement

2.000 GPA required in the minor

Public Relations, Minor

Effective communication to the key publics is essential in today's complex business and media environment. The public relations minor is for students who want to acquire critical communication skills, including writing, audio, video, and the effective use of data and design. Successful students will also be equipped with theoretical and practical knowledge needed to be a good communication practitioner. This minor may complement relevant majors such as business administration, communication studies, sociology, and psychology, though any student with an interest in public relations is welcome.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: A student pursuing the minor in public relations must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s), minor(s), or PlusOne.

Required Courses

Code	Title	Hours
Required Core		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 3425	Public Relations Principles	4
Restricted Elective		
Complete one of the following:		4
JRNL 5400	Media and Advocacy in Theory and Practice	
JRNL 5480	Research for Media Strategy	
Elective		
Complete one additional JRNL course.		4

GPA Requirement

2.000 GPA required in the minor

Sports, Media, and Communication, Minor

The sports, media, and communication minor appeals to students preparing for careers as sports journalists or advertising/public relations professionals specializing in a sports-related area. The minor includes courses examining the prominent role of sports in society with a special emphasis on gender, race, and public policy. When combined with Northeastern's signature co-op program, the result is an innovative minor that blends theory with practice and prepares students for a broad range of professional opportunities.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Course

Code	Title	Hours
COMM 2110	Sports, Media, and Communication	4

Electives

Code	Title	Hours
Sports Elective		
Complete one of the following:		4
COMM 2700	Sports Promotion in the 21st Century	
JRNL 3455	Sports Writing	
Intermediate Elective		
Complete one of the following:		4
COMM 1450	Sound Production for Digital Media	
COMM 2350	Producing for the Entertainment Industry	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 2800	Sport and Spectacle	
COMM 3451	Advertising Practices	
ECON 3481	Economics of Sports	
Advanced Elective		
Complete one of the following:		4
COMM 4631	Crisis Communication and Image Management	
COMM 4994	Internship in Communication	
JRNL 3945	Internship	
JRNL 4650	Ethics and Issues in Journalism	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	

GPA Requirement

2.000 GPA required in the minor

Music

Website (http://camd.northeastern.edu/music/)

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Professor and Chair

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The Department of Music offers its music majors, music minors, and combined majors a cross-disciplinary approach to the study and practice of music, underscored by real-world experiential learning and cutting-edge technology. The music faculty are dedicated to three continuously interacting and integrated dimensions: the creation of music; its production and promotion; and the study of its history, meaning, and impact on cultures around the globe—past, present, and future.

There are three concentrations in music: the Bachelor of Arts in Music, the Bachelor of Science in Music with Concentration in Music Technology, and the Bachelor of Science in Music with Concentration in Music Industry. Students in all three concentrations begin with a core of shared offerings, including a uniquely probing, cross-cultural, and interdisciplinary introduction to music, Music in Everyday Life (MUSC 1001), together with shared requirements in introductory theory and musicianship. With a common perspective offered by these courses, students then branch out to focus on their individual disciplines but also to interact and bring unique aspects of their disciplines together in a collaborative learning environment with other students.

Our signature program is the Bachelor of Arts in Music, designed to offer a variety of flexible advising paths that allow a focus on history, theory, ethnomusicology, performance, composition, humanics, or other directions tailored to the students' individual interests.

The Bachelor of Science in Music with Concentration in Music Technology focuses on the creative application of digital sound technologies to a broad range of artistic, social, and industrial purposes, including experimental composition, film, video, theatre, game design, mobile applications, sound design for urban environments, and beyond, with a new emphasis on digital signal processing, computation for sound, artificial intelligence, auditory cognitive neuroscience, and XR. A focus is maintained throughout on imaginative exploration, collaboration across disciplines, and real-world experience.

The Bachelor of Science in Music with Concentration in Music Industry, the first such undergraduate program offered in Boston, is designed for students with an interest in fields such as artist management; the music products industry; the recording industry; arts administration; contracting and legal issues; financial and economic aspects of the music business; and broadcast, mobile, and online media technologies. All the foregoing include an emphasis on the development of critical frameworks for entrepreneurial leadership in the cultural industries.

In addition to the three primary concentrations outlined above, there are multiple combined majors offered that integrate music disciplines with others both in and beyond the College of Arts, Media and Design, including communication studies, computer science, electrical engineering, game design, psychology, and physics. While students are encouraged to consider double majoring in the Bachelor of Arts in Music and other disciplines outside music, the BA cannot be combined with the concentration in music industry or the concentration in music technology.

While most music courses are designed for music majors, music minors and combined majors in music, and a variety of other disciplines, the Department of Music also offers elective survey courses and other study opportunities open to students across the Northeastern University campus. Also available are private lessons in a wide variety of instruments and voice, including a focus on genres ranging from traditional concert music to jazz to fusion, rock, and a variety of popular idioms.

An extensive concert series presents not only guest performers and ensembles from around the world but also performances by the Northeastern University Symphony Orchestra; the Northeastern University Wind Ensemble and Concert Band; the Northeastern University Choral Society; and the Jazz Ensemble, Jazz Choir, Contemporary Music Ensemble, Blues/Rock Fusion Ensemble, Rock Ensemble, World Music Ensemble, and chamber music ensembles, along with individual student recitals and performances by an array of student-run music groups.

In addition to co-op, Dialogues of Civilization, and a range of other opportunities for experiential learning and study throughout the United States and abroad, students may immediately begin to participate in student organizations—such as Green Line Records, NU Sound, Live Music Association, Songwriting Club, and a variety of other groups—that allow students actively to pursue their passions and aspirations.

Students concentrating in music may double count only one course between a concentration and a minor. Students may double count only one course between two different music minors. Should a student place out of a course in a minor, it must be replaced with another course relevant to the minor.

Academic Progression Standards

Students must maintain at least a B– average in all major courses and complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Programs

Bachelor of Arts (BA)

- Music (p. 465)

Bachelor of Science (BS)

- Music with Concentration in Music Industry (p. 470)
- Music with Concentration in Music Technology (p. 476)
- Computer Science and Music with Concentration in Music Technology (p. 481)
- Electrical Engineering and Music with Concentration in Music Technology, BSEE (p. 485)
- Game Design and Music with Concentration in Music Technology (p. 233)
- Music and Communication Studies with Concentration in Music Industry (p. 379)
- Physics and Music with Concentration in Music Technology (p. 498)
- Psychology and Music (p. 503)

Minor

- Music (p. 508)
- Ethnomusicology (p. 507)
- Music Composition (p. 510)
- Music Industry (p. 511)
- Music Performance (p. 512)
- Music Recording (p. 514)
- Music Technology (p. 515)
- Performing Arts Administration (p. 516) (offered by the Department of Theatre)
- Songwriting (p. 517)

Music, BA

The Bachelor of Arts in Music at Northeastern University engages students in the study of how music works and the many contexts in which it is created and received. The foundation of the major is a unique introductory course, Music in Everyday Life (MUSC 1001), that investigates many dimensions of the musical experience and music's contributions to society.

Students encounter a wide range of musical repertoires, theoretical approaches, and research strategies. While many students opt to major in music alone, many others enroll as part of a double major. This is especially true of young scholars who are aiming for careers in engineering, sciences, business, and fields in the humanities and social sciences who still want to pursue their interests in music. Students in the BA degree program take a variety of classes in history, theory, and ethnomusicology, and they may be active performers, participating in our many ensembles and taking private lessons. Students also participate in a wide array of co-ops and are encouraged to explore opportunities that conform to their interests.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

- NUpath requirements Creative Expression/Innovation (EI) and Interpreting Culture (IC) are met through the major course requirements.
- NUpath requirements Formal and Quantitative Reasoning (FQ), Natural and Designed World (ND), Societies and Institutions (SI), Analyzing and Using Data (AD), Differences and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

Introduction to College

Code	Title	Hours
MUSC 1000	Music at Northeastern	1

Music Theory and Musicianship

Code	Title	Hours
Music Theory Placement		
All students must take a music theory placement exam. Students who do not place into MUSC 1201 must first take the following course:		
MUSC 1119	Fundamentals of Western Music Theory	
Required Music Theory		
A grade of C or higher is required in each course.		
MUSC 1201	Music Theory 1	4
Complete two of the following:		8
MUSC 1119	Fundamentals of Western Music Theory	
MUSC 1202	Music Theory 2	
MUSC 2111	Algebra and Geometry of Music	
MUSC 2208	Jazz Improvisation	
MUSC 2350	Acoustics and Psychoacoustics of Music	
MUSC 3300	Music Perception and Cognition	
MUSC 3541	Music Analysis Seminar	
MUSI 1204	Analyzing Popular Genres	

Music in Context

Complete one course from each category below. From the categories Western Art Music, Global Music/Ethnomusicology, and Contemporary/Popular Music, at least two must be at the 2000 level or higher. Courses may not double count across the five areas. Many, but not all, Music in Context

courses at the 2000 level or higher fulfill the writing-intensive in the discipline requirement. Please check the writing-intensive status of courses as needed.

Code	Title	Hours
Introductory Class		
Select from the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Western Art Music		
Complete one of the following:		4
MUSC 1100	Topics in Western Music	
MUSC 1116	Beethoven	
MUSC 1144	Music and Technology: Stone Age to Digital Age	
MUSC 2105	Songs That Made History	
MUSC 2312	Topics in Western Art Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
Global Music/Ethnomusicology		
Complete one of the following:		4
MUSC 1129	Music of the Middle East	
MUSC 1137	Topics in Diverse Musical Cultures	
MUSC 2101	Black Popular Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2330	Musical Communities of Boston	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Contemporary/Popular Music		
Complete one of the following:		4
MUSC 1112	Jazz	
MUSC 1113	Film Music	
MUSC 1141	Wired for Sound	
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	

MUSI 3401	Hip Hop in the Music Industry	
Creative		
Complete one of the following 4-semester-hour courses or complete four 1-semester-hour ensembles and/or lessons from the list below:		4
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2208	Jazz Improvisation	
MUSC 2209	Conducting	
MUSC 2210	Introduction to Songwriting	
MUSI 2232	Music Recording 1	
MUST 1220	Introduction to Music Technology	
MUST 1301	Introduction to Composition	
MUST 2320	Sound Design	
Ensembles and Lessons		
MUSC 1901	Music Lessons 1	
MUSC 1902	Music Lessons 2	
MUSC 1904	Chorus	
MUSC 1905	Concert Band	
MUSC 1906	Orchestra	
MUSC 1907	Wind Ensemble	
MUSC 1911	Jazz Ensemble	
MUSC 1912	Rock Ensemble	
MUSC 1913	Blues/Rock Ensemble	
MUSC 1914	Create Your Own Music	
MUSC 1915	Chamber Ensemble	
MUSC 1917	Jazz Choir and Combo	
MUSC 1918	World Music Ensemble	
MUSC 1919	Fusion Ensemble	
MUSC 1920	Pep Band	

Capstone

Code	Title	Hours
Complete one of the following:		4
MUSC 4651	Music Research Capstone	
MUSI 4601	Seminar in Music Industry	
MUST 4611	Music Technology Capstone/Senior Recital	

Music Electives

Code	Title	Hours
Complete three additional courses in music (MUSC, MUSI, or MUST). At least two must be at the 2000 level or higher.		12

Major Credit Requirement

Complete 48 semester hours in the major.

Major GPA Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Music in context course	4	Vacation		Vacation	
MUSC 1000	1	Music theory course	4				
MUSC 1001 or 1002 ***and*** 1003	4	Music elective	4				
MUSC 1201	4	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Music in context course	4	Music in context course	4	Vacation		Vacation	
Music elective	4	Music elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Music in context course	4	Elective	4	Vacation		Vacation	
Music theory course	4	Elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Elective	4	Capstone course	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MUSC 1201	4	Elective	4	Vacation	
MUSC 1000	1	Music in context elective (1)	4	Elective	4		
MUSC 1002 and MUSC 1003	4	Language (2)	4				
MUSC 1119	4	Elective	4				
Language 1	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1		Co-op 1		Elective	4
Music in context course (2)	4			Elective (online)	4	Elective	4
Music theory course	4					or Dialogue	
Music elective (1)	4						

Language elective (3)	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3314	4	Co-op 2		Co-op 2		Elective	4
Music in context course (3)	4			Elective (online)	4	Elective	4
Music elective (2)	4					or Dialogue	
Elective	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
Music in context course (4)	4	Music capstone	4
Music theory course	4	Elective	4
Music elective (3)	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Music with Concentration in Music Industry, BS

The Bachelor of Science in Music with Concentration in Music Industry, the first such undergraduate program offered in Boston, is designed for students with an interest in all aspects of the music industries, including songwriting, recording, production, technology, products, label operations, promotion, marketing, social media, management, finance, economics, data analytics, legal issues, licensing, and intellectual property. Our program encourages learners to become entrepreneurial thought leaders and ethical change agents in the music industries.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Analyzing and Using Data (AD) are met through the major course requirements.

NUpath requirements Differences and Diversity (DD) and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Music Industry Requirements

Code	Title	Hours
Music Core		
MUSC 1000	Music at Northeastern	1
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Music Theory Placement		
All students must take a theory placement exam. Students who do not place into MUSC 1201 must first take the following:		
MUSC 1119	Fundamentals of Western Music Theory	4
Music Theory Requirement		
MUSC 1201	Music Theory 1	4
MUSI 1204	Analyzing Popular Genres	4
Music in Context		
Complete one from each of the following. Of the courses from Western tradition, ethnomusicology, and contemporary, at least two must be at the 2000 level or higher. Courses may not double count across these areas. Many, but not all, music in context courses at the 2000 level or higher fulfill the Writing-Intensive in the Discipline requirement. Please check writing-intensive status of courses as needed. Students may use MUSC 2210, MUSC 2211, MUSI 2331, MUSI 3341, or MUST 1220 to fulfill both creating and producing and music in context creative but will also need to take one additional music industry elective.		
Western Art Music		
Complete one of the following:		4
MUSC 1100	Topics in Western Music	
MUSC 1116	Beethoven	
MUSC 1144	Music and Technology: Stone Age to Digital Age	
MUSC 2105	Songs That Made History	
MUSC 2312	Topics in Western Art Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
Global Music/Ethnomusicology		

Complete one of the following:		4
MUSC 1129	Music of the Middle East	
MUSC 1137	Topics in Diverse Musical Cultures	
MUSC 2101	Black Popular Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2330	Musical Communities of Boston	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Contemporary/Popular Music		
Complete one of the following:		4
MUSC 1112	Jazz	
MUSC 1113	Film Music	
MUSC 1141	Wired for Sound	
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Creative		
Complete one of the following:		4
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2208	Jazz Improvisation	
MUSC 2209	Conducting	
MUSC 2210	Introduction to Songwriting	
MUSI 2232	Music Recording 1	
MUST 1220	Introduction to Music Technology	
MUST 1301	Introduction to Composition	
MUST 2320	Sound Design	
Music Ensemble		
May substitute four 1-semester-hour applied courses (ensembles and/or lessons) for one 4-semester-hour creative course.		
MUSC 1901	Music Lessons 1	
MUSC 1902	Music Lessons 2	
MUSC 1904	Chorus	
MUSC 1905	Concert Band	
MUSC 1906	Orchestra	
MUSC 1907	Wind Ensemble	
MUSC 1911	Jazz Ensemble	
MUSC 1912	Rock Ensemble	
MUSC 1913	Blues/Rock Ensemble	

MUSC 1914	Create Your Own Music	
MUSC 1915	Chamber Ensemble	
MUSC 1917	Jazz Choir and Combo	
MUSC 1918	World Music Ensemble	
MUSC 1919	Fusion Ensemble	
MUSC 1920	Pep Band	
Music Industry		
MUSI 1230	Introduction to Music Industry	4
Music Industry Electives		
Complete seven music industry electives, taking a minimum of one course in each of the following four categories and at least three courses from a single category.		28
Creating and Producing		
Note: MUSI 1230 is not a prerequisite for the following courses:		
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2208	Jazz Improvisation	
MUSC 2210	Introduction to Songwriting	
MUSC 2211	Advanced Songwriting	
MUSI 2101	Demo Production for Songwriters	
MUSI 2232	Music Recording 1	
MUSI 2331	Music Recording 2	
MUSI 3341	Music Recording 3—Mixing and Mastering	
MUST 1220	Introduction to Music Technology	
Legal Aspects		
Note: MUSI 1230 is a prerequisite for the following courses:		
MUSI 2231	Music Licensing for Media	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2330	Performing Arts Administration	
MUSI 2332	Music Publishing and Royalties	
MUSI 2341	Music Supervision 1	
Music Business and Management		
MUSI 3332	Artist Management	
MUSI 3333	The Record Industry	
MUSI 3338	Music Industry Marketing and Promotion	
MUSI 3340	Concert Promotion and Venue Management	
MUSI 4530	Music Entrepreneurship	
Music Industry Studies		
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSC 3360	Ethnography and the Arts	
MUSI 2234	Festivals	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
MUSI 4601	Seminar in Music Industry	

Business Course Requirements

Code	Title	Hours
Economics		
ECON 1116	Principles of Microeconomics	4
Accounting		
ACCT 1209	Financial Accounting and Reporting	4
Business Elective		

Complete one business course from the following subject areas:	4
ACCT, BUSN, ENTR, FINA, HRMG, INTB, MGMT, ORGB, MGSC, MISM, MKTG, SCHM, or STRT	

Capstone for Music Industry

Code	Title	Hours
Complete one of the following:		4
MUSI 4530	Music Entrepreneurship	
MUSI 4601	Seminar in Music Industry	

Music Credit and Grade Requirement

Complete 76 semester hours in the major.

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ACCT 1209	4	Music in context course	4	Vacation	
MUSC 1000	1	ECON 1116	4	Elective	4		
MUSC 1002 and MUSC 1003	4	MUSC 1201	4				
MUSC 1119	4	MUSI elective	4				
MUSI 1230	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
MUSI 1204	4	Elective (online)	4			Elective	4
MUSI elective	4					or Dialogue of Civilizations	
MUSI elective	4						
Elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Music in context course	4	Co-op		Co-op		Elective	4
Business elective	4	Elective (online)	4			Elective	4
MUSI elective	4					or Dialogue of Civilizations	
MUSI elective	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3314	4	Music in context course	4
Music in context course	4	MUSI capstone	4
MUSI elective	4	MUSI elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ACCT 1209	4	Elective	4	Vacation	0
MUSC 1000	1	ECON 1116	4	Elective	4		
MUSC 1002 and MUSC 1003	4	MUSC 1201	4				
MUSC 1119	4	MUSI elective	4				
MUSI 1230	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSI 1204	4	EEAM 2000	1	Vacation	0	Co-op 1	0
Music in context course	4	Music in context course	4				
MUSI elective	4	Business elective	4				
Elective	4	MUSI elective	4				
		Elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op 1	0	Music in context course	4	Elective	4	Co-op 2	0
		MUSI elective	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op 2	0	Music in context course	4	Vacation		Co-op 3	0
		MUSI elective	4				
		MUSI elective	4				
		Elective	4				
	0		**16**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op 3	0	MUSI capstone	4
		MUSI elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ACCT 1209	4	Elective	4	Vacation	0
MUSC 1000	1	ECON 1116	4	Elective	4		
MUSC 1002 and MUSC 1003	4	MUSC 1201	4				
MUSC 1119	4	MUSI elective	4				
MUSI 1230	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1	0	Co-op 1	0	Elective	4
MUSI 1204	4					Elective	4
Music in context course	4						
MUSI elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Music in context course	4	Co-op 2	0	Co-op 2	0	Vacation	
Business elective	4						
MUSI elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Music in context course	4	Co-op 3	0	Co-op 3	0	Vacation	0
MUSI elective	4						
MUSI elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Music in context course	4	MUSI capstone	4
MUSI elective	4	MUSI elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Music with Concentration in Music Technology, BS

The Bachelor of Science in Music with Concentration in Music Technology focuses on the interdisciplinary application of creative audio technologies to a broad range of outcomes, including analog/digital systems, hardware and software design, musical instrument design, audio synthesis and signal processing, human-computer interaction, and innovative artistic applications of music technology. Students receive fundamental training in music and music technology before embarking on curricular offerings that are in accordance with their interests. An emphasis is maintained throughout on imaginative exploration, collaboration across disciplines, and real-world experience.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

- NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Analyzing and Using Data (AD) are met through the major course requirements.
- NUpath requirements Differences and Diversity (DD) and Formal and Quantitative Reasoning (FQ) may be met through electives in the major.
- NUpath requirements Natural and Designed World (ND), Societies and Institutions (SI), and Ethical Reasoning (ER) must be met through general electives.

General Music Requirements

Code	Title	Hours
Introduction to College		
MUSC 1000	Music at Northeastern	1
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4
Complete two of the following:		8
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition	
MUSC 3541	Music Analysis Seminar	
Music in Context		
A grade of C or higher is required. Complete one from each of these categories: western art music, global music/ethnomusicology, contemporary/popular music, and creative. Of the courses from western art music, global music/ethnomusicology, contemporary/popular music, at least two must be at the 2000 level or higher. Courses may not double count across these areas. Many, but not all, music in context courses at the 2000 level or higher fulfill the writing-intensive in the discipline requirement. Please check writing-intensive status of courses as needed.		
Introductory Class		
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Western Art Music		
Complete one of the following:		4
MUSC 1100	Topics in Western Music	
MUSC 1116	Beethoven	
MUSC 1144	Music and Technology: Stone Age to Digital Age	
MUSC 2105	Songs That Made History	
MUSC 2312	Topics in Western Art Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2380	The World of Choral Music	

MUSC 3352	Sounding Human	
Global Music/Ethnomusicology		
Complete one of the following:		4
MUSC 1129	Music of the Middle East	
MUSC 1137	Topics in Diverse Musical Cultures	
MUSC 2101	Black Popular Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2330	Musical Communities of Boston	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Contemporary/Popular Music		
Complete one of the following:		4
MUSC 1112	Jazz	
MUSC 1113	Film Music	
MUSC 1141	Wired for Sound	
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Industry		
Complete one of the following, as long as prerequisites have been met:		4
MUSI 1230	Introduction to Music Industry	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2331	Music Recording 2	
Music Technology Requirements		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2102	Composing with Digital Technologies	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete three of the following:		12
MUSC 4510	Music and the Brain Research	
MUST 2320	Sound Design	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	

MUST 4610	Composition for Electronic Instruments	
Capstone		
MUST 4611	Music Technology Capstone/Senior Recital	4

Supporting Courses

Code	Title	Hours
College Elective		
Complete one of the following:		4
ARTD 2100	Narrative Basics	
ARTD 3480	Video: Sound and Image	
ARTF 2220	Movement and Time	
ARTF 2223	Experience and Interaction	
GAME 1110	Games and Society	
GAME 2500	Foundations of Game Design	
MSCR 1100	Film 101	
MSCR 1220	Media, Culture, and Society	
MSCR 3600	Film Theory	
THTR 1131	Introduction to Technical Theatre	
THTR 1270	Introduction to Theatrical Design	
THTR 2370	Lighting Design	

Music Credit and Grade Requirements

Complete 72 semester hours in the major.

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

129 total semester hours required

Plan of Study

Sample Plans of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MUSC 1201	4	CAMD elective	4	Vacation	
MUSC 1000	1	MUSC 2350	4	Elective	4		
MUSC 1001 or 1002 ***and*** 1003	4	Music in context course: Western	4				
MUSC 1119	4	Elective	4				
MUST 1220	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective (Dialogue of Civilization possible)	4
MUSC 1202	4	Elective (online)	4	Elective (online)	4	Elective (Dialogue of Civilization possible)	4
MUST 2431	4						
Music in context course: Ethnomusicology	4						
Music theory/composition elective	4						
	17		**4**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUST 2102	4	Co-op		Co-op		Elective (Dialogue of Civilization possible)	4
Music industry elective	4					Elective (Dialogue of Civilization possible)	4
Music industry elective	4						
Music technology elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3314	4	MUST 4611	4
Music technology elective	4	Elective	4
Music technology elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MUSC 1202	4	Vacation		Vacation	0
MUSC 1000	1	MUSC 2350	4				
MUSC 1002 and MUSC 1003	4	Music in context: Western	4				
MUSC 1201	4	Elective	4				
MUST 1220	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 2350	4	Music in context: Contemporary	4	Vacation		Vacation	
MUST 2102	4	Music theory/composition elective	4				
MUST 2431	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Music in context: Ethnomusicological	4	CAMD elective	4	Vacation		Vacation	
Music industry elective	4	Elective	4				
Music technology elective	4	Elective	4				
Music technology elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Music technology restricted elective	4	MUST 4611	4
Elective	4	Elective	4
Elective	4	Elective	4

Elective	4	Elective	4
	16		**16**

Total Hours: 129

Computer Science and Music with Concentration in Music Technology, BS

The computer science and music combined major with concentration in music technology focuses on the creative application of sound and music technologies to a broad range of artistic, social, and industrial purposes. An emphasis is maintained throughout on imaginative exploration, collaboration across disciplines, and real-world experience. It is designed to give students a firm foundation in music and computing for digital audio technologies. This program is recommended for students with a strong background in music prior to entering Northeastern.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or MUSC 1000	Music at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction (Integrative)	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Music Courses

Code	Title	Hours
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4

Complete one of the following:		4
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition (Music Perception and Cognition)	
MUSC 3541	Music Analysis Seminar	
Music in Context		
Select one of the following for four semester hours:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Contemporary / Popular Music		
Complete one of the following:		4
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Technology		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2102	Composing with Digital Technologies	4
MUST 2431	Computer Music Fundamentals	4
Music Industry		
Complete one of the following:		4
MUSI 1230	Introduction to Music Industry	
MUSI 2331	Music Recording 2	
Music Technology Electives		
Complete two of the following:		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	
Music Technology Capstone		
MUST 4611	Music Technology Capstone/Senior Recital	4

Foundations of Psychology

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4

Computing and Social Issues

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	

CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
ENGL 2150	Literature and Digital Diversity
HIST 2220	History of Technology
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Music Technology Grade Requirement

Students must maintain at least a 2.667 GPA (B- average) in the requirements of the music half of the combined major (MUSC, MUSI, and MUST courses) and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4

CS 1800 and CS 1802	5	MUSC 1202 (*)	4	PSYC 1101	4	Elective	4
CS 2500 and CS 2501	5	MUSC 2350	4				
ENGW 1111	4	MUST 1220 (*)	4				
MUSC 1201 (*)	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		ENGW 3302, 3314, or 3315	4
CS 3000	4					Elective	4
CS 3200	4						
MUSC 1001 or 1002 ***and*** 1003	4						
MUST 2431	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 2111, 3541, or 3300	4	Co-op	0	Co-op	0	Elective	4
Contemporary music requirement (*)	4					Elective	4
Khoury Elective	4						
Music technology elective (*)	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	IS 4300	4
MUST 2102	4	MUST 4611 (*)	4
Computing and Social Issues	4	Music industry elective	4
Khoury elective	4	Music technology elective	4
	16		**16**

Total Hours: 134

* Indicates course must be taken in the term listed.

Electrical Engineering and Music with Concentration in Music Technology, BSEE

This intercollege combined major is designed for students who would like to explore their interest in music technology while earning the benefit of a Bachelor of Science degree in electrical engineering. The music industry relies heavily on electronic technology in the production (e.g., studio and recording technology); performance (e.g., musical instruments, stage technology); and distribution (e.g., audio file formats, encoding) of music. The program is designed to give students a firm foundation in digital and analog audio electronics and to learn the breadth and depth of the convergence between electrical engineering and music technology.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Societies and Institutions (SI) and Differences and Diversity (DD) are not explicitly satisfied by required engineering courses. Students are responsible for satisfying these requirements with general electives.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Electrical Engineering Fundamentals		
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	5
EECE 2520	Fundamentals of Linear Systems	4
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	5
Computer Engineering Fundamentals		
Complete one of the following. If more than one computer engineering fundamentals course is taken, it may count as a technical elective:		4-5
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2560	Fundamentals of Engineering Algorithms	
Electrical Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
Technical Electives		
Students can register for EECE 4991 / EECE 4992 / EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most one of these courses (4 semester hours) can be taken in a semester.		
Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following. If EECE 5697 is taken, students are required to complete a music elective.		8
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2750	Enabling Engineering	
EECE 3324	Computer Architecture and Organization	
EECE 3410	Electronic Design	

EECE 4512	Healthcare Technologies: Sensors, Systems, and Analysis	
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
EECE 3468	Noise and Stochastic Processes	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Music Requirements

Code	Title	Hours
Music Theory		
Complete one of the following pairs:		8
MUSC 1119 and MUSC 1201	Fundamentals of Western Music Theory and Music Theory 1	
MUSC 1201 and MUSC 1202	Music Theory 1 and Music Theory 2	
MUSC 1202 and MUSC 3541	Music Theory 2 and Music Analysis Seminar	
Required Context Course		
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Music in Context		
Complete one of the following:		4
INAM 6360	Ethnographic Methods and the Arts	
MUSC 2101	Black Popular Music	
MUSC 2105	Songs That Made History	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2312	Topics in Western Art Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Acoustics or Music Elective		

Complete one of the following. If EECE 5697 is taken, students are required to complete a music elective.		4
MUSC 2350	Acoustics and Psychoacoustics of Music	
MUSC 2000 to MUSC 5999		
Music Technology		
MUST 1220	Introduction to Music Technology	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete two of the following. Other appropriate MUST courses will be considered by petition to fulfill this category.		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
2 semester hours from the following course count toward this requirement:		2
EECE 3468	Noise and Stochastic Processes	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses.		4

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

Minimum 2.000 GPA required in EECE courses

Music Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

137 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2341	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MUST 1220 (AD)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2160	4	Vacation	0	Co-op	0
EECE 2150 (AD)	5	ENCP 2000	1				
MATH 2321 (FQ)	4	Select from the following:	4				
MUST 2431 (FQ, AD)	4	MUSC 1001					
		MUSC 1002 and MUSC 1003					
		EE fundamentals	4				
		EE fundamentals	5				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	Vacation	0	EECE 3468	4
		ENGW 3302 or 3315 (WD)	4			EECE 4791 (EI, WI, CE)	1
		CE fundamentals	4			General elective	4
		EE fundamentals	5				
		EECE technical elective	4				
	0		**18**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 4792 (EI, WI, CE)	4	EECE technical elective	4
Music technology elective	4	Music in context	4
Music technology elective	4	Music elective	4

Music theory course	4	Music theory course	4
	16		**16**

Total Hours: 137

FIVE YEARS, THREE CO-OPS IN SPRING / SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	MUST 1220 (AD)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	Co-op		Co-op		Vacation	
ENCP 2000	1						
MATH 2341	4						
MUST 2431 (FQ, AD)	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2150 (AD)	5	Co-op		Co-op		ENGW 3302 or 3315 (WD)	4
EECE 2160	4					General elective	4
MATH 2321 (FQ)	4						
MUSC 1002 and MUSC 1003	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op		Co-op		EECE 3468	4
CE fundamentals	4					EECE 4791 (EI, CE, WI)	1
EE fundamentals	4					ECE technical elective	4
EE fundamentals	5						
Music theory course	4						
	18		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
EECE 4792 (EI, CE, WI)	4	ECE technical elective	4
EE fundamentals	5	Music in context	4
Music technology elective	4	Music elective	4
Music technology elective	4	Music theory course	4
	17		**16**

Total Hours: 137

Notes:

The capstone design courses are taken as follows:

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring

... or...

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall.

Game Design and Music with Concentration in Music Technology, BS

The game design and music combined major with a concentration in music technology is designed to prepare students to manage all aspects of music and sound design integral to the creative process in game design. Students focus on the digital sound technologies, audiovisual integration techniques, and collaborative skills, grounded in real-world experience, that are necessary to apply one's musical imagination effectively in a game design environment. Also emphasized are the aesthetic, expressive, psychological and social perspectives essential to meaningful engagement across a broad range of applications in the game industry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Analyzing/Using Data (AD), Interpreting Culture (IC), Natural/Designed World (ND), Differences/Diversity (DD), Writing-Intensive (WI), and Capstone Experience(CE) are met through the major course requirements. All other NUpath requirements must be met through electives.

Game Design Courses

Code	Title	Hours
ARTF 1000	Art and Design at Northeastern	1
Game Design Required		
GAME 1110	Games and Society	4
GAME 2500	Foundations of Game Design	4
GAME 2950	Game Studio	4
GAME 3400	Level Design and Game Architecture	4
GAME 3700	Rapid Idea Prototyping for Games	4
GAME 3800	Game Concept Development	4
Art + Design Electives		
Complete four courses from the following:		16
Any course in ARTD, ARTE, ARTF, ARTG, ARTH, and GAME subject areas as long as prerequisites have been met.		
If GAME 4000 Topics in Game Design or ARTD 3000 Topics in Media Arts (or any other topics course in the subjects listed above) is completed more than once, multiple completions may be allowed toward the electives.		

Music Requirements

Code	Title	Hours
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4
Complete two of the following:		8
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition	
MUSC 3541	Music Analysis Seminar	
MUST 2320	Sound Design	
Music in Context		
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Contemporary / Popular Music		
Complete one of the following:		4

MUSC 2101	Black Popular Music	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Technology Requirements		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2102	Composing with Digital Technologies	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete two of the following:		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	

Integrative Requirement

Code	Title	Hours
Note: MUST 1220 is already required in the Music Technology Requirements section.		
MUST 1220	Introduction to Music Technology	
Capstone		
GAME 4700	Game Design Capstone	4
MUST 4611	Music Technology Capstone/Senior Recital	4

Combined Major Credit Requirement

Complete 96 semester hours in the major.

Music Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ARTF 1000 or MUSC 1000	1	GAME 2500	4	Art + design elective	4	Vacation	0
ENGW 1111	4	MUSC 1202	4	Art + design elective	4		
GAME 1110	4	MUSC 2350	4				
MUSC 1201	4	MUST 1220	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		ENGW 3302	4
GAME 2950	4	Elective (online)	4			Art + design elective	4
GAME 3400	4						
MUSC 1002 and MUSC 1003	4						
MUST 2102	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
GAME 3700	4	Co-op		Co-op		Elective	4
MUSC 3541, 2111, or 3300	4	Elective (online)	4			Elective	4
MUST 2431	4						
Contemporary music requirement	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
GAME 3800	4	GAME 4700	4
MUSC 3541, 2111, or 3300	4	Computing and social issues	4
Art + design elective	4	Music technology elective	4
Music technology elective	4	Elective	4
	16		**16**

Total Hours: 130

Music and Communication Studies with Concentration in Music Industry, BS

The Bachelor of Science in Music and Communication Studies with Concentration in Music Industry, the first such undergraduate program offered in Boston, is designed for students with an interest in all aspects of the music industries, including songwriting, recording, production, technology, products, label operations, promotion, marketing, social media, management, finance, economics, data analytics, legal issues, licensing, and intellectual property. Our program encourages learners to become entrepreneurial thought leaders and ethical change agents in the music industries. Communication studies offers students an opportunity to obtain the communication skills and the understanding of the communication process required to thrive in a complex and changing society.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Differences and Diversity (DD) may be met through electives in the major.

Music Industry Requirements

Code	Title	Hours
Introduction to College		
MUSC 1000	Music at Northeastern	1
Music Core		
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Music Theory Placement		
All students must take a theory placement exam. Students who do not place into MUSC 1201 must first take the following:		
MUSC 1119	Fundamentals of Western Music Theory	4
Music Theory Requirement		
MUSC 1201	Music Theory 1	4
Introductory Music Industry		
MUSI 1230	Introduction to Music Industry	4
Music in Context		
Complete one course from one of the following categories:		4
Western Art Music		
MUSC 2105	Songs That Made History	
MUSC 2312	Topics in Western Art Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
Global Music/Ethnomusicology		
MUSC 2101	Black Popular Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2330	Musical Communities of Boston	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	

MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Contemporary/Popular Music		
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
MUSI 3540	Special Topics in Music Industry	
Music Industry Electives		
Complete three of the following:		12
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2210	Introduction to Songwriting	
MUSC 2211	Advanced Songwriting	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSI 1204	Analyzing Popular Genres	
MUSI 2101	Demo Production for Songwriters	
MUSI 2231	Music Licensing for Media	
MUSI 2232	Music Recording 1	
MUSI 2234	Festivals	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2330	Performing Arts Administration	
MUSI 2331	Music Recording 2	
MUSI 2332	Music Publishing and Royalties	
MUSI 2341	Music Supervision 1	
MUSI 2540	Special Topics in Music Industry	
MUSI 3332	Artist Management	
MUSI 3333	The Record Industry	
MUSI 3338	Music Industry Marketing and Promotion	
MUSI 3340	Concert Promotion and Venue Management	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
MUSI 4530	Music Entrepreneurship	
MUSI 4601	Seminar in Music Industry	
MUST 1220	Introduction to Music Technology	
Business Course		
ACCT 1209	Financial Accounting and Reporting	4

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Integrative Requirement

Code	Title	Hours
Complete one of the integrative options below:		4-8
If a communication studies course is taken, an additional music industry course is required. Choose from the list of music industry electives above.		
Music Option		
Complete one of the following:		
MUSI 4530	Music Entrepreneurship	
MUSI 4601	Seminar in Music Industry	
Communication Studies Option		
Complete two of the following. One communication studies course is required:		
COMM 4608	Strategic Communication Capstone	
or COMM 4625	Online Communities	
MUSC 2000 to MUSC 5999		

MUSI 2000 to MUSI 5999

MUST 2000 to MUST 5999

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Music Major Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Music and Communication Studies Credit Requirement

Complete 76 semester hours for the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	ENGW 1111	4	Elective	4	Elective	4
COMM 1112 or 2301	4	MUSC 1201	4	Elective	4	Elective	4
MUSC 1000 or COMM 1000	1	COMM foundational course	4				
MUSC 1002 and MUSC 1003	4	Music in context elective	4				
MUSI 1230	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM cluster course	4	EEAM 2000	1	Elective	4	Co-op	
Music industry elective	4	COMM elective	4	Elective	4		
Elective	4	Music industry elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ACCT 1209	4	COMM writing-intensive	4	Co-op	
		ENGW 3314 or 3315	4	COMM elective	4		
		COMM elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Capstone	4
		Integrative course	4
		COMM writing-intensive	4
		Music industry elective	4
	0		**16**

Total Hours: 130

Physics and Music with Concentration in Music Technology, BS

The combined major in physics and music provides a strong foundation in classical and modern physics, along with the physics of acoustic and digital audio-related phenomena, and studies of the various physical phenomena including electromagnetism, dynamics, building blocks of matter, energy, and radiation. It also provides students with a solid background in the interdisciplinary application of creative audio technologies to a broad range of outcomes, including analog/digital systems, hardware and software design, musical instrument design, audio synthesis and signal processing, human-computer interaction, and innovative artistic applications of music technology. The combined major allows students to learn how physical principles influence sound production and propagation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	5
Physics 2		
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	5
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
PHYS 5318	Principles of Experimental Physics	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

Music Requirements

Code	Title	Hours
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4
Complete one of the following:		4
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition	

MUSC 3541	Music Analysis Seminar	
MUST 2102	Composing with Digital Technologies	
Music in Context		
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Contemporary/Popular Music		
Complete one of the following:		4
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Technology		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete two of the following:		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	
Music Technology Capstone		
MUST 4611	Music Technology Capstone/Senior Recital	4

Physics/Music Integrative Requirement

Code	Title	Hours
Integrative Course Requirement		
MUSC 2350	Acoustics and Psychoacoustics of Music	4

Physics and Music Combined Major Credit Requirement

Complete a minimum of 98 semester hours in the major.

Music Technology Major Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

131 total semester hours required

Plan of Study

Note on Physics Courses in Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, **depending on the year of entry for that student.**

See course offering schedule at the end of the plans of study.

Please contact your academic advisor for additional information and plans of study.

FIVE YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	Vacation		Vacation	
MATH 1341	4	MUST 1220	4				
Select one of the following:	4	PHYS 1165	4				
MUSC 1001		PHYS 1166	1				
MUSC 1002 and MUSC 1003		PHYS 1167	0				
PHYS 1000	1	Elective	4				
PHYS 1161	4						
PHYS 1162	1						
PHYS 1163	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation		Vacation on ODD years. See offering schedule for EVEN years.	
MUSC 1201	4	MUSC 1202	4				
PHYS 2303	4	MUSC 2350	4				
Elective	4	PHYS 3602	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op		Co-op		PHYS 3600	4
MUSC 3541, 2111, or 3300	4					PHYS 4305	4
MUST 2102	4						
MUST 2431	4						
PHYS 2371	3						
PHYS 2372	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 3541, 2111, or 3300	4	Co-op		Co-op		Vacation	
MUST 3540	4						
PHYS 4115	4						
Music elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
ENGW 3307	4	MUST 4611	4
MUST 4610	4	PHYS 5318	4
Elective	4		

Elective	4						
	16		**8**				

Total Hours: 132

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	Vacation		Vacation	
MATH 1341	4	MUST 1220	4				
Select one of the following:	4	PHYS 1165	4				
MUSC 1001		PHYS 1166	1				
MUSC 1002 and MUSC 1003		PHYS 1167	0				
PHYS 1000	1	Elective	4				
PHYS 1161	4						
PHYS 1162	1						
PHYS 1163	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation		PHYS 3600	4
MUSC 1201	4	MUSC 1202	4			Elective in ODD years, PHYS 4305 in EVEN years	4
PHYS 2303	4	MUSC 2350	4				
PHYS 2371	3	PHYS 3602	4				
PHYS 2372[3]	1						
	16		**16**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op		Co-op		ENGW 3307	4
MUSC 3541, 2111, or 3300	4					PHYS 4305 (in EVEN years, elective in ODD years)	4
MUST 2102	4						
MUST 2431	4						
PHYS 4115	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MUSC 3541, 2111, or 3300	4	MUST 4611	4
MUST 3540	4	PHYS 5318	4
MUST 4610	4	Elective	4
Music elective	4	Elective	4
	16		**16**

Total Hours: 132

Offerings Schedule (Subject to Changes)

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2 (**take in year 2 or 3, whichever is even**)
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring

- PHYS 4305 offered every spring and summer 2 (**take in year 2 or 3, whichever is even**)
- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Psychology and Music, BS

This combined major educates students in psychology and music and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including such topics as cognition, psycholinguistics, perception, and the biological basis of behavior. Music courses provide a foundation in music theory, creative music in context, contemporary/ethnomusicology, music perception and cognition, and the psychoacoustics of music. Students completing this program of study should be able to understand how the two fields jointly contribute to explaining human behavior in the domain of music.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Difference and Diversity (DD), Ethical Reasoning (ER), and Advanced Writing in the Disciplines (WD) are not explicitly satisfied by the required courses. Difference and Diversity (DD) and Ethical Reasoning (ER) can be met through Music in Context. Students are responsible for satisfying any of these requirements not met within the major.

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3452	Sensation and Perception	4
PSYC 3458	Biological Psychology	4
PSYC 3464	Psychology of Language	4
PSYC 3466	Cognition	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission):		4-5
PSYC 2320	Statistics in Psychological Research	
Required Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Required Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	

PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Electives		
Complete two PSYC courses not used to fulfill requirements above.		8

Music Theory Requirements

Code	Title	Hours
Required Courses		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4

Music in Context

Code	Title	Hours
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Creative Category		
Complete one of the following 4-semester-hour courses, or choose four 1-semester-hour ensembles and/or lessons from the list:		4
Coursework Option		
MUSC 2150	Making a Musical: Analysis, Craft, and Creation [1]	
MUSC 2208	Jazz Improvisation	
MUSC 2209	Conducting	
MUSC 2210	Introduction to Songwriting	
MUSI 2232	Music Recording 1	
MUST 1220	Introduction to Music Technology	
MUST 1301	Introduction to Composition	
MUST 2320	Sound Design	
Ensembles and Lessons Option		
MUSC 1901	Music Lessons 1	
MUSC 1902	Music Lessons 2	
MUSC 1904	Chorus	
MUSC 1905	Concert Band	
MUSC 1906	Orchestra	
MUSC 1907	Wind Ensemble	
MUSC 1911	Jazz Ensemble	
MUSC 1912	Rock Ensemble	
MUSC 1913	Blues/Rock Ensemble	
MUSC 1914	Create Your Own Music	
MUSC 1915	Chamber Ensemble	
MUSC 1917	Jazz Choir and Combo	
MUSC 1918	World Music Ensemble	
MUSC 1919	Fusion Ensemble	
MUSC 1920	Pep Band	
Contemporary/Popular Music or Global Music/Ethnomusicology Category		
Complete one of the following:		4
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation [1]	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	

MUSC 2330	Musical Communities of Boston
MUSC 2331	Topics in Musical Communities
MUSC 2336	The Festival Experience
MUSC 2340	Divas, DJs, and Double Standards
MUSC 2351	Music, Sound, and the Screen
MUSC 2380	The World of Choral Music
MUSC 3352	Sounding Human
MUSC 3353	Music and the Racial Imagination
MUSC 3354	Sound and the Sacred
MUSC 3360	Ethnography and the Arts
MUSI 3351	Music and Social Justice
MUSI 3360	Global Music Industries in Context
MUSI 3401	Hip Hop in the Music Industry

[1] MUSC 2150 can be used to meet either the creative or the ethnomusicology/contemporary requirement but not both.

Music Requirements

Code	Title	Hours
MUSC 2350	Acoustics and Psychoacoustics of Music	4
or INAM 3200	Creative Cognition	
MUSC 3300	Music Perception and Cognition	4
Capstone		
MUSC 4510	Music and the Brain Research	4

Music Electives

Code	Title	Hours
Complete two courses from MUSC, MUSI, or MUST not used to fulfill the requirements above.		8

Other Requirements Outside Major

Code	Title	Hours
PSYC 1000	Psychology at Northeastern	1
or MUSC 1000	Music at Northeastern	
EESC 2000	Professional Development for Co-op	1
or EEAM 2000	Professional Development for Co-op	
ENGW 1111	First-Year Writing	4
Complete one of the following:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1241	Calculus 1	

Bridge/Integrative Courses

Code	Title	Hours
Note: MUSC 3300 is already required above.		
MUSC 3300	Music Perception and Cognition	

BS Psychology/Music Major

Complete 76 semester hours in the major.

Music Major Grade Requirement

Students must maintain at least a 2.667 grade-point average (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1213	4	PSYC 3466	4	Open elective	4
PSYC 1101	4	MUSC 1201	4	Music elective	4	Open elective	4
MUSC 1000 or PSYC 1000	1	PSYC 2320	4				
MUSC 1001 or 1002 ***and*** 1003	4	NUpath ER	4				
NUpath DD	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 1202	4	EESC 2000 or EEAM 2000	1	PSYC elective	4	Co-op	0
MUSC 3300	4	MUSC 2350 or INAM 3200	4	Open elective	4		
PSYC 3458	4	PSYC 3464	4				
Open elective	4	Contemporary/ethno course	4				
		Open elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MUSC 4510	4	PSYC lab	4	Co-op	0
		PSYC 3452	4	PSYC elective	4		
		Creative music course	4				
		Open elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Music elective	4
		NUpath WD	4
		PSYC seminar	4
		Open elective	4
	0		**16**

Total Hours: 130

Ethnomusicology, Minor

The minor in ethnomusicology offers students an expansive understanding of music in its diverse contexts, prioritizing global engagement, culturally-situated knowledge, and community-centered research. The foundation of the minor is a unique introductory course, Music in Everyday Life (MUSC 1001), which investigates many dimensions of the musical experience and music's connections to society. Students select in-depth electives that focus on the music of a region or a particular musical genre, the global circulation of music, or music's relationship to other aspects of the human experience, such as philosophy and aesthetics, identity and culture, society and politics, economics and social justice. The minor culminates in a course that invites students to conduct their own ethnographic research projects.

Ethnomusicological studies would enrich many programs or degrees, including but not limited to Africana studies; sociology; anthropology; Asian studies; Middle Eastern studies; Jewish studies; world language studies; cultural studies; women, gender, and sexuality studies; Latin American studies; religion; urban studies; Art + Design; cinema studies; communication studies; international affairs; theatre; political science; or health sciences. Music majors may also add this minor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
MUSC 2330	Musical Communities of Boston	4

Ethnomusicology Electives

Code	Title	Hours
Complete two of the following. At least one must be at 2000-level or higher:		8
MUSC 1129	Music of the Middle East	
MUSC 1137	Topics in Diverse Musical Cultures	
MUSC 2101	Black Popular Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	

GPA Requirement

2.000 GPA required in the minor. Students must complete all required MUSC and MUSI courses with a grade of at least C.

Music, Minor

The minor in music offers students an opportunity to explore electives in music along with a music theory course appropriate to the student's level of experience. The foundation of the minor is a unique introductory course, Music in Everyday Life (MUSC 1001), which investigates many dimensions of the musical experience and music's contributions to society. The electives cover a wide array of historical studies and approaches to musical creation; one of the elective requirements can be satisfied through a combination of ensembles and lessons.

The minor in music would enrich many programs or degrees, including but not limited to historical studies; sociology; anthropology; world language studies; cultural studies; women, gender, and sexuality studies; urban studies; Art + Design; cinema studies; communication studies; international affairs; theatre; political science; or health sciences.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

A grade of C or better is required in all music courses.

Music Theory and Musicianship

Code	Title	Hours
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Complete one of the following (music theory placement test permits placement into MUSC 1201 Music Theory 1 or higher):		4
MUSC 1119	Fundamentals of Western Music Theory	
MUSC 1201	Music Theory 1	
MUSC 1202	Music Theory 2	
MUSC 2350	Acoustics and Psychoacoustics of Music	
MUSC 3300	Music Perception and Cognition	
MUSI 1204	Analyzing Popular Genres	

Music Literature Electives

Code	Title	Hours
Electives		
Complete two of the following. Four semesters of ensembles and/or lessons may be substituted for one elective. At least one 2000-level course or above must be taken.		8
MUSC 1111	Rock Music	
MUSC 1112	Jazz	
MUSC 1113	Film Music	
MUSC 1116	Beethoven	
MUSC 1118	Music Therapy 1	
MUSC 1129	Music of the Middle East	
MUSC 1137	Topics in Diverse Musical Cultures	
MUSC 1141	Wired for Sound	
MUSC 1144	Music and Technology: Stone Age to Digital Age	
MUSC 2101	Black Popular Music	
MUSC 2105	Songs That Made History	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2209	Conducting	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2312	Topics in Western Art Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2330	Musical Communities of Boston	
MUSC 2331	Topics in Musical Communities	

MUSC 2336	The Festival Experience
MUSC 2340	Divas, DJs, and Double Standards
MUSC 2351	Music, Sound, and the Screen
MUSC 2380	The World of Choral Music
MUSC 3352	Sounding Human
MUSC 3353	Music and the Racial Imagination
MUSC 3354	Sound and the Sacred
MUSC 3360	Ethnography and the Arts
MUSI 3351	Music and Social Justice
MUSI 3360	Global Music Industries in Context
MUSI 3401	Hip Hop in the Music Industry
Lessons and Ensembles	
All lessons and ensembles are 1 credit:	
MUSC 1901	Music Lessons 1
MUSC 1902	Music Lessons 2
MUSC 1904	Chorus
MUSC 1905	Concert Band
MUSC 1906	Orchestra
MUSC 1907	Wind Ensemble
MUSC 1911	Jazz Ensemble
MUSC 1912	Rock Ensemble
MUSC 1913	Blues/Rock Ensemble
MUSC 1914	Create Your Own Music
MUSC 1915	Chamber Ensemble
MUSC 1917	Jazz Choir and Combo
MUSC 1918	World Music Ensemble
MUSC 1919	Fusion Ensemble
MUSC 1920	Pep Band

GPA Requirement

2.000 GPA required in the minor. Students must complete all required music courses with grades of C or better.

Music Composition, Minor

The minor in composition offers student composers at all levels a concentrated opportunity to build composition skills. The minor includes a foundation in music theory and introduction to compositional approaches, composition lessons, and additional course work to broaden the student composer's understanding and appreciation of the intersection of music and culture.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4
MUST 1301	Introduction to Composition	4
MUSC 1903	Composition Lessons	1

Elective

Code	Title	Hours
Complete one of the following:		4
MUSC 3541	Music Analysis Seminar	
MUST 1220	Introduction to Music Technology	
MUST 2320	Sound Design	

GPA Requirement

2.000 GPA required in the minor. *Students must complete all required music courses with grades of at least C.*

Music Industry, Minor

The music industry minor is designed for students with an interest in fields such as songwriting, recording, production, technology, products, label operations, promotion, marketing, social media, management, finance, economics, data analytics, legal issues, licensing, and intellectual property. Our program encourages learners to become entrepreneurial thought leaders and ethical change agents in the music industries.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

A C grade or better is required in all music courses.

Music Core

Code	Title	Hours
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	

Music Industry

Code	Title	Hours
MUSI 1230	Introduction to Music Industry	4

Music Industry Electives

Code	Title	Hours
Complete three of the following:		12
MUSC 1119	Fundamentals of Western Music Theory	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2210	Introduction to Songwriting	
MUSC 2211	Advanced Songwriting	
MUSC 2310	Popular Music Since 1945	
MUSC 2336	The Festival Experience	
MUSC 3353	Music and the Racial Imagination	
MUSI 2101	Demo Production for Songwriters	
MUSI 2231	Music Licensing for Media	
MUSI 2232	Music Recording 1	
MUSI 2234	Festivals	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2332	Music Publishing and Royalties	
MUSI 2341	Music Supervision 1	
MUSI 2540	Special Topics in Music Industry	
MUSI 3332	Artist Management	
MUSI 3333	The Record Industry	
MUSI 3338	Music Industry Marketing and Promotion	
MUSI 3340	Concert Promotion and Venue Management	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
MUSI 4530	Music Entrepreneurship	
MUSI 4601	Seminar in Music Industry	
MUST 1220	Introduction to Music Technology	

GPA Requirement

A GPA of 2.000 is required in the minor.

Music Performance, Minor

The minor in music performance offers students an opportunity to improve on their instrument or voice through ensemble performance, private lessons, recitals, and instruction in music theory. Students also take an elective in music that can be used to explore a genre, musical culture, or composer related to the student's performance area or can be used to broaden the student's musical horizons beyond their area of focus.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Acceptance into the minor requires an audition.

Music Core

A grade of C or higher is required in MUSC and MUSI courses.

Code	Title	Hours
Select one of the following for four semester hours:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
MUSC 1201	Music Theory 1	4

Music Lessons

Code	Title	Hours
Complete music lessons for a total of 4 semester hours (courses are repeatable):		4
MUSC 1901	Music Lessons 1	
MUSC 1902	Music Lessons 2	

Music Ensemble

Code	Title	Hours
Complete five music ensembles:		5
MUSC 1904	Chorus	
MUSC 1905	Concert Band	
MUSC 1906	Orchestra	
MUSC 1907	Wind Ensemble	
MUSC 1911	Jazz Ensemble	
MUSC 1912	Rock Ensemble	
MUSC 1913	Blues/Rock Ensemble	
MUSC 1914	Create Your Own Music	
MUSC 1915	Chamber Ensemble	
MUSC 1917	Jazz Choir and Combo	
MUSC 1918	World Music Ensemble	
MUSC 1919	Fusion Ensemble	
MUSC 1920	Pep Band	

Music Electives

Code	Title	Hours
Complete one of the following:		4
MUSC 1111	Rock Music	
MUSC 1112	Jazz	
MUSC 1113	Film Music	
MUSC 1116	Beethoven	
MUSC 1118	Music Therapy 1	
MUSC 1129	Music of the Middle East	
MUSC 1137	Topics in Diverse Musical Cultures	
MUSC 1141	Wired for Sound	
MUSC 1144	Music and Technology: Stone Age to Digital Age	

MUSC 2101	Black Popular Music
MUSC 2105	Songs That Made History
MUSC 2111	Algebra and Geometry of Music
MUSC 2150	Making a Musical: Analysis, Craft, and Creation
MUSC 2208	Jazz Improvisation
MUSC 2209	Conducting
MUSC 2210	Introduction to Songwriting
MUSC 2211	Advanced Songwriting
MUSC 2310	Popular Music Since 1945
MUSC 2312	Topics in Western Art Music
MUSC 2313	Topics in Global Music Cultures
MUSC 2317	Punk Rock
MUSC 2320	40,000 Years of Music Technology
MUSC 2330	Musical Communities of Boston
MUSC 2331	Topics in Musical Communities
MUSC 2336	The Festival Experience
MUSC 2340	Divas, DJs, and Double Standards
MUSC 2350	Acoustics and Psychoacoustics of Music
MUSC 2351	Music, Sound, and the Screen
MUSC 2380	The World of Choral Music
MUSC 2420	Music Composition Seminar 1
MUSC 3300	Music Perception and Cognition
MUSC 3337	Writing about Music
MUSC 3352	Sounding Human
MUSC 3353	Music and the Racial Imagination
MUSC 3354	Sound and the Sacred
MUSC 3360	Ethnography and the Arts
MUSC 4510	Music and the Brain Research
MUSC 3541	Music Analysis Seminar
MUSI 3351	Music and Social Justice
MUSI 3401	Hip Hop in the Music Industry

Music Recitals

Code	Title	Hours
MUSC 3410	Recital 1	1
MUSC 4622	Recital 2	1

GPA Requirement

2.000 GPA required in the minor.

Music Recording, Minor

The minor in music recording offers students a chance to explore the theory and practice of recording from basic principles through studio sessions and mixing/mastering. An elective rounds out the minor, giving students an opportunity to learn about the intersection of recording and copyright, technology, entertainment, and other disciplines.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
MUSI 2232	Music Recording 1	4
MUSI 2331	Music Recording 2	4
MUSI 3341	Music Recording 3—Mixing and Mastering	4

Recording Elective

Code	Title	Hours
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2341	Music Supervision 1	
MUST 1220	Introduction to Music Technology	
MUST 2320	Sound Design	

GPA Requirement

2.000 GPA required in the minor. Students must complete all required music courses with grades of at least C.

Music Technology, Minor

The minor in music technology gives students an opportunity to explore the creative application of digital and analog audio technologies to a broad range of artistic, social, and industrial purposes, including experimental composition, film, video, theatre, game design, mobile applications, sound design for urban environments, musical instrument design, and beyond. An emphasis is maintained throughout on imaginative exploration, collaboration across disciplines, and real-world experience.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

A grade of C or better is required in all MUSC and MUST courses.

Required Courses

Code	Title	Hours
MUST 1220	Introduction to Music Technology	4
MUST 2431	Computer Music Fundamentals	4
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	

Music Technology Electives

Code	Title	Hours
Complete two of the following:		8
MUSC 2111	Algebra and Geometry of Music	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2350	Acoustics and Psychoacoustics of Music	
MUST 2320	Sound Design	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	

GPA Requirement

2.000 GPA required in the minor.

Performing Arts Administration, Minor

Connecting a range of College of Arts, Media and Design courses, this minor prepares students to work in nonprofit arts organizations such as theatre companies, concert venues, and performance centers. Students have an opportunity to develop valuable skills in artistic programming, marketing, organizational communication, public relations, community outreach, and the entertainment business.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Students pursuing a performing arts administration minor may double count up to one course between that minor and the student's declared major and other minors. Should a student place out of a course in a minor it must be replaced with another course.

Notes:

- No student may receive a theatre minor as a result of external transfer credit only.
- Music majors cannot use Performing Arts Administration (MUSI 2330) as a major elective due to double-counting policy outlined above.

Foundational Courses

Code	Title	Hours
Complete one of the following:		4
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
MUSI 1230	Introduction to Music Industry	
THTR 1101	Introduction to Theatre	

Required Course

Code	Title	Hours
MUSI 2330	Performing Arts Administration	4

Electives

Code	Title	Hours
Complete two of the following (prerequisites may apply):		8
AACE 6000	Arts and Culture Organizational Leadership	
COMM 1113	Business and Professional Speaking	
COMM 1231	Principles of Organizational Communication	
COMM 2350	Producing for the Entertainment Industry	
COMM 2650	The Business of Entertainment	
COMM 3451	Advertising Practices	
INAM 2000	Ethics in Creativity	
JRNL 3425	Public Relations Principles	
MUSI 2234	Festivals	
MUSI 2235	Copyright in the Creative Industries	
MUSI 3338	Music Industry Marketing and Promotion	
MUSI 3340	Concert Promotion and Venue Management	
THTR 2335	Boston Theatre Experience	

GPA Requirement

2.000 GPA required in the minor

Songwriting, Minor

The minor in songwriting offers students a chance to build songwriting skills through classes that focus on craft, collaboration, music theory, and songwriting business practice.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Music Theory		
Complete one of the following:		*4*
MUSC 1119	Fundamentals of Western Music Theory	
MUSC 1201	Music Theory 1	
MUSI 1204	Analyzing Popular Genres	
Songwriting		
MUSC 2210	Introduction to Songwriting	4
Songwriting Electives		
Complete two of the following:		*8*
MUSC 1001	Music in Everyday Life	
MUSC 2211	Advanced Songwriting	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSI 2101	Demo Production for Songwriters	
MUSI 2232	Music Recording 1	
MUSI 2235	Copyright in the Creative Industries	
MUSI 2331	Music Recording 2	

GPA Requirement

2.000 GPA required in the minor. Students must complete all required music courses with a grade of C or better.

Theatre

Website (https://camd.northeastern.edu/theatre/)

Antonio Ocampo-Guzman, MFA
Associate Professor and Chair

617.373.2244

The Department of Theatre is a hub for creative practice research anchored in values of generosity, integrity, respect, and rigor. We explore theatre and performance as a living art that engages across disciplines to generate new knowledge and new understanding. We blend a vibrant spirit of innovation with vigorous academic inquiry and foster significant interactions between disciplines to deliver a fuller educational experience.

Our students are actors, directors, designers, technicians, playwrights, stage managers, producers, and administrators who are interested in propelling the art form into the future. We offer them a transformative education that aligns collaborative theatre making (production, design, and performance) with academic study and practice-based research. Our students develop and hone the basic human literacies of creativity, collaboration, and communication through critical creative practice and a flexible curriculum that embraces diverse techniques, philosophies, and measures of success. By teaching the foundation of art as ethical responsibility, we prepare them for a promising future with vital and employable skills such as creative problem solving, active collaboration, and deep empathy.

We produce a variety of productions in the Studio Theatre and Ryder Theatre Lab, where students collaborate with faculty, staff, and professional guest artists to achieve the highest standard of professionalism. With more than 40 co-op partners around the globe, students can connect classroom and stage experiences with the professional world.

Programs

Bachelor of Arts (BA)

- Theatre (p. 519)
- Communication Studies and Theatre (p. 295)
- Cultural Anthropology and Theatre (p. 541)
- English and Theatre (p. 544)
- Media and Screen Studies and Theatre (p. 352)
- Theatre and Interaction Design (p. 249)
- Theatre and Journalism (p. 436)

Bachelor of Science (BS)

- Theatre (p. 524)
- American Sign Language and Theatre (p. 529)
- Computer Science and Theatre (p. 536)
- Media and Screen Studies and Theatre (p. 375)
- Psychology and Theatre (p. 1667)
- Theatre and Interaction Design (p. 252)

Minors

- Theatre (p. 571)
- Global Fashion Studies (p. 567)
- Improvisation and Storytelling (p. 395)
- Performing Arts Administration (p. 516)
- Playwriting (p. 570)
- Theatre, Performance, and Social Change (p. 573)
- Theatrical Design (p. 574)

Theatre, BA

The Department of Theatre is a vibrant community of students, staff, and faculty, guided by values of generosity, integrity, respect, and rigor. As a hub for creative practice research, we are dedicated to theatre and performance both as a living art and as an interdisciplinary system of inquiry.

Our bachelor degrees align collaborative theatre making (production, design, and performance) with academic study and practice-based research. We offer a broad experience in and a deep knowledge of theatre#as an interdisciplinary art form. Our program aims to prepare students to generate and communicate knowledge through innovative and imaginative creative practice research; to collaborate generously#and with integrity; to use the language#and practice of antiracist theatre; to enter professional contexts to create impactful, ethical, and socially responsible work#that advances social and racial justice; and to be informed citizens that grapple with the cultural, social, and ethical impacts theatre has on communities.

While we engage with the moment in which we live, we are constantly evolving, learning, and adapting.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Formal and Quantitative Reasoning (FQ), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Analyzing and Using Data (AD) must be met through general electives.

Theatre Major Requirements

A minimum grade of C is required for all THTR and INAM courses.

Code	Title	Hours
The following courses are recommended to be taken by the end of the fourth semester (third semester for transfer students):		
INAM 2000	Ethics in Creativity	4
THTR 1100	Production Experience 1	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4

Code	Title	Hours
Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1000	Theatre at Northeastern	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
THTR 4702	Capstone: Creative Practice Research Project	4

Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
THTR 3702	Rehearsal and Production	1
Theatre Texts and Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1220	Race, Power, and Performance	
THTR 2200	The American Black Theatre Experience	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Community Engaged Theatre		
Complete one of the following:		4
THTR 1215	Activism and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2340	Theatre and Society	
THTR 3100	Creative Storytelling for Social Engagement	
Advanced Courses		
Complete one of the following:		4
Students concentrating in performance should complete THTR 5300, THTR 5450, or THTR 3550.		
Students concentrating in production should complete THTR 3550, THTR 3670, or THTR 5700.		
THTR 3550	Directing for the Stage	
THTR 3670	Mixed-Media Performance Lab	
THTR 5300	Devised Theatre Project	
THTR 5450	Acting 3	
THTR 5700	Design for Immersive Performance	

Electives

Complete the following electives or complete one of the concentrations below (p. 521).

Code	Title	Hours
Complete four of the following:		16
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1150	Dance Performance and History: Modern to Hip Hop	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 1600	Movement: Embodied Approaches to Creativity	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Theatre Major Credit Requirement

Complete 60 semester hours in the major. The performance and production concentrations require 68 semester hours.

Program Requirement

132 total semester hours required

PERFORMANCE CONCENTRATION

A minimum grade of C is required for all theatre courses in the performance concentration.

Code	Title	Hours
Performance		
THTR 1600	Movement: Embodied Approaches to Creativity	4
THTR 2342	Acting 2	4
THTR 2600	Voice and Speech Training	4
Electives		
Complete three of the following:		12
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1150	Dance Performance and History: Modern to Hip Hop	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	

THTR 3400	Stage Combat (Designing Combat for the Stage)
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

PRODUCTION CONCENTRATION

A minimum grade of C is required for all theatre courses in the production concentration.

Code	Title	Hours
Design and Production		
Complete four of the following:		16
THTR 1230	The Evolution of Fashion and Costume	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 3670	Mixed-Media Performance Lab	
THTR 5700	Design for Immersive Performance	
Electives		
Complete two of the following:		8
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1235	Fashion and Costume Design in Film and Television	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 1600	Movement: Embodied Approaches to Creativity	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	

THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	INAM 2000	4	Elective	4	Vacation	
THTR 1000	1	THTR 1131	4	Elective	4		
THTR 1100	1	Theatre Texts and Context course	4				
THTR 1101	4	Theatre elective 1	4				
THTR 1120	4						
Elective	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1	0	Co-op 1	0	Foreign language	4
THTR 1270	4	Online elective	4			Elective	4
THTR 2000	1						
THTR 3325	4						
Community Engaged Theatre Course	4						
Elective	4						
	18		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 3702	1	Co-op 2	0	Co-op 2	0	Elective	4
Theatre elective 2	4	Online elective	4			Elective	4
Theatre elective 3	4						
Foreign language	4						
Elective	4						
	17		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Theatre elective 4	4	THTR 4702	4
Theatre elective 5	4	Theatre Advanced Course	4
Foreign language	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Theatre, BS

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Our bachelor degrees align collaborative theatre making (production, design, and performance) with academic study and practice-based research. We offer a broad experience in and a deep knowledge of theatre#as an interdisciplinary art form. Our program aims to prepare students to generate and communicate knowledge through innovative and imaginative creative practice research; to collaborate generously#and with integrity; to use the language#and practice of antiracist theatre; to enter professional contexts to create impactful, ethical, and socially responsible work#that advances#social and racial justice; and to be informed citizens that grapple with the cultural, social, and ethical impacts theatre has on communities.

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Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

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NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Formal and Quantitative Reasoning (FQ), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Analyzing and Using Data (AD) must be met through general electives.

Theatre Major Requirements

A minimum grade of C is required for all THTR and INAM courses.

Code	Title	Hours
The following courses are recommended to be taken by the end of the fourth semester (third semester for transfer students):		
INAM 2000	Ethics in Creativity	4
THTR 1100	Production Experience 1	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4

Code	Title	Hours
Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1000	Theatre at Northeastern	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
THTR 4702	Capstone: Creative Practice Research Project	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
THTR 3702	Rehearsal and Production	1
Theatre Texts and Context		

Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1220	Race, Power, and Performance	
THTR 2200	The American Black Theatre Experience	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Community Engaged Theatre		
Complete one of the following:		4
THTR 1215	Activism and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2340	Theatre and Society	
THTR 3100	Creative Storytelling for Social Engagement	
Advanced Courses		
Complete one of the following:		4
Students concentrating in performance should complete THTR 5300, THTR 5450, or THTR 3550.		
Students concentrating in design & production should complete THTR 3550, THTR 3670, or THTR 5700.		
THTR 3550	Directing for the Stage	
THTR 3670	Mixed-Media Performance Lab	
THTR 5300	Devised Theatre Project	
THTR 5450	Acting 3	
THTR 5700	Design for Immersive Performance	

Electives

Complete the following electives or complete one of the concentrations below (p. 526).

Code	Title	Hours
Complete four of the following:		16
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1150	Dance Performance and History: Modern to Hip Hop	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 1600	Movement: Embodied Approaches to Creativity	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	

THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Theatre Major Credit Requirement

Complete 60 semester hours in the major. The performance and production concentrations require 68 semester hours.

Program Requirement

132 total semester hours required

PERFORMANCE CONCENTRATION

A minimum grade of C is required for all theatre courses in the performance concentration.

Code	Title	Hours
Performance		
THTR 1600	Movement: Embodied Approaches to Creativity	4
THTR 2342	Acting 2	4
THTR 2600	Voice and Speech Training	4
Electives		
Complete three of the following:		12
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1150	Dance Performance and History: Modern to Hip Hop	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2993	Topics in Dance	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	

THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

PRODUCTION CONCENTRATION

A minimum grade of C is required for all theatre courses in the production concentration.

Code	Title	Hours
Design and Production		
Complete four of the following:		16
THTR 1230	The Evolution of Fashion and Costume	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 3670	Mixed-Media Performance Lab	
THTR 5700	Design for Immersive Performance	
Electives		
Complete two of the following:		8
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1235	Fashion and Costume Design in Film and Television	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 1600	Movement: Embodied Approaches to Creativity	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2993	Topics in Dance	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	
THTR 5450	Acting 3	
THTR 5700	Design for Immersive Performance	

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	INAM 2000	4	Elective	4	Vacation	0
THTR 1000	1	THTR 1131	4	Elective	4		
THTR 1100	1	Theatre texts and context	4				
THTR 1101	4	Theatre elective 1	4				
THTR 1120	4						
Elective	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1		Co-op 1	0	Elective	4
THTR 1270	4	Online elective	4			Elective	4
THTR 2000	1						
THTR 3325	4						
Community Engage Theatre Course	4						
Elective	4						
	18		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 3702	1	Co-op 2		Co-op 2		Elective	4
Theatre elective 2	4	Online elective	4			Elective	4
Theatre elective 3	4						
Elective	4						
Elective	4						
	17		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Theatre elective 4	4	THTR 4702	4
Theatre elective 5	4	Theatre Advanced Course	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

American Sign Language and Theatre, BS

This major is designed for students who want to combine an understanding of the American Deaf Community; its language and culture to the study and making of theatre, including performance, design; and production. It offers both classroom and experiential learning on the creative, social, and linguistic relationship between theatre and the American Deaf Community. Students may study acting, dramatic literature, and production design to develop the skills to be able to make theatre accessible and to understand and create theatre with individuals from Deaf communities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

American Sign Language Requirements

Code	Title	Hours
A grade of C or higher is required in all ASL required courses.		
American Sign Language Requirements		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
AMSL 3102	Advanced ASL 2	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Linguistics		
DEAF 2700	ASL Linguistics	4
LING 1150	Introduction to Language and Linguistics	4
Interpreting		
INTP 3500	The Interpreting Profession	2

Theatre Requirements

Code	Title	Hours
A grade of C or higher is required for all theatre courses.		
Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts and Context		
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 2200	The American Black Theatre Experience	
THTR 2983	Topics in Theatre History and Culture	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3200	Queer Theatre and Performance	
Community Engaged Theatre		
Complete one of the following:		4
THTR 1215	Activism and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2340	Theatre and Society	
THTR 3100	Creative Storytelling for Social Engagement	
Intermediate or Advanced Courses		
Complete one of the following:		4
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3670	Mixed-Media Performance Lab	
THTR 4345	Advanced Acting for the Camera	
THTR 5700	Design for Immersive Performance	

Integrative Requirement

Code	Title	Hours
Integrative Requirement		
INTP 3550	Interpreting Scripted Texts	4
INTP 3970	Research Methods for Interpreting and Translation	4
Complete one of the following:		4
INTP 4940	Interpreting Research Capstone	
THTR 4702	Capstone: Creative Practice Research Project	
Supporting Courses		
INTP 1000	American Sign Language at Northeastern	1
or THTR 1000	Theatre at Northeastern	
ENGW 1111	First-Year Writing	4
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
EEAM 2000	Professional Development for Co-op	1

Electives

Complete general electives to fulfill the program total semester hours requirement.

Combined-Major GPA Requirement

Minimum 2.750 GPA required in all ASL, DEAF, INTP courses.

A minimum grade of C is required for all THTR and INAM courses.

A minimum grade of C is required for all ASL courses.

Minimum 2.500 overall GPA required

Combined-Major Credit Requirement

Complete 92 semester hours in the major.

Program Requirement

130 total semester hours required

Plan of Study

Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 1101	4	AMSL 1102	4	Elective	4	Vacation	0
DEAF 1500	4	THTR 1120	4	Elective	4		
THTR 1100	1	DEAF 2500	4				
THTR 1101	4	INAM 2000	4				
INTP 1000	1						
ENGW 1111	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 2101	4	AMSL 2102	4	Elective	4	Vacation	0
LING 1150	4	DEAF 2700	4	Elective	4		
INTP 3500	2	THTR 1131	4				
THTR 1270	4	THTR text and context course	4				
THTR 2000	1						
	15		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 3325	4	Co-op		Co-op	0	Elective	4
INTP 3550	4					Elective	4
AMSL 3101	4						
THTR community engaged theatre course	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3315	4	THTR 4702 or INTP 4940	4
THTR intermediate or advanced 2	4	AMSL 3102	4
INTP 3970	4	Elective	4
	12		**12**

Total Hours: 130

Communication Studies and Theatre, BA

The Departments of Communication Studies and Theatre offer an interdisciplinary combined major that unites the practical skills and theories in communication studies with the artistic dimensions of theatre. The program provides both the creative study of theater performance, literature, playwriting, and directing with the ability to research and deliver a compelling speech and think critically and write effectively. The two disciplines unite in shared values of original personal expression, professional collaboration, and experiences in the cultural, social, and ethical impact of theatre as human communication.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Creative Expression/Innovation (EI), Societies and Institutions (SI), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Differences and Diversity (DD) may be met through electives in the major.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1000	Communication Studies at Northeastern	1
or THTR 1000	Theatre at Northeastern	
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	

COMM 3304	Communication and Inclusion
COMM 3320	Political Communication
COMM 3415	Communication Criticism
COMM 3445	Public Relations Principles
COMM 3500	Environmental Issues, Communication, and the Media
COMM 3501	Free Speech: Law and Practice
COMM 3530	Communication and Sexualities
COMM 3532	Theories of Conflict and Negotiation
COMM 4535	Nonverbal Social Interaction
COMM 4605	Youth and Communication Technology
COMM 4631	Crisis Communication and Image Management
Communication Studies Electives	
Complete three COMM courses.	12

Theatre Requirements

A minimum grade of C is required in all THTR & INAM courses.

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Choose one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Choose two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	

THTR 2400	Scenic Design
THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2993	Topics in Dance
THTR 2983	Topics in Theatre History and Culture
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirements

Code	Title	Hours
INAM 2000	Ethics in Creativity	4
Choose from one of the following:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
THTR 4702	Capstone: Creative Practice Research Project	

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

130 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000 or THTR 1000	1	COMM 1112 or 2301	4	Communicaton studies foundation course	4	Vacation	
COMM 1101	4	ENGW 1111	4	Communicaton studies elective	4		
THTR 1100	1	INAM 2000	4				
THTR 1101	4	THTR 1131	4				
THTR 1120	4						
Foreign language elective or THTR elective	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op #1	0	Co-op #1	0	Elective	4
THTR 2000	1					Elective	4
THTR 3325	4						
Communicaton studies cluster course	4						
Communicaton studies elective	4						

THTR Text, Community, & Social Context Course	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3314 or 3315	4	Comm writing intensive	4	Optional Co-op #2	0	Optional Co-op #2	0
THTR 1270	4	Comm elective	4				
THTR Elective	4	THTR Elective	4				
Foreign language or elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Communication studies writing-intensive	4	Integrative course	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

Computer Science and Theatre, BS

The computer science and theatre combined major is ideal for creative students who love technology as a means to expand what is possible in the performing arts. This major combines a strong foundation in computing with the opportunity to acquire a deep knowledge of theatre through curriculum that spans design, performance, and the production of innovative forms of theatre, including interactive media, computer graphics, human-computer interaction, and more.

It offers both classroom and experiential learning on the creative, social, and technological relationship between theatre and computing.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or THTR 1000	Theatre at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
CS 4550	Web Development	4
IS 4300	Human Computer Interaction	4
Khoury Elective Courses		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Theatre Requirements

Code	Title	Hours
Theatre		
A grade of C or higher is required for all THTR and INAM courses.		

Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	
THTR 5700	Design for Immersive Performance	

Integrative Requirement

Code	Title	Hours
THTR 2370	Lighting Design	4
THTR 4702	Capstone: Creative Practice Research Project	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Computer Science and Theatre Combined Major Credit Requirement

A minimum of 89 semester hours is required in the major.

Combined Major GPA Requirement

Minimum 2.000 GPA in all CS, CY, DS, IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	MATH 1341	4	Elective	4
CS 2500 and CS 2501	5	ENGW 1111	4				
THTR 1101	4	THTR 1131	4				
THTR 1120	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
INAM 2000	4						
THTR 1100	1						
THTR 1270	4						
Khoury elective (1/2)	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4550	4	Co-op		Co-op		ENGW 3302, 3314, or 3315	4
THTR 2000	1					Elective	4
THTR 3325	4						
Khoury elective (2/2)	4						
THTR Text, Community, & Social Context Course	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	THTR 4702	4
IS 4300	4	Computing and social issues	4
THTR Elective	4	Integrative requirement	4
Elective	4	Elective	4
	16		**16**

Total Hours: 136

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	MATH 1341	4	Elective	4
CS 2500 and CS 2501	5	ENGW 1111	4				
THTR 1101	4	THTR 1131	4				

THTR 1120	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	Elective	4	Co-op	
INAM 2000	4	CS 4550	4	Elective	4		
THTR 1100	1	THTR 2000	1				
THTR 1270	4	THTR 3325	4				
Khoury elective (1/2)	4	Khoury elective (2/2)	4				
		THTR Text, Community & Social Context	4				
	18		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4530	4	ENGW 3302, 3314, or 3315	4	Co-op	
		IS 4300	4	Elective	4		
		THTR Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		THTR 4702	4
		Computing and social issues	4
		Integrative requirement	4
		Elective	4
	0		**16**

Total Hours: 136

Cultural Anthropology and Theatre, BA

This major is designed for students who want to combine a knowledge of the art of theatre, including performance, design, and production, with sociocultural theories and conceptual frameworks for understanding human behavior. It offers both classroom and experiential learning in the practice of making theatre and performance theories with cross-cultural approaches. Offers students the opportunity to develop an understanding of theatre's impact on past and present cultures, as well as a deeper awareness of the world in which they live.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3421	Foundations of Anthropological Theory	4
ANTH 3410	Ethnographic Field Experience	4
Advanced Area Courses		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4520	Chinese Society and Culture	
Anthropology Electives		
Complete three courses in the following range. Two study-abroad courses may count toward this requirement with prior permission from the department:		12
ANTH 2300 to ANTH 4999		
Related Discipline Electives		
Complete three related discipline courses from the following subject areas:		12
AFRS, AFAM, CRIM, ECON, HUSV, HIST, INTL, LING, LPSC, POLS, PSYC, SOCL		

Theatre Requirements

A minimum grade of C is required in all THTR and INAM courses.

Code	Title	Hours
The following courses are recommended to be taken by the end of the fourth semester (third semester for transfer students):		
THTR 1100	Production Experience 1	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4

Code	Title	Hours
Foundational Courses		
THTR 1000	Theatre at Northeastern	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
INAM 2000	Ethics in Creativity	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2983	Topics in Theatre History and Culture	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Theatre Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	

THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirements

Code	Title	Hours
Complete one from each of the alternatives below (two courses total).		
THTR 2340	Theatre and Society	4
or THTR 3100	Creative Storytelling for Social Engagement	
THTR 4702	Capstone: Creative Practice Research Project	4
or ANTH 4600	Senior Seminar	

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 for ANTH courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1000	1	THTR 1120	4	Elective	4	Vacation	
THTR 1100	1	THTR 1131	4	Elective	4		
THTR 1101	4	ANTH 2305	4				
ANTH 1101	4	ANTH elective	4				
Social science elective	4						
ENGW 1111	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 2000	1	THTR Elective	4	Vacation		Vacation	
THTR 3325	4	THTR 1270	4				
INAM 2000	4	Foreign language	4				
ANTH elective	4	ANTH 3421	4				
THTR Texts, Community, & Social Context Course	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH elective	4	Co-op		Co-op		Elective	4
THTR Elective	4					Foreign language	4
Foreign language	4						
Social science elective	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ANTH advanced 1	4	Foreign language	4
Elective	4	Social science elective	4
Foreign language	4	ANTH advanced 2	4
ANTH 3410	4	THTR 4702	4
	16		**16**

Total Hours: 132

English and Theatre, BA

The Department of English and Department of Theatre offer an interdisciplinary combined major that integrates performance, design, production, and dramatic literature with literary studies, digital humanities, and creative writing. This combined major offers both classroom and experiential learning in making theatre, playwriting, and dramaturgy with the study of the diverse historical, cultural, and aesthetic contexts of literature. Students develop the capacity for interpreting a variety of texts through performance and writing to engage audiences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	

ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4

ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone Requirement

Code	Title	Hours
English Capstone Requirement		
Complete one of the following:		4
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	
THTR 4702	Capstone: Creative Practice Research Project	

Theatre Requirements

A minimum grade of C is required in all THTR and INAM courses.

Code	Title	Hours
Foundational Courses		
THTR 1000	Theatre at Northeastern	1
or ENGL 1000	English at Northeastern	
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		

Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	
THTR 5450	Acting 3	
THTR 5700	Design for Immersive Performance	

Integrative Requirements

Courses used in the integrative requirements cannot double-count in other areas of the major.

Code	Title	Hours
Integrative Courses		
ENGL 1600	Introduction to Shakespeare	4
ENGL 2330	The American Renaissance	4

English and Theatre Major Credit Requirement

94 semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1400	4	ENGL 1160 or 1410	4	Elective	4	Vacation	
THTR 1000 or ENGL 1000	1	THTR 1131	4	Elective	4		
THTR 1100	1	THTR 1270	4				
THTR 1101	4	ENGL elective	4				
THTR 1120	4						
ENGL comparative requirement	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Vacation	
ENGL 1600	4						
THTR 2000	1						
THTR 2330	4						
THTR 3325	4						
ENGL pre-19th-century requirement	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 19th-, 20th-, or 21st-Century requirement	4	INAM 2000	4	Foreign Language	4	Vacation	
ENGL Theories & Methods requirement	4	ENGL diversity requirement	4	Elective	4		
THTR Text, Community, & Social Context Course	4	THTR Elective	4				
THTR Elective	4	Foreign Language	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
ENGL writing requirement	4	THTR 4702	4
ENGL elective	4	ENGL Capstone	4
Elective	4	Foreign Language	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

Media and Screen Studies and Theatre, BA

This major is designed for students who want to combine a knowledge of the art of theatre with the theories and conceptual frameworks of media and film studies. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design with related studies in screenwriting, media technology, and media production. Students have an opportunity to develop a personalized technique for the practices of making theatre, film, and television as engaged citizens and creative artists.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirement Natural and Designed World (ND) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirement		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Courses		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Theatre Requirements

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	

THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirement

Code	Title	Hours
Required:		
INAM 2000	Ethics in Creativity	4
Choose one of the following courses:		4
MSCR 4623	Media and Screen Studies Capstone	
THTR 4702	Capstone: Creative Practice Research Project	

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements

Theatre Grade Requirement

A minimum grade of C is required for all THTR and INAM courses.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Elective	4	Elective	4
MSCR 1000 or THTR 1000	1	THTR 1131	4	Elective	4	Elective	4
MSCR 1220	4	THTR 1270	4				
THTR 1101	4	MSCR Foundation	4				
THTR 1120	4						
THTR 1100	1						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Foreign language core course	4
INAM 2000	4					Elective	4
THTR 2000	1						
THTR 3325	4						
MSCR Diversity/ Globalization	4						
MSCR Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR Writing Intensive	4	Co-op		Co-op		Elective	4
MSCR Elective	4					Elective	4
Foreign language core course	4						
THTR Text, Community, & Social Context Course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MSCR Writing Intensive	4	MSCR Elective	4
THTR Elective	4	THTR Elective	4
Foreign language core course	4	Integrative course	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

Media and Screen Studies and Theatre, BS

This major is designed for students who want to combine a knowledge of the art of theatre with the theories and conceptual frameworks of media and film studies. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design with related studies in screenwriting, media technology, and media production. Students have an opportunity to develop a personalized technique for the practices of making theatre, film, and television as engaged citizens and creative artists.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirement Natural and Designed World (ND) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	

COMM 1450	Sound Production for Digital Media
COMM 2550	Television Field Production
COMM 2655	Television Studio Production
COMM 3655	Digital Editing for TV
COMM 3750	Special Effects and Postproduction for Television
COMM 4755	Production Capstone

Theatre Requirements

Code	Title	Hours
The following courses are recommended to be taken by the end of the fourth semester (third semester for transfer students):		
THTR 1100	Production Experience 1	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirement

Code	Title	Hours
Required:		
INAM 2000	Ethics in Creativity	4
Choose one of the following courses:		4
MSCR 4623	Media and Screen Studies Capstone	
THTR 4702	Capstone: Creative Practice Research Project	

Media and Screen Studies Grade Requirement

No more than two grades below a C in MSCR courses may be used to satisfy degree requirements.

Theatre Grade Requirement

A minimum grade of C is required for all THTR and INAM courses.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR 1000 or THTR 1000	1	MSCR 1320 or 1420	4	Elective	4	Elective	4
MSCR 1220	4	THTR 1131	4	Elective	4	Elective	4
THTR 1101	4	THTR 1270	4				
THTR 1120	4	THTR 1100	1				
ENGW 1111	4	MSCR foundation	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
INAM 2000	4					Elective	4
THTR 2000	1						
THTR 3325	4						
MSCR diversity/ globalization	4						
MSCR elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR writing-intensive	4	Co-op		Co-op		Elective	4
MSCR elective	4					Elective	4
THTR Texts, Community, & Social Context Course	4						
THTR Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MSCR writing-intensive	4	Integrative course	4
THTR Elective	4	MSCR elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

Theatre and Interaction Design, BA

This program is designed for students who want to combine a knowledge of the art of theatre with the theories and practice-based design disciplines. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design practices. Design is the practice-based discipline raising important questions about—and providing significant answers to—how we live. Designers are needed when we don't know what is needed. Designers propose alternative futures and create new choices using design principles and processes to create, compose, and construct meaning in diverse knowledge fields. Designers seek a broad understanding of principles and systems of perception, communication, and action.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Theatre Requirements

A minimum grade of C is required for all theatre courses.

Code	Title	Hours
Foundational Stages		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
THTR 4702	Capstone: Creative Practice Research Project	4
Major Elective		
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3200	Queer Theatre and Performance	
Intermediate/Advanced Electives		
Complete two of the following:		8
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 4345	Advanced Acting for the Camera

Interaction Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	4
Design		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optional ARTG 2251)	4
ARTG 2260	Programming Basics	4
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
ARTG 3700	Interaction Design 2: Mobile	4
Design Project		
ARTG 4550	Design Degree Project	4
Major Electives		
Art and Design History		
Complete two of the following:		8
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 2210	Modern Art and Design History	
ARTH 2215	History of Graphic Design	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
Art and Design Elective		
Complete one of the following:		4
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220	Movement and Time (with optional ARTF 2221)	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	
ARTG 5000	Topics in Design	

Integrative Requirement

Code	Title	Hours
Note: ARTG 4550 double counts with the specified requirements above.		
ARTG 4550	Design Degree Project	4
THTR 4702	Capstone: Creative Practice Research Project	4

Theatre and Interaction Design Combined-Major Credit Requirement

Complete 94 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1000 or ARTF 1000	1	THTR 1101	4	Elective	4	Elective	4
THTR 1120	4	THTR 1131	4	Elective	4	Elective	4
ENGW 1111	4	ARTF 2223 (with optional ARTF 2224)	4				
ARTF 1122 (with optiional ARTF 1123)	4	ARTG 2250 (with optional ARTG 2251)	4				
ARTG 1250	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1		Co-op 1		Elective	4
Art and design history elective 1	4					Elective	4
THTR 2000	1						
THTR 1270	4						
ARTG 2260	4						
THTR 3325	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2400 (with optional ARTG 2401)	4	Co-op 2		Co-op 2		Elective	4
ARTG 3350	4					Elective	4
Art and design elective 1	4						
THTR elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art and design history elective 2	4	THTR 4702	4				0
THTR elective	4	THTR advanced technique	4				
ARTG 3700	4	ARTG 3451	4				
ARTG 4550	4	Elective	4				
	16		**16**		**0**		**0**

Total Hours: 131

Theatre and Interaction Design, BS

This program is designed for students who want to combine a knowledge of the art of theatre with the theories and practice-based design disciplines. It offers both classroom and experiential learning in areas of acting, directing, playwriting, and design practices. Design is the practice-based discipline raising important questions about—and providing significant answers to—how we live. Designers are needed when we don't know what is needed. Designers propose alternative futures and create new choices using design principles and processes to create, compose, and construct meaning in diverse knowledge fields. Designers seek a broad understanding of principles and systems of perception, communication, and action.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Theatre Requirements

A minimum grade of C is required for all theatre courses.

Code	Title	Hours
Foundational Stages		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
THTR 4702	Capstone: Creative Practice Research Project	4
Major Elective		
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3200	Queer Theatre and Performance	
Intermediate/Advanced Electives		
Complete two of the following:		8
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	

THTR 3550	Directing for the Stage
THTR 4345	Advanced Acting for the Camera

Interaction Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	4
Design		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optionals ARTG 2251)	4
ARTG 2260	Programming Basics	4
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
ARTG 3700	Interaction Design 2: Mobile	4
Design Project		
ARTG 4550	Design Degree Project	4
Major Electives		
Art and Design History		
Complete two of the following:		8
ARTH 1001 and ARTH 1002	Visual Intelligence and Seminar in Visual Intelligence	
ARTH 2210	Modern Art and Design History	
ARTH 2215	History of Graphic Design	
ARTH 3000	Topics in Visual Studies	
ARTH 4000	Topics in Visual Studies	
Art and Design Elective		
Complete one of the following. If ARTG5000 Topics in Design (or any other topics course in the options listed below) is completed more than once, the additional completions may be allowed toward the electives.		4
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2380	Video Basics	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220	Movement and Time	
ARTG 2252	Graphic Design Principles	
ARTG 3250	Physical Computing	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	
ARTG 5000	Topics in Design	

Integrative Requirement

Code	Title	Hours
Note: ARTG 4550 double counts with the specified requirements above.		
ARTG 4550	Design Degree Project	4
THTR 4702	Capstone: Creative Practice Research Project	4

Theatre and Interaction Design Combined-Major Credit Requirement

Complete 94 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1000 or ARTF 1000	1	THTR 1101	4	Elective	4	Elective	4
THTR 1120	4	THTR 1131	4	Elective	4	Elective	4
ENGW 1111	4	ARTF 2223 and ARTF 2224	5				
ARTF 1122 (with optional ARTF 1123)	4	ARTG 2250 and ARTG 2251	5				
ARTG 1250	4						
	17		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1		Co-op 1		Elective	4
Art and design history elective 1	4					Elective	4
THTR 2000	1						
THTR 1270	4						
ARTG 2260	4						
THTR 3325	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2400 (with optional ARTG 2401)	4	Co-op 2		Co-op 2		Elective	4
ARTG 3350	4					Elective	4
Art and design elective 1	4						
THTR elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art and design history elective 2	4	THTR 4702	4				0
THTR elective	4	THTR advanced technique	4				
ARTG 3700	4	ARTG 3451	4				
ARTG 4550	4	Elective	4				
	16		**16**		**0**		**0**

Total Hours: 133

Theatre and Journalism, BA

Overview

This combined major educates students in journalism and theatre and the interface between the two disciplines. The School of Journalism and Media Innovation places the ability to gather, investigate, analyze, and present information at the core of their curriculum. The Department of Theatre's curriculum provides deep knowledge of theatre that spans design, performance, and the production of innovative forms of theatre, including interactive media, computer graphics, human-computer interaction, and more.

Students completing this program of study should be able to understand how the two fields jointly contribute to compelling storytelling and how to create innovative modes of performance based on current events.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Theatre Requirements

A minimum grade of C is required in all THTR & INAM theatre courses.

Code	Title	Hours
Foundational Courses		
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8

THTR 2200	The American Black Theatre Experience
THTR 2310	History of Musical Theatre
THTR 2330	Playwriting
THTR 2335	Boston Theatre Experience
THTR 2340	Theatre and Society
THTR 2342	Acting 2
THTR 2345	Acting for the Camera
THTR 2346	Viewpoints
THTR 2370	Lighting Design
THTR 2380	Costume Design
THTR 2385	Fashion Construction and Pattern Making
THTR 2400	Scenic Design
THTR 2500	Breaking the Glass Ceiling: Women in Theatre
THTR 2600	Voice and Speech Training
THTR 2983	Topics in Theatre History and Culture
THTR 2993	Topics in Dance
THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Journalism Requirements

Code	Title	Hours
Foundational Courses		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete two of the following:		8
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 3700	Data Storytelling	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
Complete one of the following:		4
JRNL 3550	The First Amendment and the Media	
JRNL 4650	Ethics and Issues in Journalism	
Electives		
Complete four electives in JRNL; two must be at the 3000-level or above.		16

Integrative Requirements

Code	Title	Hours
INAM 2000	Ethics in Creativity	4
THTR 3100	Creative Storytelling for Social Engagement	4
THTR 4702	Capstone: Creative Practice Research Project	4

Supplemental Requirements

Code	Title	Hours
THTR 1000	Theatre at Northeastern	1
or JRNL 1000	Journalism at Northeastern	
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
JRNL 2301	Visual Storytelling in Journalism [1]	
If considering co-op, complete the following:		0-1
EEAM 2000	Professional Development for Co-op	

[1] Visual Storytelling in Journalism (JRNL 2301) may count as both a journalism elective and as the Advanced Writing in the Disciplines option.

Major Credit Requirement

83 semester hours required in the major

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	INAM 2000	4	Foreign language or elective	4	Elective	4
JRNL 1150	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
THTR 1000 or JRNL 1000	1	THTR 1131	4				
THTR 1100	1	JRNL elective	4				
THTR 1101	4						
THTR 1120	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op 1	0	Co-op 1	0	Elective	4
JRNL 2201	4					Elective	4
THTR 2000	1						
THTR 3325	4						
THTR Text, Community, & Social Engagement Course	4						
Foreign language or elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1270	4	Co-op 2	0	Co-op 2	0	Elective	4
JRNL visual elective or JRNL elective	4					Elective	4
JRNL visual elective or JRNL elective	4						
THTR Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
JRNL 3550 or 4650	4	THTR 4702	4
JRNL visual elective or JRNL elective	4	JRNL visual elective or JRNL elective	4
THTR Elective	4	JRNL visual elective or JRNL elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Global Fashion Studies, Minor

The international scope of this multidisciplinary minor is on the context, culture, practices, and trends in the fashion industry. It is designed for students interested in fashion marketing, retailing, media, and technology. Students have an opportunity to learn to identify, analyze, and communicate how the fashion industry functions artistically, socially, historically, and economically in a global market.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

A student pursuing the minor in global fashion studies may double count up to one course between this minor and the student's declared major(s) and minor(s).

Required Courses

Code	Title	Hours
Complete one of the following:		4
THTR 1236	Introduction to Global Fashion Studies: History, Theory, and Contemporary Practice	
THTR 1237	Introduction to Global Fashion Studies Abroad: History, Theory, and Contemporary Practice	

Electives

Code	Title	Hours
Complete two of the following:		8
ARTE 4901	Special Topics in Art and Design Studio (Fashion Photography Only)	
THTR 1230	The Evolution of Fashion and Costume	
THTR 1233	Nineteenth- and Twentieth-Century Fashion in Europe	
THTR 1235	Fashion and Costume Design in Film and Television	
THTR 1240	Fashion Industry and Trend Forecasting in Europe	
THTR 2242	Fashion Retailing	
THTR 2385	Fashion Construction and Pattern Making	
THTR 3350	Fashion Marketing and Merchandising in Europe	
Complete one of the following OR a third course from the list above:		4
ARTD 2350	Photo Basics for Nonmajors	
ARTG 1250	Design Process Context and Systems	
ARTG 2260	Programming Basics	
COMM 3445	Public Relations Principles	
COMM 3451	Advertising Practices	
JRNL 3425	Public Relations Principles	
JRNL 5310	Photojournalism	
THTR 2380	Costume Design	

GPA Requirement

2.000 GPA required in the minor

Improvisation and Storytelling, Minor

The minor in improvisation and storytelling is intended for students interested in integrating the creativity of actor training and the practical techniques of public speaking. Students are encouraged to choose courses to empower their voice and speech, cultivate their onstage persona, and develop high-impact presentation skills to enhance career prospects. This minor, which features classes offered by the Department of Theatre and the Department of Communication Studies, seeks to create more confident, creative, and compelling communicators.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Common Requirements

Code	Title	Hours
COMM 1511	Communication and Storytelling	4
THTR 1125	Improvisation	4

Communication Studies Elective

Code	Title	Hours
Complete one of the following:		4
COMM 1112	Public Speaking	
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	

Theatre Elective

Code	Title	Hours
Complete one of the following:		4
THTR 1130	Introduction to Acting	
THTR 2345	Acting for the Camera	

GPA Requirement

2.000 GPA required in the minor

Performing Arts Administration, Minor

Connecting a range of College of Arts, Media and Design courses, this minor prepares students to work in nonprofit arts organizations such as theatre companies, concert venues, and performance centers. Students have an opportunity to develop valuable skills in artistic programming, marketing, organizational communication, public relations, community outreach, and the entertainment business.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Students pursuing a performing arts administration minor may double count up to one course between that minor and the student's declared major and other minors. Should a student place out of a course in a minor it must be replaced with another course.

Notes:

- No student may receive a theatre minor as a result of external transfer credit only.
- Music majors cannot use Performing Arts Administration (MUSI 2330) as a major elective due to double-counting policy outlined above.

Foundational Courses

Code	Title	Hours
Complete one of the following:		4
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
MUSI 1230	Introduction to Music Industry	
THTR 1101	Introduction to Theatre	

Required Course

Code	Title	Hours
MUSI 2330	Performing Arts Administration	4

Electives

Code	Title	Hours
Complete two of the following (prerequisites may apply):		8
AACE 6000	Arts and Culture Organizational Leadership	
COMM 1113	Business and Professional Speaking	
COMM 1231	Principles of Organizational Communication	
COMM 2350	Producing for the Entertainment Industry	
COMM 2650	The Business of Entertainment	
COMM 3451	Advertising Practices	
INAM 2000	Ethics in Creativity	
JRNL 3425	Public Relations Principles	
MUSI 2234	Festivals	
MUSI 2235	Copyright in the Creative Industries	
MUSI 3338	Music Industry Marketing and Promotion	
MUSI 3340	Concert Promotion and Venue Management	
THTR 2335	Boston Theatre Experience	

GPA Requirement

2.000 GPA required in the minor

Playwriting, Minor

This minor is designed for students interested in writing for stage and screen. Uniting the study of significant works of drama with the creative writing process, students explore diverse styles of plays, playwrights, theories, forms, and movements. This minor includes course options from the Departments of English, Communications Studies, and Media and Screen Studies.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
THTR 1101	Introduction to Theatre	4
THTR 2330	Playwriting	4

Electives

Code	Title	Hours
Complete two of the following:		8
COMM 1511	Communication and Storytelling	
ENGL 1600	Introduction to Shakespeare	
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
INAM 2000	Ethics in Creativity	
MSCR 3389	Screenwriting	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2335	Boston Theatre Experience	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3325	Dramaturgical Inquiry	
THTR 5300	Devised Theatre Project	

GPA Requirement

2.000 GPA required in the minor

Theatre, Minor

Theatre minors select a dynamic artistic path that uniquely matches their personal interests in areas such as acting, stage design, technical production, and dramatic literature, whether for career exploration or creative expression. Minors are active participants in department productions who develop the foundational techniques and collaborative skills to make imaginative, innovative theatre.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Note: No student may earn a theatre minor as a result of external transfer credit only.

Required Course

Code	Title	Hours
THTR 1101	Introduction to Theatre	4

Foundational Courses

Code	Title	Hours
Complete one of the following:		4
THTR 1130	Introduction to Acting	
THTR 1131	Introduction to Technical Theatre	
THTR 1270	Introduction to Theatrical Design	
THTR 3325	Dramaturgical Inquiry	

Electives

Code	Title	Hours
Choose two courses from the following options (prerequisites may apply):		8
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
INAM 2000	Ethics in Creativity	
THTR 1125	Improvisation	
THTR 1130	Introduction to Acting	
THTR 1131	Introduction to Technical Theatre	
THTR 1150	Dance Performance and History: Modern to Hip Hop	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1260	Movement for the Actor	
THTR 1270	Introduction to Theatrical Design	
THTR 1400	Documentary Theatre Project	
THTR 1500	Musical Theatre Performance	
THTR 1600	Movement: Embodied Approaches to Creativity	
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	

THTR 3100	Creative Storytelling for Social Engagement
THTR 3200	Queer Theatre and Performance
THTR 3325	Dramaturgical Inquiry
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Making Theatre

Code	Title	Hours
Participate in a theatre department production:		
THTR 1100	Production Experience 1	1

GPA Requirement

2.000 GPA required in the minor

Theatre, Performance, and Social Change, Minor

The theatre, performance, and social change minor helps to prepare students for the challenges of world citizenship by developing competencies in theoretical, historical, and contextual knowledge alongside the technical skills to express their understanding of diverse social issues by making narratives, theatre, and performances. The minor's selected courses focus on enlarging students' ability to identify social problems; explore social movements; and make sensitive, ethical, and artistic choices in performance creation. In addition, students are encouraged to think strategically about the material realities of creating performance for social change.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Note: No student may receive a theatre minor as a result of external transfer credit only.

Foundational Courses

Code	Title	Hours
THTR 1215	Activism and Performance	4
THTR 2340	Theatre and Society	4

Theatrical Interventions in Social Issues

Code	Title	Hours
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2330	Playwriting	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 5300	Devised Theatre Project	

Community Engagement

Code	Title	Hours
Complete one of the following:		4
COMM 1412	Social Movement Communication	
HUSV 1101	Social Change and Human Services	
HUSV 3520	Child Intervention and Treatment	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
POLS 3100	Gender, Social Justice, and Transnational Activism	
or WMNS 3100	Gender, Social Justice, and Transnational Activism	

GPA Requirement

2.00 GPA required in the minor

Theatrical Design, Minor

This minor is intended for students with an interest in design as the collaborative art of transforming ideas into images that support live performance; design as an expression of human experience; design as a method of inquiry and problem solving. It encourages interdisciplinary learning by connecting the study of theatre with studio art, visual communication, design thinking, spatial design, and visual storytelling.

The theatrical design minor combines courses from the Department of Theatre with additional choices from the Department of Art + Design, the Department of Music, and the School of Architecture.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Foundational Requirements

Code	Title	Hours
THTR 1100	Production Experience 1	1
THTR 1270	Introduction to Theatrical Design	4

Design Area

Code	Title	Hours
Complete two of the following:		8
THTR 1131	Introduction to Technical Theatre	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	
MUST 2320	Sound Design	
THTR 5700	Design for Immersive Performance	

Interdisciplinary Elective

Code	Title	Hours
Complete one of the following:		4
ARTG 1250	Design Process Context and Systems	
ARCH 1450	Understanding Design	
ARTG 3462	Experience Design Principles	
THTR 1131	Introduction to Technical Theatre	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	
MUST 2320	Sound Design	

GPA Requirement

2.000 GPA required in the minor

Interdisciplinary Programs

Minors

- Creativity in Theory and Practice (p. 576)

Creativity in Theory and Practice, Minor

The Minor in Creativity in Theory and Practice offers students the opportunity to get inside the mindset of creativity from a variety of angles and develop perspectives that foster persistently creative habits of mind and practice—as one of the most important ways of thinking valued for innovative work across all fields and disciplines.

The minor is built around three carefully crafted core courses that introduce design thinking and expression, the ethics of creative practice, and the science of creativity. Students will have the opportunity to put those theories and concepts into practice with a broad selection of "making" electives across a variety of disciplines.

This minor is intended to enhance all disciplines across the university, from art, design, and communication to business, engineering, computer science, and more.

Minor Requirements

Note: Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Required Courses

Code	Title	Hours
INAM 1450	Understanding Design	4
INAM 2000	Ethics in Creativity	4
INAM 3200	Creative Cognition	4

Creativity in Making Elective

Code	Title	Hours
Complete one of the following (students may also petition to take an alternative making course):		4
ARCH 1110	Fundamental Architectural Representation	
ARCH 1120	Fundamental Architectural Design	
ARCH 2345	Contemporary Architecture	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARTD 2360	Introduction to Photography	
ARTF 1120	Observational Drawing	
ARTF 1122	Color and Composition	
ARTG 1250	Design Process Context and Systems	
ARTS 2340	Painting Basics	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
GAME 1110	Games and Society	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 5310	Photojournalism	
JRNL 5311	Design for Storytelling	
LARC 2430	Plants, People, and Landscape Change	
LARC 2440	Planting Design	
MSCR 1230	Introduction to Film Production	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2208	Jazz Improvisation	
MUSC 2209	Conducting	
MUSC 2210	Introduction to Songwriting	
MUST 1301	Introduction to Composition	
MUST 2320	Sound Design	
THTR 1125	Improvisation	
THTR 1130	Introduction to Acting	
THTR 1270	Introduction to Theatrical Design	

THTR 2330	Playwriting
THTR 2346	Viewpoints
The following courses have prerequisites but may be taken with permission of the instructor:	
JRNL 5314	Video News Reporting and Producing
THTR 2342	Acting 2
THTR 2345	Acting for the Camera
THTR 3400	Stage Combat
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3

Accelerated Bachelor/Graduate Degree Programs

The College of Arts, Media and Design offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

D'Amore-McKim School of Business

Website (http://www.damore-mckim.neu.edu)

David De Cremer, PhD, Dunton Family Dean

Todd Alessandri, PhD, Associate Dean of Undergraduate Education

Undergraduate Office
617.373.3270
617.373.4804 (fax)

Northeastern University's D'Amore-McKim School of Business enables students to develop the skills needed to lead in today's technologically driven business world. We deliver a curriculum that combines knowledge in technology and data analytics with human skills, such as critical thinking, creativity, and an entrepreneurial mindset.

Bringing all of that together is Northeastern's experience-powered approach to education. Students build their own personal brands as they explore a vast array of real-world experiences on their paths to graduation, including global immersion, undergraduate research, service-learning projects, interdisciplinary courses, and our signature co-op program.

Our expert faculty members have a deep understanding of business theory, which they apply to both their research and teaching; many also consult and partner with the corporate world. They're plugged into industry trends and will challenge and inspire you. Dedicated academic advisors and co-op coordinators are on hand every step of the way to help students make decisions throughout their academic and professional careers.

The school offers Bachelor of Science degrees in:

- Business Administration
- International Business
- Combined majors (p. 594)

For each degree program students must choose one of the concentrations listed below:

- Accounting
- Accounting and Advisory Services
- Brand Management
- Business Analytics
- Corporate Innovation
- Entrepreneurial Startups
- Family Business
- Finance
- Fintech
- Global Business and Strategy (available only to combined major(s) with International Business)
- Healthcare Management and Consulting
- International Business (available only as a second concentration)
- Management
- Management Information Systems
- Marketing
- Marketing Analytics
- Social Innovation and Entrepreneurship
- Supply Chain Management

The business curriculum is enhanced by courses in the sciences, humanities, and social sciences. In addition to their academic courses, all students are required to complete a cooperative education plan.

Cooperative education, or co-op, is experiential learning and deliberately integrates and blends the application of theory into practice. During co-op, students apply knowledge and skills learned across multiple contexts (classes, extracurricular activities, as student leaders, and by engaging in research) in a professional work environment. This application stimulates inquiry and expands knowledge acquisition when students return from co-op and engage in class discussion and discourse. By engaging on co-op, students develop increased self-awareness, a sense of purpose, and define career aspirations to impact postgraduate employment opportunities and lifelong learning. D'Amore-McKim students work together with their academic advisor and co-op coordinator to plan and prepare for their co-op experiences during their time at Northeastern and are required to complete

one co-op experience and its prerequisites. Eligibility and the timeline for participation on co-op are based upon a variety of factors and are integrated into a student's academic plan.

The undergraduate program of the D'Amore-McKim School of Business meets the standards of AACSB International—The Association to Advance Collegiate Schools of Business—for faculty and student quality, curriculum design, and overall university support.

After graduation, students may obtain jobs in all aspects of business, both domestically and internationally, as well as in nonprofits and government.

Academic Progression Standards

In addition to meeting the university progression standards, students must achieve a 2.000 grade-point average in business courses. Freshmen must complete at least 32 semester hours in order to progress to sophomore status. Freshmen who earn fewer than 32 SH must make up the difference prior to graduation. Students beyond the first year must complete at least 16 SH each in-school (not on co-op) full semester and 8 SH each in-school summer half semester in order to progress to the next class standing.

Students who do not meet academic progression standards will be placed on academic probation and may be subject to dismissal from the university.

Pass/Fail Option

D'Amore-McKim School of Business students may opt to take courses on a pass/fail basis in accordance with university policy but should be aware that this policy applies to nonbusiness courses that will count as open electives only. Business courses may not be taken pass/fail under any circumstance.

Taking Courses While on Co-op

Students may take one class either online or in person while on co-op during the fall, spring, or summer term. Course participation should not interfere with the student's work performance on co-op. With prior written approval of their co-op coordinator and academic advisor, a student may register for a maximum of two courses or 8 SH while on co-op.

External Transfer to the D'Amore-McKim School of Business

External transfer students are accepted from other academic institutions during the fall and spring terms. Applications and accompanying materials are submitted directly to the Office of Undergraduate Admissions.

The D'Amore-McKim School of Business at Northeastern University is accredited by AACSB International—The Association to Advance Collegiate Schools of Business—and as such complies with the following regulations governing the transferring of credit:

COURSES FROM AN AACSB-ACCREDITED INSTITUTION

Students may transfer a maximum of 80 SH of credit. A combination of 60 SH of nonbusiness courses and/or 28 SH of business courses will be accepted; 64 SH may be applied as credits toward the total semester hours required for degree conferral.

COURSES FROM A NON–AACSB-ACCREDITED INSTITUTION

Students may transfer a maximum of 60 SH of credit. A combination of 52 SH of nonbusiness courses and/or 20 SH of business courses will be accepted.

Some courses are not eligible for transfer. Check with the Office of Undergraduate Admissions for more details.

Graduation Requirements

The D'Amore-McKim School of Business reserves the right to amend programs, courses, and degree requirements to fulfill its educational responsibility to respond to relevant changes in the field.

Bachelor of Science degree candidates must complete all prescribed work of the curriculum in which they seek to qualify. The degree not only represents the formal completion of selected courses but also indicates professional study in the major or concentration. A GPA of 2.000 and a C average in all business courses are required for graduation.

Academic Group Chairs

ACCOUNTING

Timothy J. Rupert, PhD

Professor and Group Chair

ENTREPRENEURSHIP AND INNOVATION

Samina Karim, PhD

Professor and Group Chair

FINANCE

Nicole Boyson, PhD

Professor and Group Chair

INTERNATIONAL BUSINESS AND STRATEGY
Mark A. Huselid, PhD

Distinguished Professor of Workforce Analytics and Group Chair

MANAGEMENT AND ORGANIZATIONAL DEVELOPMENT
Jamie J. Ladge, PhD

Professor and Group Chair

MARKETING
Felicia Lassk, PhD

Associate Professor and Group Chair

SUPPLY CHAIN AND INFORMATION MANAGEMENT
Gilbert Nyaga, PhD

Associate Professor and Group Chair

Bachelor of Science in Business Administration, BSBA

The Bachelor of Science in Business Administration (BSBA) program integrates the theory and practice of management through active learning, problem-driven research, corporate partnerships, and experiential assignments. Students will foster a global and entrepreneurial spirit while honing their technical skills, analytical abilities, and creative and strategic thinking. They have opportunities to define an interdisciplinary academic path through combined majors, concentrations, and minors inside and outside of the business school. Students are expected to take part in the cooperative education program, where they participate in paid work placements related to their field of study.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Differences and Diversity (DD), Creative Expression and Innovation (EI), and Natural and Designed World (ND) are not explicitly satisfied by required courses in the business curriculum at this time. Students are responsible for satisfying these requirements, and if these are not fulfilled in required major courses, they should use general electives to do so.

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Management Information Systems		
MISM 2301	Introduction to Information Systems and Digital Technologies	4
Operations Management and Supply Chain Management		
SCHM 2301	Supply Chain and Operations Management	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Strategy in Action		
STRT 4501	Strategy in Action	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4
Statistics		
MGSC 2301	Business Statistics	4

Concentration

Complete the required concentration appropriate to your program. One concentration is required. A second concentration is optional.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)

- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Courses

Code	Title	Hours
Mathematics		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1242	Calculus 2	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1252	Calculus and Differential Equations for Biology 2	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342	Calculus 2 for Science and Engineering	
Macroeconomics and Microeconomics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4

Business Cooperative Education

Complete one cooperative education experience.

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Note: Plan of study will vary based upon student's academic program. The four-year plan of study will require summer courses throughout the student's academic career. Individual study plans will be created with an academic advisor.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1101	4	ECON 1115	4	Elective	4	Elective	4
BUSN 1102	1	Business core	4	ENGW 1111, ECON 1116, or MATH 1231	4	Business core	4
ENGW 1111, ECON 1116, or MATH 1231 (FQ)	4	ENGW 1111, ECON 1116, or MATH 1231 (FQ)	4				
Take two:	8	Take one:	4				
MGSC 2301 (AD)		MGSC 2301 (AD)					
ACCT 1201		ACCT 1201					
INTB 1203 (IC and ER)		INTB 1203 (IC and ER)					
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Concentration course	4	Co-op		Co-op		Business core	4
Business core	4					ORGB 3201	4
Elective	4						

NUpath	4						
BUSN 1103	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Concentration course	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
NUpath	4						
Business core	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3304	4	STRT 4501	4
Concentration course	4	Concentration course	4
NUpath	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall

Note: Plan of study will vary based upon student's academic program. The four-year plan of study will require summer courses throughout the student's academic career. Individual study plans will be created with an academic advisor.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1101	4	ECON 1115	4	Elective	4	Elective	4
BUSN 1102	1	Business core	4	ENGW 1111, ECON 1116, or MATH 1231	4	Business core	4
ENGW 1111, ECON 1116, or MATH 1231 (FQ)	4	ENGW 1111, ECON 1116, or MATH 1231 (FQ)	4				
Take two:	8	Take one:	4				
MGSC 2301 (AD)		MGSC 2301 (AD)					
ACCT 1201		ACCT 1201					
INTB 1203 (IC and ER)		INTB 1203 (IC and ER)					
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Concentration course	4	Concentration course	4	Elective	4	Co-op	0
Business core	4	Business core	4	NUpath	4		
Business core	4	Elective	4				
NUpath	4	BUSN 1103	1				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Concentration course	4	NUpath	4	Co-op	0
		ENGW 3304	4	Elective	4		
		ORGB 3201	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	STRT 4501	4

	Concentration course	4
	Elective	4
	Elective	4
0		**16**

Total Hours: 130

Business Administration and Law, BS

Overview

Admissions to this program begin Fall 2024.

The Bachelor of Science in Business Administration and Law program is designed for D'Amore-McKim School of Business students who seek careers in fields with frequent collaboration with lawyers or in heavily regulated industries or services. Offering knowledge and skills that are highly valued across business professions, this major will also be helpful for students who are interested in law school.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Core Requirements

Code	Title	Hours
Foundational Courses		
BUSN 1102	Personal Skill Development for Business	1
BUSN 1103	Professional Development for Business Co-op	1
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INTB 1203	International Business and Global Social Responsibility	4
MGSC 2301	Business Statistics	4
ORGB 3201	Organizational Behavior	4
STRT 4501	Strategy in Action	4
Business Elective		
Complete one of the following:		4
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
SCHM 2301	Supply Chain and Operations Management	

Business Concentration Required

A concentration is required and may be chosen from the following:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)

- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Business Courses

Code	Title	Hours
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	
or MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	

Law Requirements

Code	Title	Hours
Core Requirements		
LAW 3101	Introduction to Legal Studies 1: Law and Legal Reasoning	4
LAW 3102	Introduction to Legal Studies 2: Statutes and Regulations	4
Electives		
Please consult with your advisor to select courses that support your choice of business concentration.		
Complete six of the following:		24
LAW 3140	Data Regulation and Compliance	
LAW 3150	Introduction to Law and Organizational Management	
LAW 3160	Introduction to International Regulations and Business Strategies	
LAW 3170	Introduction to Financial Transactions	
LAW 3180	Introduction to Health Law	
LAW 3210	Introduction to Employee Rights and Employer Obligations	
LAW 3232	Introduction to Intellectual Property and Media	
LAW 3320	Introduction to Intellectual Property	
LAW 3321	Introduction to Identifying and Securing Intellectual Property Rights	
LAW 4335	Health Law and Policy	
LAW 4369	Advanced Intellectual Property	
LAW 4501	Patent Law and Practice	
LAW 4525	Law and Economic Development	
LAW 4640	Issues in Information Security Law	
LAW 4664	Law and Inequality	
LAW 4681	Issues in Law and Biotechnology	

Integrative Requirements

Code	Title	Hours
Business		
ACCT 3304	Business Law and Professional Ethics	4
or FINA 4312	Issues in Corporate Governance	
or MGMT 3420	Managing Human Capital	
Law		
LAW 3120	Introduction to Law and Strategy	4
or LAW 3130	Introduction to Negotiation and Advocacy	

Business GPA Requirement

Minimum 2.000 GPA in business courses required

Business Cooperative Education

Code	Title	Hours
Complete one cooperative education experience:		
COOP 3945	Co-op Work Experience	
or COOP 3946	Co-op Work Experience--Half Time	
or COOP 3947	Co-op Work Experience Abroad--Half Time	
or COOP 3948	Co-op Work Experience Abroad	

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Fours Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ACCT 2301	4	FINA 2201	4	EI or open elective	4
BUSN 1102	1	ENGW 1111	4	ND NUpath	4	Open elective	4
ECON 1115 or 1116	4	INNO 2301, MISM 2301, MKTG 2201, or SCHM 2301	4				
INTB 1203	4	MGSC 2301	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103	1	Co-op	0	Co-op	0	ORGB 3201	4
LAW 3101	4					Concentration course 2	4
LAW 3102	4						
Concentration course 1	4						
DD NUpath	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Concentration course 3	4	Co-op	0	Co-op	0	Open elective	4
DMSB integrative course	4					Open elective	4
LAW elective	4						
LAW elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Advanced writing	4	STRT 4501	4
Concentration course 4	4	Law integrative course	4
LAW elective	4	LAW elective	4
LAW elective	4	LAW elective	4
	16		**16**

Total Hours: 130

Sample Plan of Study

Four Years, Two Co-ops in Summer2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102	1	ACCT 2301	4	FINA 2201	4	DD NUpath	4
ACCT 1201	4	MGSC 2301	4	ND NUpath	4	Open elective	4

ECON 1115	4	INNO 2301, MISM 2301, MKTG 2201, or SCHM 2301	4				
MATH 1231	4	ENGW 1111	4				
INTB 1203	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Open elective	4	LAW 3101	4	Open elective	4	Co-op	
EI or open elective	4	LAW 3102	4	Advanced writing	4		
Concentration course 1	4	Concentration course 3	4				
Concentration course 2	4	DMSB integrative course	4				
		BUSN 1103	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		LAW elective	4	ORGB 3201	4	Co-op	
		LAW elective	4	STRT 4501	4		
		LAW elective	4				
		Concentration course 4	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		LAW elective	4
		LAW elective	4
		LAW elective	4
		Law integrative course	4
	0		**16**

Total Hours: 130

International Business, BSIB

The Bachelor of Science in International Business program is designed to prepare students to be successful managers in an evolving global economy. They develop the skills and knowledge needed to work across cultures and differing business practices, both virtually and face-to-face. Program curriculum examines how a global environment impacts a student's chosen concentration.

Knowledge about other cultures and practices is best learned on location and experientially. BSIB students are expected to complete at least one semester of study or cooperative education experience in a country other than where they grew up. Students will create an individual academic plan based upon their interest and career goals. Students are encouraged to become proficient in a second language.

Upon graduation, students are able to make an impact from day one at companies that are engaged in business internationally. Graduates can also work in their home country for a company that operates internationally as well as overseas on a foreign assignment.

The BSIB program can be completed in four or five years, depending on the program of study. During the optional fifth year, the program offers the opportunity to earn a Master of Science in International Management, a Master of Science in Finance, or a Master of Science in Accounting through the PlusOne option.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Differences and Diversity (DD), Natural and Designed World (ND), Ethical Reasoning (ER), Interpreting Culture (IC), and Formal and Quantitative Reasoning (FQ) are not explicitly satisfied by required courses in the business curriculum at this time. Students are responsible for satisfying these requirements, and if these are not fulfilled in required major courses, they should use general electives to do so.

BSIB students will be required to complete at least a one-semester overseas requirement. The one semester overseas can be fulfilled by a study abroad or overseas co-op.

Business Core

Code	Title	Hours
ACCT 1201	Financial Accounting and Reporting	4
FINA 2201	Financial Management	4
INNO 2301	Innovation!	4
MGSC 2301	Business Statistics	4
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4

International Business Requirements

Code	Title	Hours
All BSIB core courses must be completed at D'Amore-McKim or one of its approved partner universities.		
INTB 1205	The Global Business Environment	4
INTB 2205	Business Decision Making in Developed Country Environments	2
INTB 2206	International Business Decision Making in Emerging Markets	2
INTB 3205	Understanding and Managing Cultural Differences	4
INTB 4202	Executing Global Strategy	4
Complete one international business elective from the following:		4
FINA 4320	International Financial Management	
INTB 4983	Special Topics in International Business	
MKTG 4512	International Marketing	
SCHM 3301	Global Supply Chain Strategy	

Concentration

Complete one of the following concentrations. A second concentration is optional. Certain concentrations require additional prerequisites. Please consult your academic advisor to ensure you have met these requirements.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

General Education

Code	Title	Hours
BUSN 1102	Personal Skill Development for Business	1
BUSN 1103	Professional Development for Business Co-op	1
ECON 1116	Principles of Microeconomics	4
ENGW 1111	First-Year Writing	4
ENGW 3304	Advanced Writing in the Business Administration Professions	4

Business Cooperative Education

Complete one cooperative education experience.

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

FOUR-YEAR PROGRAM: YEAR THREE ABROAD WITH TWO CO-OPS

Note: Individual study plans will be created with an academic advisor and may vary based on the student's goals. The plan below is a sample only.

- Additional courses may be required in place of open electives. Electives may be moved or used to fulfill language classes. Accounting and advisory services and accounting concentrations require Managerial Accounting (ACCT 2301) as a prerequisite. Supply chain management requires Supply Chain and Operations Management (SCHM 2301) as a prerequisite. Management information systems requires Introduction to Information Systems and Digital Technologies (MISM 2301) as a prerequisite.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ECON 1116 or INNO 2301	4	FINA 2201	4	Elective	4
BUSN 1102	1	ENGW 1111	4	Elective	4	Elective	4
ECON 1116 or INNO 2301	4	INTB 2205	2				
INTB 1205	4	INTB 2206	2				
MGSC 2301	4	MKTG 2201	4				
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103	1	Co-op	0	Co-op		Elective	4
INTB 3205	4					Elective	4
Concentration course	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Semester abroad	0	Co-op (may be abroad)		Co-op (may be abroad)		Elective	4
Concentration course	4					Elective	4
Elective	4						
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3304	4	INTB 4202	4
ORGB 3201	4	Concentration course	4
Concentration course	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Exchange Students

The Bachelor of Science in International Business program is designed to prepare students to be successful managers in an evolving global economy. They develop the skills and knowledge needed to work across cultures and differing business practices, both virtually and face-to-face. Program curriculum examines how a global environment impacts a student's chosen concentration.

Degree-earning exchange students must successfully complete their first two academic years at their home institution and must take part in an integration education experience before transferring to Northeastern University. They are also expected to complete one U.S. domestic cooperative education experience as part of their degree requirements. The total program of study must meet the BSIB degree requirements as listed in this catalog for D'Amore-McKim School of Business students.

Upon graduation, students are able to make an impact from day one at companies that are engaged in business internationally. Graduates can also work in their home country for a company that operates internationally as well as overseas on a foreign assignment.

The BSIB program offers the opportunity to earn a Master of Science in International Management, a Master of Science in Finance, or a Master of Science in Accounting through the PlusOne option.

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Differences and Diversity (DD), Natural and Designed World (ND), and Formal and Quantitative Reasoning (FQ) are not explicitly satisfied by required courses in the business curriculum at this time. Students are responsible for satisfying these requirements, and if these are not fulfilled in required major courses, they should use general electives to do so.

Business Core

Code	Title	Hours
ACCT 1201	Financial Accounting and Reporting	4
FINA 2201	Financial Management	4
INNO 2301	Innovation!	4
MGSC 2301	Business Statistics	4
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4

International Business Requirements

Code	Title	Hours
INTB 1205	The Global Business Environment	4
or INTB 1203	International Business and Global Social Responsibility	
INTB 2205	Business Decision Making in Developed Country Environments	2
INTB 2206	International Business Decision Making in Emerging Markets	2
INTB 3320	International Business Management and Environment	4
INTB 4202	Executing Global Strategy	4

Concentration

Complete one of the following concentrations. Certain concentrations require additional prerequisites. Please consult your academic advisor to ensure you have met these requirements.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

General Education

Code	Title	Hours
BUSN 1103	Professional Development for Business Co-op	1
ECON 1116	Principles of Microeconomics	4
ENGW 1111	First-Year Writing	4
ENGW 3304	Advanced Writing in the Business Administration Professions	4

Business Cooperative Education

Complete one cooperative education experience in the U.S.

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Program Requirement

128 total semester hours required

Combined Majors

- Business Administration and Communication Studies, BS (p. 359)
- Business Administration and Design, BS (p. 202)
- Business Administration and Psychology, BS (p. 603)
- Business Administration and Public Health, BS (p. 607)
- Computer Science and Business Administration, BS (p. 612)
- Cybersecurity and Business Administration, BS (p. 617)
- Data Science and Business Administration, BS (p. 621)
- Economics and Business Administration, BS (p. 625)
- Economics and International Business, BS (p. 628)
- Health Science and Business Administration, BS (p. 632)
- International Affairs and International Business, BS (p. 636)
- Mathematics and Business Administration, BS (p. 641)
- Political Science and Business Administration, BS (p. 644)
- Politics, Philosophy, and Economics and Business Administration, BS (p. 649)

Business Administration and Communication Studies, BS

The combined major between business administration and communication studies provides students with a robust overview of business and communication studies. This combined major seeks to prepare students for career opportunities in growing industry markets such as public relations, marketing communications, and digital media.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Core Requirements

Code	Title	Hours
Introduction to College		
BUSN 1102	Personal Skill Development for Business	1
or COMM 1000	Communication Studies at Northeastern	
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Business Statistics		
MGSC 2301	Business Statistics	4
Business Core Elective 1		
INTB 1203	International Business and Global Social Responsibility	4
or ORGB 3201	Organizational Behavior	
Marketing		
MKTG 2201	Introduction to Marketing	4
Finance		
FINA 2201	Financial Management	4
Business Core Elective 2		
ACCT 2301	Managerial Accounting	4
or INNO 2301	Innovation!	
or MISM 2301	Introduction to Information Systems and Digital Technologies	
or SCHM 2301	Supply Chain and Operations Management	

Business Concentration Required

A concentration is required and may be chosen from the following list:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)

- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Business Courses

Code	Title	Hours
Mathematics		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
Macroeconomics and Microeconomics		
Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
ECON 1116	Principles of Microeconomics	

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 1113	Business and Professional Speaking	
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

Communication Studies Electives		
Complete three additional electives. Choose from any communication studies courses not used to satisfy requirements above or related electives outside of communication studies.		12
ARTD 2360	Introduction to Photography	
ARTD 2380	Video Basics	
ARTD 3460	Photography: Concept + Process	
ARTD 3480	Video: Sound and Image	
ARTF 2220	Movement and Time	
JRNL 1101	Journalism 1: Fundamentals of Reporting and Writing	
JRNL 3425	Public Relations Principles	
JRNL 3610	Digital Storytelling and Social Media	
JRNL 5311	Design for Storytelling	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
MSCR 1230	Introduction to Film Production	
MSCR 2302	Advertising and Promotional Culture	

Integrative Requirement

Code	Title	Hours
Integrative Course		
MKTG 4504	Advertising and Brand Promotion	4
Capstone		
Complete one of the following:		4
COMM 4533	Consultation Skills	
COMM 4608	Strategic Communication Capstone	
STRT 4501	Strategy in Action	

Business GPA Requirement

Minimum 2.000 GPA in business courses required

Business Cooperative Education

Complete one cooperative education experience.

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	COMM 1112, 1113, or 2301	4	Communication studies elective	4	Elective	4
BUSN 1102 or COMM 1000	1	MGSC 2301	4	NUpath course	4	Elective	4
COMM 1101	4	MKTG 2201	4				
ENGW 1111	4	Communication studies foundation course	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EEAM 2000	1	COOP 3945	0	COOP 3945	0	Elective	4
FINA 2201	4					Elective	4
ECON 1115 or 1116	4						

Business core option	4						
Communication studies cluster course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MKTG 4504	4	COOP 3945	0	COOP 3945	0	Communication studies elective	4
Business core option 1	4					NUpath course	4
Communication studies writing-intensive 1	4						
Concentration course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Communication studies writing-intensive 2	4	COMM 3409, ENGW 3304, ENGW 3314, or ENGW 3315	4
Communication studies elective	4	COMM 4608, STRT 4501, or COMM 4533	4
Concentration course	4	Concentration course	4
Concentration course	4	Elective	4
	16		**16**

Total Hours: 130

Business Administration and Design, BS

The combined major in business administration and design integrates fundamental design courses with the theory and practice of management through active learning, problem-driven research, corporate partnerships, and experiential assignments. The BS degree can be accomplished using the four-year co-op plan.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Core Requirements

Code	Title	Hours
Introduction to College		
BUSN 1102	Personal Skill Development for Business	1
or ARTF 1000	Art and Design at Northeastern	
Mathematics		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1260	Math Fundamentals for Games	
Macroeconomics and Microeconomics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Business Statistics		
MGSC 2301	Business Statistics	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Finance		
FINA 2201	Financial Management	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Strategy in Action		
STRT 4501	Strategy in Action	4
Business Core Option		
Complete one of the following:		4
ACCT 2301	Managerial Accounting	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	
Professional Development		

BUSN 1103	Professional Development for Business Co-op	1
or EEAM 2000	Professional Development for Co-op	

Business Concentration

Complete one of the following business concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Second Business Concentration (Optional)

A second business concentration is optional and may be chosen from the following list:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startup (p. 659)s
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Design Requirements

Students interested in design PlusOne programs are recommended to consult with faculty coordinator and advisor during sophomore year to register for 5000-level courses in junior and senior years.

Code	Title	Hours
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	
Art and Design Fundamentals Elective		
Complete one of the following:		5
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	

ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262 (or ARTG Design Elective) [1]	4
Art and Design History Elective		
Complete any one ARTH course.		4
Art and Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course for which prerequisites have been met.		4
If any topics course is completed more than once, the additional completions may be allowed toward the electives.		
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

[1] For students interested in the PlusOne in Information Design and Data Visualization, speak with an advisor about an alternative course option to Prototyping with Code (ARTG 2262) and Lab for ARTG 2262 (ARTG 2263).

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3700	Interaction Design 2: Mobile	

[2] For students interested in the PlusOne in Information Design and Data Visualization, speak with an advisor about an alternative course option to Topics in Information Design Inquiry (ARTG 3444).

Integrative Course

Code	Title	Hours
Note: Integrative course is required above.		
ARTG 4550	Design Degree Project	

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Business Cooperative Education

Complete one cooperative education experience.

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ARTG 1270 and ARTG 1271	4	ARTG 1290 and ARTG 1291	4	Art and design fundamentals elective	4
ARTF 1122 (with optional ARTF 1123)	4	ECON 1115 or 1116	4	Elective	4	Elective	4
ARTG 1001 and ARTG 1002	4	MGSC 2301	4				
BUSN 1102 or ARTF 1000	1	MATH elective	4				
ENGW 1111	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	BUSN 1103 or EEAM 2000	1	FINA 2201	4	Co-op	0
INTB 1203	4	Art and design history elective	4	Elective	4		
MKTG 2201	4	Business concentration introductory course	4				
Design option level 1	4	Business core option	4				
		Design option level 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3314 or 3315	4	Business concentration elective 2	4	Co-op	0
		ORGB 3201	4	Elective	4		
		Art and design elective	4				
		Business concentration elective 1	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 4550	4
		STRT 4501	4
		Business concentration	4
		Elective	4
	0		**16**

Total Hours: 130

Business Administration and Psychology, BS

This combined major educates students in business and psychology and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including statistics and research, social psychology, developmental psychology, cognition, and personality. Business courses provide a foundation in accounting, innovation, marketing, management, and organizational behavior, with the opportunity to concentrate in a specific area of business. Students completing this program should be able to understand the relationships between these fields that pertain to explaining and addressing human behavior and business practices.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INNO 2301	Innovation!	4
INTB 1203	International Business and Global Social Responsibility	4
MISM 2301	Introduction to Information Systems and Digital Technologies	4
or SCHM 2301	Supply Chain and Operations Management	
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
STRT 4501	Strategy in Action	4
Supporting Courses for Business		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
MATH 1231	Calculus for Business and Economics	4

Business Concentration

Complete one of the following concentrations.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3402	Social Psychology	4
PSYC 3466	Cognition	4
PSYC 3400	Personality	4
PSYC 3404	Developmental Psychology	4
Statistics		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
MGSC 2301	Business Statistics	
Required Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
PSYC 4678	Seminar in Social and Affective Neuroscience	
Required Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Electives		
Complete two PSYC courses not used to fulfill the requirements above:		8
PSYC 1001 to PSYC 5999		

Supporting Courses

Code	Title	Hours
Introduction to College		
BUSN 1102	Personal Skill Development for Business	1
or PSYC 1000	Psychology at Northeastern	
Co-op Preparation		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
or EESC 2000	Professional Development for Co-op	

Integrative Course

Code	Title	Hours
ORGB 3201	Organizational Behavior	4

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Psychology GPA Requirement

A minimum 2.000 GPA in psychology courses is required.

Business Cooperative Education

Complete one cooperative education experience.

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 1101	4	PSYC 2320 or MGSC 2301	4	Vacation		Vacation	
MATH 1231	4	PSYC 3402	4				
PSYC 1000 or BUSN 1102	1	ENGW 1111	4				
NU PATH DD	4	BUSINESS CORE 2	4				
BUSINESS CORE 1	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 3400	4	PSYC 3404	4	Vacation		Co-op	
PSYC 3466	4	CONCENTRATION COURSE 1	4				
BUSINESS CORE 3	4	BUSINESS CORE 5	4				
BUSINESS CORE 4	4	ECON 1115 or 1116	4				
		EESC 2000 or BUSN 1103	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC Elective	4	Elective 1	4	Co-op	
		ENGW 3304 or 3315	4	Elective 2	4		
		CONCENTRATION COURSE 2	4				
		BUSINESS CORE 6	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC Laboratory	4	Elective 3	4	Co-op	
		PSYC Elective	4	Elective 4	4		
		CONCENTRATION COURSE 3	4				
		BUSINESS CORE 7	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		PSYC Seminar	4
		BUSINESS CORE 8	4
		BUSINESS CORE 9	4

	CONCENTRATION COURSE 4	4
	0	**16**

Total Hours: 130

Business Administration and Public Health, BS

Overview

The combined Bachelor of Science in Business Administration and Public Health offers students an opportunity to study a curriculum that is synergistic with the growing field of healthcare and public health. This academic combination provides students with the knowledge and expertise needed to enter a multitude of careers upon graduation. The degree allows students the unique opportunity to better understand the business side of the healthcare industry and public health administration and prepares them to be leaders.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Administration Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
INTB 1203	International Business and Global Social Responsibility	4
ORGB 3201	Organizational Behavior	4
Business Electives		
Complete two of the following:		8
FINA 2201	Financial Management	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
SCHM 2301	Supply Chain and Operations Management	
Supporting Courses for Business		
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	4
MATH 1231	Calculus for Business and Economics	4

Business Concentration

Complete one of the following concentrations. Requirements for the concentrations are listed below.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665)(available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Public Health Requirements

Code	Title	Hours
Public Health Core Courses		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Core Courses		
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Course		
Complete one of the following courses:		3-4
Society and Behavior		
COMM 3201	Health Communication	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
ECON 3404	International Food Policy	
PHTH 5230	Global Health	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
PHTH 5214	Environmental Health	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
BUSN 1102	Personal Skill Development for Business	
HSCI 1000	College: An Introduction	
Statistics		
Complete one of the following:		4
MGSC 2301	Business Statistics	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
Professional Development		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing Requirements		
ENGW 1111	First-Year Writing	4
Complete one of the following:		4
ENGW 3304	Advanced Writing in the Business Administration Professions	
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Capstone Course		
Complete one of the following options:		4
DMSB Students		
STRT 4501	Strategy in Action	
Bouvé Students		
HSCI 4700	Health Science Capstone Introduction	
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
MGMT 3340	Healthcare Management, Innovation, and Design	
PHTH 4511	Healthcare Management	

Business GPA Requirement

A minimum 2.000 GPA is required in all business courses.

Business Cooperative Education Requirement

Complete one six-month co-op experience.

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirement

128 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Summer 2/Fall—DMSB Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ACCT 1201	4	ENGW 1111	4	ECON 1116 and ECON 1126	4
BUSN 1102	1	INTB 1203	4	Public health core course	4

MATH 1231	4	PHTH 1260	4				
PSYC 1101	4	Biology course	4				
Biology course	4						
	17		**16**		**8**		

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	BUSN 1103	1	Concentration course	4	Co-op	
MGSC 2301	4	FINA 2201	4	General elective	4		
Public health core course	4	Public health core course	4				
General elective	4	Business elective	4				
		Concentration course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MGMT 3340 or PHTH 4511	4	PHTH 4540	4	Co-op	
ENGW 3304	4	PHTH 4202	4	PHTH 4120	4		
		Business elective	4				
		Concentration course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		STRT 4501	4
General elective	4	Concentration course	4
		Social science course	4
		General elective	4
	4		**16**

Total Hours: 130

Four Years/ Two Co-ops in Spring/Summer 1— Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
ACCT 1201	4	INTB 1203	4	ECON 1116 and ECON 1126	4	
ENGW 1110	4	PHTH 1260	4	Public health core course	4	
HSCI 1000	1	PSYC 1101	4			
MATH 1231	4	Biology course	4			
Biology course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op		Co-op		Public health core course	4
FINA 2201	4	General elective	4			Concentration course	4
HSCI 2000	1						
PHTH 2210 and PHTH 2211	4						
General elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 4511 or MGMT 3340	4	Co-op		Co-op		HSCI 4700	0
Public health core course	4	ENGW 3306	4			PHTH 4120	4
Business elective	4					PHTH 4540	4

Concentration course		4					
		16		**4**		**0**	**8**

Year 4

Fall	**Hours**		**Spring**	**Hours**			
HSCI 4720, 4730, or 4740		4	Concentration course	4			
PHTH 4202		4	Social science course	4			
Concentration course		4	General electives	8			
Business elective		4					
		16		**16**			

Total Hours: 130

Computer Science and Business Administration, BS

The computer science and business combined major delivers a technical degree with a strong grounding in business. Students will complete most of the requirements of a business major, including macroeconomics and microeconomics, while also focusing on technical skills like program design, software development, computer organization, systems and networks, theories of computation, principles of languages, and advanced algorithms and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BUSN 1102	Personal Skill Development for Business	
CS 1210	Professional Development for Khoury Co-op	1
or BUSN 1103	Professional Development for Business Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Computer Science Required Electives		
Complete two of the following:		8
CS 3650	Computer Systems	
CS 4700	Network Fundamentals	
CS 4730	Distributed Systems	
DS 3000	Foundations of Data Science	
DS 4200	Information Presentation and Visualization	
DS 4300	Large-Scale Information Storage and Retrieval	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Business Courses

Code	Title	Hours
Required Business Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
MGSC 2301	Business Statistics	4
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
STRT 4501	Strategy in Action	4

Business Concentration

Complete a four-course business concentration from the following list.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Integrative Course

Code	Title	Hours
Information Resource Management		
MISM 2301	Introduction to Information Systems and Digital Technologies	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1231	Calculus for Business and Economics	
Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	

or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3304	Advanced Writing in the Business Administration Professions	

Required General Electives

Code	Title	Hours
Complete 16 credits of general electives.		16

Business Cooperative Education

Complete one cooperative education experience.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	CS 2510 and CS 2511	5	ECON 1115	4	MISM 2301	4
CS 1200 or BUSN 1102	1	CS 3200	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4				
CS 2500 and CS 2501	5	MATH 1341 or 1231	4				
ENGW 1111	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	CS 1210 or BUSN 1103	1	MKTG 2201	4	Co-op	
CS 3500 and CS 3501	5	CS 3000	4	Business concentration 1	4		
MGSC 2301	4	FINA 2201	4				
Elective	4	Computing and social issues	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS Required Elective 1	4	ENGW 3302	4	Co-op	
		Business concentration 2	4	ORGB 3201	4		
		Business concentration 3	4				
		Khoury Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		STRT 4501	4
		CS Required Elective 2	4
		Business concentration 4	4
	0		**16**

Total Hours: 134

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1200 or BUSN 1102	1	CS 3200	4	ECON 1115	4	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4				
CS 2500 and CS 2501	5	MATH 1341 or 1231	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op		Co-op		ENGW 3302	4
CS 1210 or BUSN 1103	1					MKTG 2201	4
CS 3000	4						
MGSC 2301	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
FINA 2201	4	Co-op		Co-op		ORGB 3201	4
MISM 2301	4					Elective	4
CS Required Elective 1	4						
Khoury Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4530 or 4500	4	CS Required Elective 2	4
STRT 4501	4	Computing and Social Issues	4
Business concentration 1	4	Business concentration 3	4
Business concentration 2	4	Business concentration 4	4
	16		**16**

Total Hours: 134

Cybersecurity and Business Administration, BS

The cybersecurity and business combined major delivers a technical and security-focused degree with a strong grounding in business. Students will complete most of the requirements of a business major, including macroeconomics and microeconomics, while also focusing on the conceptual and practical computer science skills that will enable them to contribute to ensuring the reliability and security of cyberspace.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BUSN 1102	Personal Skill Development for Business	
CS 1210	Professional Development for Khoury Co-op	1
or BUSN 1103	Professional Development for Business Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 4740	Network Security	4
Cybersecurity Electives		
If courses require prerequisites, those should be taken using general electives.		
Complete one course from the following:		4-5
COMM 2551	Free Speech in Cyberspace	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 3030	Global Criminology	
CRIM 4040	Crime Prevention	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	

or CS 4530	Fundamentals of Software Engineering
CS 4710	Mobile and Wireless Systems
CS 6710	Wireless Network
CY 4760	Security of Wireless and Mobile Systems
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5770	Software Vulnerabilities and Security
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534
IS 4300	Human Computer Interaction
LPSC 1101	Introduction to Law
LPSC 2301	Introduction to Law, Policy, and Society
LPSC 3303	Topics in Law and Public Policy
MATH 3527	Number Theory 1
MATH 4575	Introduction to Cryptography
PHIL 1145	Technology and Human Values
POLS 2390	Science, Technology, and Public Policy
POLS 3307	Public Policy and Administration
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Statistics		
MGSC 2301	Business Statistics	4
Strategy		
STRT 4501	Strategy in Action	4

Business Concentration

Complete a four-course business concentration from the following list. (p.)

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)

- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Integrative Requirement

Code	Title	Hours
MISM 2301	Introduction to Information Systems and Digital Technologies	4

Supporting Courses

Code	Title	Hours
Mathematics Courses		
Complete one of the following:		4
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1231	Calculus for Business and Economics	
Economics		
Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
ECON 1116	Principles of Microeconomics	

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following courses:		4
ENGW 3302	Advanced Writing in the Technical Professions	
or ENGW 3304	Advanced Writing in the Business Administration Professions	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses.

Business GPA Requirement

Minimum 2.000 GPA required in all business courses.

NUpath Requirements Satisfied

- `Engaging with the Natural and Designed World`
- `Conducting Formal and Quantitative Reasoning`
- `Analyzing and Using Data`
- Understanding Societies and Institutions
- `Writing in the First Year`

- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective 2	4
CS 1200 or BUSN 1102	1	CY 2550	4	Elective 1	4	Elective 3	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4				
CS 2500 and CS 2501	5	MATH 1341 or 1231	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	CS 1210 or BUSN 1103	1	MKTG 2201	4	Co-op	
CS 3000	4	CS 4700 or 4730	4	Business concentration 1	4		
CS 3650	4	CY 3740	4				
MGSC 2301	4	FINA 2201	4				
		Elective 4	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CY 4170 or 5240	4	MISM 2301	4	Co-op	
		CY 4740	4	ORGB 3201	4		
		Business concentration 2	4				
		Business concentration 3	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENGW 3302	4
		STRT 4501	4
		Business concentration 4	4
		Cybersecurity elective	4
	0		**16**

Total Hours: 134

Data Science and Business Administration, BS

The data science and business combined major integrates a technical degree with the theory and practice of management through active learning, problem-driven research, corporate partnerships, and experiential assignments. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. This program reflects the impact of data in modern business practice.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BUSN 1102	Personal Skill Development for Business	
CS 1210	Professional Development for Khoury Co-op	1
or BUSN 1103	Professional Development for Business Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Business Courses

Code	Title	Hours
Required Business Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INTB 1203	International Business and Global Social Responsibility	4
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
Business Elective		
Complete one of the following:		4
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	
STRT 4501	Strategy in Action	

Business Concentration

Complete a four-course business concentration from the following list.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

Note: If the Marketing Analytics concentration is selected, an additional general elective is required.

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Integrative Course

Code	Title	Hours
MKTG 4604	Creating Business Value with Data and AI Technologies	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1231	Calculus for Business and Economics	
Statistics		
MGSC 2301	Business Statistics	4
Economics		

ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3304	Advanced Writing in the Business Administration Professions	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Business Cooperative Education

Complete one cooperative education experience.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Ethical Reasoning
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ACCT 1201	4	CS 3200	4	ACCT 2301	4	FINA 2201	4
CS 1200 or BUSN 1102	1	DS 2500 and DS 2501	5	Elective	4	Elective	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4				
DS 2000 and DS 2001	4	MATH 1341 or 1231	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210 or BUSN 1103	1	MKTG 2201	4	Co-op	
DS 3500	4	DS 4200	4	Elective	4		
INTB 1203	4	DS 4300	4				
MGSC 2301	4	Business Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ORGB 3201	4	Co-op	
		ENGW 3302	4	Business concentration 2	4		
		Business concentration 1	4				
		Khoury elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		MKTG 4604	4
		Business concentration 3	4
		Business concentration 4	4
	0		**16**

Total Hours: 132

Economics and Business Administration, BS

Economics and business administration is a popular combined major that integrates economic theories and models with their business applications. Students complete the core courses for economics and business, including at least one business concentration. Students have the opportunity to choose from a variety of electives from either discipline.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or BUSN 1102	Personal Skill Development for Business	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
or MGSC 2301	Business Statistics	
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete five courses from the following ranges, with no more than one at the introductory (1000) level:		20
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4692 or ECON 4997 (Capstone may be taken as an elective.)		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4

Business Concentration

Complete one of the following business concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 (Selecting this 5 SH option will add one additional semester hour to your degree program.)	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	
Integrative and Capstone Requirement		
STRT 4501	Strategy in Action	4

Economics GPA Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or MGSC 2301	Business Statistics	
ECON 2560	Applied Econometrics	

Business GPA Requirement

A minimum 2.000 GPA is required in business courses.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ECON 1116	4	ECON 2315	4	FINA 2201	4
ECON 1000 or BUSN 1102	1	FINA 2201	4	NUpath DD	4	MKTG 2201	4
ECON 1115	4	INTB 1203	4				
ENGW 1111	4	MGSC 2301 or ECON 2350	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op	0	Co-op	0	ORGB 3201	4
BUSN 1103 or EESH 2000	1					Elective	4
CS 1100, MISM 2510, or DS 2000 ***and*** DS 2001	4						
ECON 2316	4						
ECON elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2560	4	Co-op	0	Co-op	0	Advanced writing in the disciplines	4
Concentration course 1	4					Elective	4
Concentration course 2	4						
ECON elective 2	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
STRT 4501	4	Concentration course 4	4
Concentration course 3	4	ECON elective 4	4
ECON elective 3	4	ECON elective 5	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Economics and International Business, BS

The combined economics and international business degree gives students the opportunity to learn about economic theory and applications and how an economics perspective guides strategy and conduct of international business operations. Economics provides theoretical underpinnings for international business in areas such as export and import activity, foreign investment decisions, choosing overseas locations for manufacturing and conducting R&D, deciding on technology transfer, the setting and movement of foreign exchange rates, the role of trade balances in influencing the macroeconomy, and government regulations affecting global antitrust issues and the freedom of action of multinational corporations. The combined major gives interested students a chance to learn how economic principles can be utilized by managers in directing international business activities.

Program Requirements

Economics Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
ECON 1000	Economics at Northeastern	1
or BUSN 1102	Personal Skill Development for Business	
Required Economics Courses		
A grade of C or higher is required for ECON courses.		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
Economics Elective		
Complete four ECON electives with, at most, one course within the 1000 level.		16

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Business Core Option		
Complete one of the following:		4
ACCT 2301	Managerial Accounting	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	

Required Business Concentration

- Global Business and Strategy (p. 663)

Integrative Course Requirements

Code	Title	Hours
Complete one of the following (may not overlap with courses used for ECON elective section):		4
ECON 3290	History of the Global Economy	
ECON 3635	International Economics	

Supporting Courses

Code	Title	Hours
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1

or EESH 2000	Professional Development for Co-op	
Statistics Requirement		
MGSC 2301	Business Statistics	4
or ECON 2350	Statistics for Economists	
Calculus		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1245	Calculus with Applications	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

International Experiential Learning

Code	Title	Hours
Complete one of the following:		
One semester of study-abroad experience		
One co-op abroad experience		
Two Dialogue of Civilizations (summer programs)		
Two summer traditional study-abroad experiences		
Two approved short-term programs abroad		

Second Business Concentration (Optional)

A second business concentration is optional and may be chosen from the following list:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Business GPA Requirement

Minimum 2.000 GPA required in business courses

Economics GPA Requirement

Grades in the following four ECON courses must average a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Program Requirement

128 total semester hours required

Plan of Study

The plan below is a sample. Students should consult with their academic advisor to confirm individual academic plans.

This program requires one of the following abroad options:

Semester-long study-abroad experience; cooperative education abroad experience; two Dialogue of Civilizations (summer programs); two summer traditional study-abroad experiences.

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102 or INTL 1000	1	ACCT 1201	4	FINA 2201	4	MKTG 2201	4
ECON 1115 or 1116	4	ECON 1116 or 1115	4	NUpath	4	ECON undergraduate elective	4
ENGW 1111	4	MGSC 2301 or ECON 2350	4				
INTB 1205	4	NUpath	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
ECON 2315 or 2316	4					Elective	4
INTB 2205	2					Student may choose to participate in a Dialogue of Civilizations experience	
INTB 2206	2						
Complete one of the approved business core:	4						
ACCT 2301, INNO 2301, MISM 2301, or SCHM 2301							
ECON undergraduate elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2316 or 2315	4	Co-op	0	Co-op	0	ENGW 3304, 3308, or 3315	4
ECON 2560	4					Elective	4
ORGB 3201	4						
Complete one of the following:	4						
FINA 4320, INTB 3310, INTB 4983, MKTG 4512, or SCHM 3301							
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ECON 3290 or 3635	4	INTB 4202	4
ECON undergraduate elective	4	NUpath	4
NUpath	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Health Science and Business Administration, BS

The combined major in health science and business administration provides students at Northeastern University with an opportunity to study a curriculum that is synergetic with the growing field of healthcare. This academic combination offers students the knowledge and expertise needed to enter a multitude of careers upon graduation. The degree allows students the unique opportunity to better understand the business side of the healthcare industry. The field is compatible with all the undergraduate concentrations in the School of Business and prepares students to enter the workforce after graduation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
Life Sciences Core		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Business Administration Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INTB 1203	International Business and Global Social Responsibility	4
Business Electives		
Complete two of the following:		8
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
ORGB 3201	Organizational Behavior	
SCHM 2301	Supply Chain and Operations Management	
Supporting Course for Business		

Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
or ECON 1116	Principles of Microeconomics	

Business Concentration

Complete one of the following concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Courses

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or BUSN 1102	Personal Skill Development for Business	
Calculus		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
Statistics		
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
or MGSC 2301	Business Statistics	
Co-op Preparation		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3304	Advanced Writing in the Business Administration Professions	
Capstone		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service (Prerequisite course HSCI 4700)	
HSCI 4730	Health Science Capstone—Research (Prerequisite course HSCI 4700)	
STRT 4501	Strategy in Action	

Integrative Requirement

Code	Title	Hours
MGMT 3340	Healthcare Management, Innovation, and Design	4

Required General Electives

Code	Title	Hours
Complete at least 16 semester hours of general electives.		16

Business GPA Requirement

A minimum 2.000 GPA is required in all business courses.

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

BOUVÉ: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	BIOL 1113 and BIOL 1114	5	ECON selective	4	ACCT 2301	4
BIOL 1111 and BIOL 1112	5	ENGW 1111	4	PHTH core course	4	Elective	4
HSCI 1000	1	PHTH 1260	4				
MATH 1241	4	Concentration course	4				
PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	HSCI 2000	1	PHTH core course	4	Co-op	0
FINA 2201	4	MGMT 3340	4	Elective	4		
INTB 1203	4	PHTH 2210 and PHTH 2211	4				
PHTH core course	4	Business elective	4				
		PHTH core course	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Concentration course	4	ENGW 3306	4	Co-op	0
		Concentration course	4	PHTH core course	4		
		PHTH core course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Business elective	4
HSCI 4700	0	Capstone course	4
		Concentration course	4
		Elective	4
	0		**16**

Total Hours: 133

SAMPLE PLAN OF STUDY: FIVE YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Vacation		Vacation	
HSCI 1000 or BUSN 1102	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260	4	ENGW 1111	4				
PSYC 1101	4	Concentration course	4				
MATH 1241 or 1231	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	FINA 2201	4	Vacation		Co-op	0
INTB 1203	4	HSCI 2000 or BUSN 1103	1				
ECON selective	4	PHTH 2210 and PHTH 2211	4				
PHTH core course	4	PHTH core course	8				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ACCT 2301	4	Vacation		Vacation	
		Business elective	4				
		Concentration course	4				
		PHTH core course	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306 or 3304	4	Co-op	0	Co-op	0	Vacation	
MGMT 3340	4						
Business elective	4						
PHTH core course	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
HSCI 4700	0	Capstone course	4
Concentration course	4	Concentration course	4
PHTH core course	4	Electives	8
Electives	8		
	16		**16**

Total Hours: 133

International Affairs and International Business, BS

Students who pursue this combined major will have the opportunity to learn how international business practices influence and are influenced by state-society interactions such as labor rights, trade practices, climate and sustainability priorities, political implications, as well international institutions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
INTL 1000	International Affairs at Northeastern	
or BUSN 1102	Personal Skill Development for Business	
Required International Affairs Courses		
A grade of C or higher is required for ECON courses.		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
INTL 4700	Senior Capstone Seminar in International Affairs	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete one of the following:		
One semester of study-abroad experience		
One co-op abroad experience		
Two Dialogue of Civilizations (summer programs)		
Two summer traditional study-abroad experiences		
One N.U.in experience and one Dialogue of Civilizations or one summer traditional study-abroad experience		
Two approved short-term programs abroad		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	

CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Business Core Option		
Complete one of the following:		4
ACCT 2301	Managerial Accounting	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	

Required Concentration

- Global Business and Strategy (p. 663)

Integrative Course Requirements

Code	Title	Hours
INTB 4202	Executing Global Strategy	4
INTL 4700	Senior Capstone Seminar in International Affairs	4

Supporting Courses

Code	Title	Hours
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	
Statistics Requirement		
MGSC 2301	Business Statistics	4
or INTL 2718	Research Methods in International Affairs	

Second Business Concentration (Optional)

A second business concentration is optional and may be chosen from the following:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Business GPA Requirement

A minimum 2.000 GPA is required in business courses.

Program Requirement

128 total semester hours required

Plan of Study

The plan below is a sample. Students should consult with their academic advisor to confirm individual academic plans.

This program requires one of the following abroad options:

- Semester-long student abroad experience
- Cooperative education abroad experience
- Two Dialogue of Civilizations summer programs
- Two summer traditional study-abroad experiences
- N.U.in experience combined with either Dialogue of Civilizations or traditional summer study-abroad experience

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102 or INTL 1000	1	ACCT 1201	4	FINA 2201	4	MKTG 2201	4
ECON 1115 or 1116	4	MGSC 2301 or INTL 2718	4	NUpath	4	INTL undergraduate elective	4
ENGW 1111	4	INTL undergraduate elective	4				
INTB 1205	4	NUpath	4				
INTL 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
INTB 2205	2					Elective	4
INTB 2206	2					Student may choose to participate in a Dialogue of Civilizations experience	
Business Core Option:	4						
ACCT 2301, INNO 2301, MISM 2301, or SCHM 2301							

INTL undergraduate elective	4						
INTL undergraduate elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3304 or 3315	4	Co-op	0	Co-op	0	Elective	4
INTB 3310, FINA 4320, INTB 4983, MKTG 4512, or SCHM 3301	4					Elective	4
INTL 3400	4						
ORGB 3201	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
INTL 4700	4	INTB 4202	4
INTL undergraduate elective	4	NUpath	4
NUpath	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Mathematics and Business Administration, BS

In the BS Mathematics and Business Administration program, business and mathematics courses lay the groundwork for strong basic training in finance.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Required Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 3081	Probability and Statistics	4
Calculus and Linear Algebra (Required) and Differential Equations (Recommended)		
Complete either Option 1 or Option 2 below:		8
Option 1 (Recommended)		
MATH 2321	Calculus 3 for Science and Engineering	
MATH 2341	Differential Equations and Linear Algebra for Engineering	
Option 2		
MATH 2321	Calculus 3 for Science and Engineering	
MATH 2331	Linear Algebra	
Mathematics Electives		
Complete three courses in the range MATH 3001 to MATH 5999. The following courses are recommended:		12
MATH 4681	Probability and Risks	
MATH 4682	Theory of Interest and Basics of Life Insurance 1	
MATH 4581	Statistics and Stochastic Processes	

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4
Strategy in Action		
STRT 4501	Strategy in Action	4

Integrative Course

Code	Title	Hours
MATH 4581	Statistics and Stochastic Processes	4

Business Concentration

Complete one of the following business concentrations. One concentration is required. A second concentration is optional.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (only available as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supplemental Courses

Code	Title	Hours
Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESC 2000	Professional Development for Co-op	

Business Cooperative Education

Complete one cooperative education experience.

Mathematics GPA Requirement

Minimum 2.000 GPA required in all mathematics courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ENGW 1111	4	MATH 1342	4	MKTG 2201	4	NU Path	4
ECON 1115	4	MATH 1365	4	Open Elective	4	Open Elective	4
MATH 1341	4	ECON 1116	4				
ACCT 1201	4	ACCT 2301	4				
BUSN 1102 or MATH 1000	1						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
FINA 2201	4	Co-op		Co-op		ORGB 3201	4
INTB 1203	4					NU Path	4
MATH 3081	4						
MATH 2321	4						
BUSN 1103 or EESC 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Concentration Course 1	4	Co-op		Co-op		Concentration Course 2	4
MATH 2341 or 2331	4					Open Elective	4
Math Elective (3001-5999)	4						
ENGW 3304 or 3307	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Concentration Course 3	4	NU Path	4
Math Elective (3001-5999)	4	Open Elective	4
MATH 4581	4	Concentration Course 4	4
STRT 4501	4	Math Elective (3001-5999)	4
	16		**16**

Total Hours: 130

Political Science and Business Administration, BS

The combined major in political science and business administration offers students the opportunity to integrate the study of politics and government with an analysis of business practices and organizations. Students complete core courses in political science along with core courses in business administration that cover accounting, finance, marketing, and organizational behavior. This combined major highlights the important intersection between business practices and the evolution of politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Introduction to College		
POLS 1000	Political Science at Northeastern	1
or BUSN 1102	Personal Skill Development for Business	
Poltical Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Statistics		
POLS 2400	Quantitative Techniques	4
or MGSC 2301	Business Statistics	
Political Science Electives		
Complete four courses in the following range, or complete a political science concentration as outlined below:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record:

- American Political Institutions (p. 646)
- Campaigns and Elections (p. 646)
- Comparative Politics (p. 646)
- Identity, Culture, and Politics (p. 647)
- International Relations and Diplomacy (p. 647)
- Law and Legal Studies (p. 647)
- Public Policy (p. 647)
- Security Studies (p. 648)

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4

ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4

Business Concentration

Complete one of the following business concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	
or MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 (Selecting this 5 SH option will add one additional semester hour to your degree program.)	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	

Integrative Requirement

Code	Title	Hours
Senior Capstone		
POLS 4701	Political Science Senior Capstone (or POLS 4703 Senior Thesis)	4
or STRT 4501	Strategy in Action	

Business Cooperative Education

Complete one cooperative education experience

Political Science GPA Requirement

Minimum 2.000 GPA required in all political science courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

Program Requirement

128 total semester hours required

Political Science Concentrations (Optional)

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		

Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12

POLS 2340	Business and Government
POLS 2345	Urban Policies and Politics
POLS 2350	State and Local Politics
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ECON 1115 or 1116	4	DD NUpath	4	Open elective	4
ENGW 1111	4	MGSC 2301 or POLS 2400	4	Open elective	4	Open elective	4
MATH 1231	4	POLS 1150	4				
POLS 1000 or BUSN 1102	1	POLS 1160	4				
POLS 1155	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op		Co-op		ACCT 2301	4
MKTG 2201	4					FINA 2201	4
Computer Science Requirement	4-5						
POLS thought	4						
POLS elective	4						
	17-18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ORGB 3201	4	Co-op		Co-op		POLS elective	4
POLS elective	4					ND NUpath	4
POLS elective	4						
Concentration class 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3304, 3315, or 3307	4	POLS 4701 or STRT 4501	4
Concentration class 2	4	Concentration class 4	4
Concentration class 3	4	IC NUpath	4
EI NUpath	4	ER NUpath	4
	16		**16**

Total Hours: 130-131

Politics, Philosophy, and Economics and Business Administration, BS

Overview

This combined major integrates the theory and practice of business administration with tools and knowledge to understand social phenomena in ethical, political, and economic contexts, guiding students to develop a set of skills that are indispensable in our increasingly interconnected world. This holistic view is essential to understanding the kinds of challenges that future leaders in management and industry will need to tackle. Students in the combined major are expected to hone these skills not only in their interdisciplinary major but also through participating in cooperative education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Politics, Philosophy, and Economics Requirements

Code	Title	Hours
PPE Major Requirement		
PHIL 1160	Introduction to Economic Justice	4
Foundational Courses		
ECON 2316	Microeconomic Theory	4
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Methods Coursework		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
PPE Elective Coursework		
Complete one course from the following ranges:		
ECON 1200–1999 or 3000–4689 or 4900–4999 or 5200–5999 or POLS 2000–5999		4

Business Requirements

Code	Title	Hours
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INNO 2301	Innovation!	4
MISM 2301	Introduction to Information Systems and Digital Technologies	4
or SCHM 2301	Supply Chain and Operations Management	
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
Supporting Courses		
BUSN 1102	Personal Skill Development for Business	1
or PHIL 1000	Philosophy at Northeastern	
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	
ECON 1116	Principles of Microeconomics	4

ECON 2350	Statistics for Economists	4
or MGSC 2301	Business Statistics	
or POLS 2400	Quantitative Techniques	
MATH 1231	Calculus for Business and Economics	4-6
or MATH 1341	Calculus 1 for Science and Engineering	
or MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	

Business Concentration

Complete one of the following concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Integrative Course

Code	Title	Hours
PHIL 1170	Business, Ethics, and Human Rights	4

Business Cooperative Education

Code	Title	Hours
Complete one cooperative education experience:		
COOP 3945	Co-op Work Experience	0
or COOP 3946	Co-op Work Experience--Half Time	
or COOP 3947	Co-op Work Experience Abroad--Half Time	
or COOP 3948	Co-op Work Experience Abroad	

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study - Four Years, Two Co-ops in Spring/Summer 1

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ACCT 1201	4	ACCT 2301	4	MISM 2301 or SCHM 2301	4	DD NUpath	4
BUSN 1102 or PHIL 1000	1	ECON 1116	4	MKTG 2201	4	Open elective	4
MATH 1231	4	ENGW 1111	4				

PHIL 1160	4	MGSC 2301, ECON 2350, or POLS 2400	4				
POLS 1150 or 1155	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op		Co-op		ORGB 3201	4
ECON 2316	4					Open elective	4
FINA 2201	4						
INNO 2301	4						
PHIL 1170	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2303 or 3822	4	Co-op		Co-op		ENGW 3315, 3304, or 3308	4
POLS 1160	4					Open elective	4
Concentration class	4						
Concentration class	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHIL 3435 or 2325	4	Capstone class	4
POLS 3405	4	Concentration class	4
Concentration class	4	Open elective	4
PPE elective	4	Open elective	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102 or PHIL 1000	1	ENGW 1111	4	MKTG 2201	4	DD NUpath	4
ACCT 1201	4	ECON 2350, MGSC 2301, or POLS 2400	4	MISM 2301 or SCHM 2301	4	Open elective	4
PHIL 1160	4	ECON 1116	4				
POLS 1150 or 1155	4	ACCT 2301	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
FINA 2201	4	POLS 1160	4	Open elective	4	Co-op	
INNO 2301	4	Concentration class	4	Open elective	4		
ECON 2316	4	Open elective	4				
PHIL 1170	4	PHIL 2303 or 3822	4				
		BUSN 1103 or EESH 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ORGB 3201	4	ENGW 3315, 3304, or 3308	4	Co-op	
		Concentration class	4	PPE elective	4		
		POLS 3405	4				

		Open elective	4		
	0		**16**	**8**	**0**

Core Term 1

Fall	**Hours**	**Spring**	**Hours**
Co-op		Concentration class	4
		Concentration class	4
		Capstone class	4
		PHIL 3435 or 2325	4
	0		**16**

Total Hours: 130

Concentrations

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Global Business and Strategy (p. 663)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Accounting

A concentration in accounting aims to prepare the graduate for entry into public accounting or private industry in a highly valued career. Accounting is a dynamic profession that requires people to possess sound technical knowledge, critical thinking skills, superior interpersonal skills, and the ability to communicate effectively. Accountants hold senior management positions in private companies in business or industry, public accounting firms, and government agencies.

To prepare for an accounting career, students take courses in financial reporting, managerial accounting, and intermediate accounting, with additional elective courses available for more specialized studies in strategic cost analysis, auditing and other assurance services, income tax planning, and advisory services and emerging accounting systems. Students wishing to sit for the CPA exam may combine the BSBA with a concentration in accounting with the Master of Science in Accounting (five-year BSBA/MSA program).

Concentration Requirements

Concentration in Accounting

Code	Title	Hours
Required Courses		
ACCT 3401	Financial Reporting and Analysis 1	4
ACCT 4501	Financial Reporting and Analysis 2	4
Electives		
Complete two of the following:		8
ACCT 3403	Advisory Services and Emerging Accounting Systems	
ACCT 3416	Strategic Cost Analysis for Decision Making	
ACCT 4412	Auditing and Other Assurance Services	
ACCT 4414	Income Tax Determination and Planning	

Accounting and Advisory Services

The accounting and advisory services concentration is aimed at D'Amore-McKim students who wish to pursue a career in advisory services. The concentration offers students an opportunity to obtain the skills necessary to enter advisory services. Students hired in advisory services work in interdisciplinary areas including mergers and acquisitions, risk consulting, process improvement, data analytics, and digital transformation. This concentration is an alternative to the standard accounting concentration, which many students pursue to prepare for CPA licensure. The accounting and advisory services concentration is well suited for students who are interested in taking a managerial or advisory role to support the strategic goals of an organization.

Concentration Requirements

Concentration in Accounting and Advisory Services

Code	Title	Hours
Required Courses		
ACCT 3402	Financial Reporting and Financial Statement Analysis	4
ACCT 3403	Advisory Services and Emerging Accounting Systems	4
ACCT 5220	Data Analytics for Advisory Services	4

Code	Title	Hours
Elective		
Complete one of the following:		4
ACCT 3416	Strategic Cost Analysis for Decision Making	
ACCT 4414	Income Tax Determination and Planning	

Brand Management

Overview

Think about some of your favorite brands—chances are, there is a high-powered brand manager working behind the scenes to ensure the brand resonates with you, one of its target consumers. Brand managers oversee the integrity of a brand across all marketing activities in tech, consumer packaged goods (CPG), and service industries. The position of brand manager requires strategic thinking, focus on the customer experience, communication with multiple stakeholders and cross-functional teams, creativity, and analytical skills. Brand managers are creative, organized multitaskers who often serve as the liaison between the marketing group, design team, and engineers to oversee the consistency of the brand image. While every day is different, typical activities of a brand manager include conducting and analyzing research to identify brand opportunities, understanding market trends and competitive landscape, creating and maintaining brand marketing budget, managing cross-platform brand communication strategy, developing the brand story, executing marketing and advertising campaigns, and overseeing the overall health of a brand. When managing a brand's products or services in a tech firm, brand and product managers may also be involved in ideation, prototyping, user experience (UX) testing, and business casing. This concentration offers the opportunity to learn these skills across coursework in marketing, consumer behavior, advertising, new product development, marketing analytics, project management, demand planning and forecasting, and product innovation. As such, the core brand management course paired with a flexible, yet focused list of electives supports students in the aspects of brand management that are most relevant for their future career prospects.

Concentration Requirements

Concentration in Brand Management

Code	Title	Hours
Required Course		
MKTG 3720	Brand Management	4
Electives		
Complete three electives, with at least 8 credits from MKTG courses:		12
INNO 2301	Innovation!	
MGMT 3530	Project Management	
MKTG 2720	Enabling Technologies for Consumer Engagement	
MKTG 3401	Marketing Research	
or MKTG 3402	Gaining Insights from Consumer Data	
MKTG 4502	Managing Customer Engagement in a Service World	
MKTG 4504	Advertising and Brand Promotion	
MKTG 4506	Consumer Behavior	
MKTG 4510	New Product Development	
or ENTR 3330	Design Thinking for Startups	
or INNO 3335	Product Innovation and Portfolio Management	
MKTG 4720	Understanding the Platform Economy	
A maximum of one course may be applied to requirements of a second concentration.		

Business Analytics

Overview

Organizations can make smarter decisions when they effectively harness the power of data. The business analytics concentration is designed to provide students with the analytical skills, techniques, and perspectives required to understand, analyze, and interpret datasets of various sizes and content. This knowledge and skill set can be used to help companies improve decision making in increasingly complex and interconnected business environments and create measurable improvements in business performance.

This concentration offers courses that cover the fundamentals of data analysis and management; information visualization; and descriptive, predictive, and prescriptive analytic techniques. These techniques are often based on artificial intelligence, machine learning, and data mining. Courses are grounded in relevant theory and principles but also explore how to apply these concepts to investigate realistic datasets by using a variety of innovative computational tools and programming languages. These may include Python, R, SQL, and Tableau. Students have the opportunity to develop technical and problem-solving skills that are in high demand by employers and to apply those skills through both classroom activities and co-ops focused on business analytics.

Analytics can be employed in many different parts of an organization. Therefore, students are encouraged to consider completing a dual concentration in business analytics and another area. Graduates of this program have a wide range of career paths to suit their interests. Professional options include business or information analyst, consultant, and project manager. Graduates may also become specialists within a specific department or functional area, such as financial services, accounting, marketing, or manufacturing.

Concentration Requirements

Concentration in Business Analytics

Code	Title	Hours
Only one course may double count between another concentration or minor.		
Required Courses		
MISM 2510	Fundamentals of Information Analytics	4
MISM 3403	Data Management for Business	4
or MISM 3405	Data Wrangling for Business Analytics	
MISM 3501	Information Visualization for Business	4
Elective		
Complete one of the following:		4
MISM 3515	Data Mining for Business	
MISM 3525	Modeling for Business Analytics	
MISM 4983	Special Topics in Management Information Systems	

Corporate Innovation

Corporate innovation is a series of processes by which established companies promote, design, and pursue innovation opportunities that can result in new products, services, and/or business models. It entails R&D activities, product development, internal venture accelerators, acquisitions, and alliances. Innovation is the most powerful competitive weapon for a corporation that wants to ensure growth and relevance over time.

The corporate innovation concentration is designed to prepare students to develop new businesses, products, services, or processes inside of an existing organization to create value and generate new revenue growth through entrepreneurial thought and action. A concentration in corporate innovation seeks to develop students to be agents of change and renewal within established companies, aspiring to leading roles in areas such as product development, new business research, and innovation-related projects. This concentration targets students with co-op aspirations that involve positions within corporations such as entry-level product line management, project management, consulting, and new product and service development.

Concentration Requirements

Concentration in Corporate Innovation

Code	Title	Hours
Required Courses		
INNO 2301	Innovation!	4
INNO 4504	Integrated Studies in Corporate Innovation	4
Electives		
Complete two electives, one of which may come from the additional electives list:		8
INNO 2304	Industry Disruption and Corporate Transformation	
INNO 3335	Product Innovation and Portfolio Management	
INNO 4225	Growth, Acquisitions, and Alliances	
Additional Electives		
ENTR 2215	Understanding Family Enterprise	
ENTR 2303	Marketing Strategies for Startups	
ENTR 4983	Special Topics in Entrepreneurship	
FINA 4610	Entrepreneurial Finance and Private Equity	
INNO 2206	Global Social Enterprise	
MGMT 3302	Negotiating in Business	
MGMT 3340	Healthcare Management, Innovation, and Design	
MGMT 3530	Project Management	
STRT 4301	Strategic Analysis and Decision Making	

One course from an approved Dialogue may count toward a concentration elective.

Entrepreneurial Startups

A startup is a young company founded by one or more entrepreneurs in order to develop a product or service and bring it to market. Startups can be technology intensive with novel products or use existing technologies to create new variations or combinations. The entrepreneurial startups concentration is designed to prepare students from any background or area of study with the perspective, knowledge, and skills necessary to conceptualize, launch, manage, and grow a new business. It will also equip them with an understanding of the advantages and challenges of a startup they may work for. Students have an opportunity to learn to shape entrepreneurial opportunities, assess feasibility, raise funds, and develop other skills needed to open, manage, and grow a new business venture. Students are exposed to innovation, marketing, and business modeling as they work in interdisciplinary teams to develop business plans. This concentration seeks students with career aspirations that involve starting a new venture or working in a startup.

Concentration Requirements

Concentration in Entrepreneurial Startups

Code	Title	Hours
Required Courses		
INNO 2301	Innovation!	4
ENTR 4501	Integrated Studies in Entrepreneurial Startups	4
Electives		
Complete two electives, one of which may come from the Additional Electives list:		8
ENTR 2303	Marketing Strategies for Startups	
ENTR 3305	Business Model Design and Innovation	
ENTR 3330	Design Thinking for Startups	
Additional Electives		
ENTR 2215	Understanding Family Enterprise	
ENTR 4505	Entrepreneurial Venture Growth Strategies	
ENTR 4983	Special Topics in Entrepreneurship	
FINA 4610	Entrepreneurial Finance and Private Equity	
INNO 2206	Global Social Enterprise	
INNO 2304	Industry Disruption and Corporate Transformation	
MGMT 3302	Negotiating in Business	

One course from an approved Dialogue may count toward an elective.

Family Business

A family business is a commercial organization owned or controlled by members of a single family or extended family, including relatives related by blood, marriage, or adoption. Family controlled companies are a dominant form of enterprise worldwide. Due to the inextricable link between family and the business, family firms must grapple with unique challenges in that the business decisions are often intertwined with family dynamics, as in the case of succession planning and corporate governance. The purpose of this concentration is to provide insight and understanding of the distinct challenges, opportunities, and practices of family/owner-controlled companies.

The concentration covers family and business issues of family firms, including family values and culture, managing conflict, sibling rivalry, entitlement, hiring family and nonfamily employees, management of the family business, facilitating growth and change, and succession planning. This concentration is intended for those contemplating a career in a family business and for those who plan to consult or provide professional services to family businesses. It will present both a theoretical framework for understanding the family form of business and a practical perspective on working for, or consulting to, a family/owner-controlled business.

Concentration Requirements

Concentration in Family Business

Code	Title	Hours
Required Courses		
INNO 2301	Innovation!	4
ENTR 4503	Integrated Studies in Family Business	4
Electives		
Complete two electives, one of which may come from the Additional Elective list:		8
ENTR 2215	Understanding Family Enterprise	
ENTR 3302	Managing and Growing the Family Business	
ENTR 3401	Consulting Operations Growth in SMEs	
Additional Electives		
ENTR 2303	Marketing Strategies for Startups	
ENTR 4983	Special Topics in Entrepreneurship	
FINA 4610	Entrepreneurial Finance and Private Equity	
INNO 2206	Global Social Enterprise	
INNO 2304	Industry Disruption and Corporate Transformation	
MGMT 3302	Negotiating in Business	
Students may use one course from an approved Dialogue experience toward the elective area of the concentration.		

Finance

The role of people trained in finance is expanding rapidly within the business world. Changes on the financial scene—rising securities prices, fluctuating inflation, currency values and interest rates, and globalization of markets—have created an awareness that financial knowledge is essential to the effective management of business firms and many other types of organizations.

Finance is the management of real and monetary assets for businesses, financial institutions, nonprofit organizations, governments, and individuals. Finance courses draw on accounting principles, economic theory, and quantitative methods. These courses develop methods to direct the way capital is acquired and managed. Students are exposed to economic and financial systems and how they operate. They also are given an opportunity to analyze economic trends and indicators and to apply this analysis to financial decision making.

Students may specialize in one or more of the following areas: corporate finance, investment management and analysis, risk management, and real estate. The program is designed to prepare students for careers in corporate financial management, security analysis, investment management, security or insurance brokerage, credit management, and risk management with corporations, banks, insurance companies, and other financial institutions.

Concentration Requirements

Concentration in Finance

Code	Title	Hours
Required Course		
FINA 3301	Corporate Finance	4
or FINA 3303	Investments	
Electives		
Complete three of the following:		12
FINA 2720	Sustainability in the Business Environment	
or INNO 3520	Impact Investing and Social Finance	
FINA 2730	Fintech and Financial Innovation	
FINA 3301	Corporate Finance (if not selected as a required course)	
FINA 3303	Investments (if not selected as a required course)	
FINA 3401	Responsible Investing	
FINA 4219	Portfolio Management	
FINA 4220	Behavioral Finance	
FINA 4310	Working Capital Management	
FINA 4312	Issues in Corporate Governance	
FINA 4320	International Financial Management	
FINA 4330	Emerging Financial Markets	
FINA 4335	Computational Methods and Their Applications in Finance	
FINA 4340	Blockchain Applications in Finance	
FINA 4350	Applied Financial Econometrics and Data Modeling	
FINA 4370	Financial Modeling	
FINA 4390	Machine Learning in Finance	
FINA 4410	Valuation and Value Creation	
FINA 4412	Personal Financial Planning	
FINA 4420	Mergers and Acquisitions	
FINA 4512	Financial Risk Management	
FINA 4514	Investment Banking	
FINA 4516	Real Estate Finance	
FINA 4524	Credit Analysis	
FINA 4526	Core Topics in Alternative Investments	
FINA 4602	Turnaround Management	
FINA 4604	Fixed-Income Securities	
FINA 4610	Entrepreneurial Finance and Private Equity	
FINA 4983	Special Topics in Finance	

Fintech

This concentration is designed for students who are interested in learning about new applications of technology in financial services, under the general heading of fintech (financial technology). In addition to mastering the foundations of finance, students in this concentration have an opportunity to learn how to leverage technology to create and improve financial services. The concentration provides both a broad and in-depth view of various fintech topics (e.g., big data, machine learning, peer-to-peer lending, blockchain, digital currencies, algorithmic trading) and allows students to develop programming skills in R and Python. These tools and knowledge are especially valued by banks, consulting firms, financial technology, and investment firms.

Concentration Requirements

Concentration in Fintech

Only one course may be double counted with another concentration.

Code	Title	Hours
Required Courses		
FINA 3303	Investments	4
or FINA 3301	Corporate Finance	
FINA 4335	Computational Methods and Their Applications in Finance	4
Electives		
Complete two of the following:		8
CS 4520	Mobile Application Development	
FINA 2730	Fintech and Financial Innovation	
FINA 4340	Blockchain Applications in Finance	
FINA 4350	Applied Financial Econometrics and Data Modeling	
FINA 4390	Machine Learning in Finance	
FINA 4460	Algorithmic and Robo-Trading	
FINA 4605	Fintech Experiential Project	

Global Business and Strategy

The global business and strategy concentration examines how a corporation chooses goals and positions itself in the global business environment to achieve these performance objectives. The focus is on analyzing firms and industries in a continuously changing global context, i.e., across multiple countries, markets, competitors, independent nation-state governments, and multilateral organizations. The courses combine analytical thinking with the consideration of different national and cultural environments to illuminate global strategy, how governments and multilateral organizations set and affect the rules of engagement in global business, and how firms and institutions can develop and change strategy to be successful over time. Students can investigate the diversity and complexity of doing business in different economic and political systems.

The concentration is designed to help students prepare for positions in strategic planning and analysis in multinational companies, consulting firms, and government agencies and multilateral organizations, as well as in global business development in new startups and small enterprises.

Concentration Requirements

Concentration in Global Business and Strategy

Code	Title	Hours
Required Courses		
INTB 1205	The Global Business Environment	4
INTB 2205	Business Decision Making in Developed Country Environments	2
INTB 2206	International Business Decision Making in Emerging Markets	2
INTB 4202	Executing Global Strategy	4
Elective		
Complete one of the following:		4
FINA 4320	International Financial Management	
INTB 3310	Cultural Aspects of International Business	
INTB 4983	Special Topics in International Business	
MKTG 4512	International Marketing	
SCHM 3301	Global Supply Chain Strategy	

Healthcare Management and Consulting

Healthcare is an exciting and important industry, growing faster than any other, and its importance to society cannot be underestimated given its focus on helping people live longer and lead happier, higher-quality lives. Working in healthcare requires knowledge and skills in several cutting-edge areas such as service delivery innovation, process and quality improvement, talent management, analytics, and supply chain management. The concentration in healthcare management and consulting offers students an opportunity to understand how this major sector of the U.S. economy works; to apply training in other areas like finance and marketing to managing healthcare problems and opportunities; to obtain a viable educational and career outlet for realizing their interests in advancing the social good; and to prepare for working, managing, and consulting in the healthcare industry. The concentration in healthcare management and consulting is an interdisciplinary concentration that provides exposure to several different areas of business and the social sciences important for working in healthcare.

Concentration Requirements

Concentration in Healthcare Management and Consulting

Note: Students may double count up to one course in another business concentration.

Code	Title	Hours
Required Courses		
MGMT 3340	Healthcare Management, Innovation, and Design	4
SCHM 3315	Managing Healthcare Operations and Supply Chain	4
Implementation/Consulting Elective		
Complete one of the following:		4
BUSN 3110	The Consulting Environment	
ENTR 3220	International Entrepreneurship and Innovation Consulting	
MGMT 3302	Negotiating in Business	
MISM 3501	Information Visualization for Business	
MISM 3515	Data Mining for Business	
MGMT 3315	Managing Organizational Change and Disruption	
MGMT 3530	Project Management	
MGMT 3420	Managing Human Capital	
MGMT 4410	Workforce Analytics	
MGMT 4550	Management Consulting in Organizations	
Interdisciplinary Healthcare Focus		
Complete one of the following:		4
COMM 3201	Health Communication	
COMM 4533	Consultation Skills	
HUSV 2970	Research Methods for Human Services	
IE 3500	Introduction to Healthcare Systems Engineering	
PHTH 2515	Healthcare Policy and Administration	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
SOCL 3441	Sociology of Health and Illness	

International Business

The concentration in international business is designed for students interested in developing their knowledge and skills related to doing business in the global economy. The development of a deeper understanding of international business will be crucial in the future. Subject matter covered in this concentration focuses on topics such as the cultural, economic, technological, and political aspects of varying national business environments and their impact on international business operations. Students are exposed to a variety of key international business concepts ranging from strategic planning in the global arena to managing behavior and interpersonal relations. Additional topics include international trade theory, national trade policies, foreign market analysis, managing technological issues, and international strategic management.

From a job placement perspective, few firms today operate or compete exclusively in domestic markets. Possessing a knowledge of how people, firms, and institutions interact across borders provides international business concentrators with a competitive edge. This concentration pairs well with other D'Amore-McKim concentrations such as finance, marketing, and supply chain, among others.

Concentration Requirements

Concentration in International Business

Note: Students may double count up to one course in another business concentration.

Code	Title	Hours
Required Courses		
INTB 1203	International Business and Global Social Responsibility	4
or INTB 1209	International Business and Global Social Responsibility	
Complete one or both of the following:		4-8
INTB 2501	Competing to Win in Emerging Markets	
INTB 3310	Cultural Aspects of International Business	
Electives		
Complete two of the following courses (one if both courses above selected).		4-8
Note: One course can also count toward a different business concentration.		
Managing Internationally		
INTB 3205	Understanding and Managing Cultural Differences	
INTB 3320	International Business Management and Environment	
INTB 4202	Executing Global Strategy	
INTB 4983	Special Topics in International Business	
International Functional Knowledge		
ENTR 3306	Global Entrepreneurship	
FINA 4320	International Financial Management	
INNO 2206	Global Social Enterprise	
MKTG 4512	International Marketing	
SCHM 3301	Global Supply Chain Strategy	
Electives not listed may be approved via the undergraduate dean's office.		

Management

Managing—whether it's people, projects, or programs—is challenging and requires a considerable range of knowledge and skills. Effective managers must know the business, be interpersonally competent, behave ethically, and diagnose and deal with human and organizational dynamics. The aim of the management concentration is to increase both managerial *knowledge* and management *skills.* This involves both studying *and* practicing topics such as motivation, leadership, negotiation, conflict resolution, project management, managing teams, organizational change, and their impact on business results.

Management concentrators participate in vibrant co-op experiences spanning a diverse range of business functions, such as business analytics, human resources, client and sales support, and project management. Many students who concentrate in management decide to get a second concentration, giving them the ability to work in teams and manage other people in whatever arena they find themselves.

Concentration Requirements

Concentration in Management

Code	Title	Hours
Required Course		
MGMT 4550	Management Consulting in Organizations	4
or MGMT 3380	Leadership	
Electives		
Note: Only one non-MGMT course may be used as an elective.		
Complete three of the following:		12
ENTR 2215	Understanding Family Enterprise	
INNO 2304	Industry Disruption and Corporate Transformation	
INNO 2414	Social Responsibility of Business in an Age of Inequality	
INTB 3205	Understanding and Managing Cultural Differences	
MGMT 3302	Negotiating in Business	
MGMT 3305	Power and Influence	
MGMT 3315	Managing Organizational Change and Disruption	
MGMT 3340	Healthcare Management, Innovation, and Design	
MGMT 3350	Managing a Diverse Workforce	
MGMT 3380	Leadership (If not used as the required course)	
MGMT 3420	Managing Human Capital	
MGMT 3435	Social Networks and Organizations	
MGMT 3530	Project Management	
MGMT 4310	The Management Practices of Great Organizations	
MGMT 4410	Workforce Analytics	
MGMT 4550	Management Consulting in Organizations (If not used as the required course)	
MGMT 4983	Special Topics in Management	
STRT 4301	Strategic Analysis and Decision Making	

Management Information Systems

In the global information age, success for organizations requires the ability to manage, analyze, and use information effectively. To that end, the goal of the Management Information Systems concentration is to teach future managers how to manage and utilize data and information technology (IT) to help both individuals and organizations perform more efficiently and effectively. This can lead the student in two career directions:

- To become a professional in the cross-functional information management, business analytics, and data quality and governance functions of a company or in an IT or data-enabled strategic business transformation initiative.
- To accelerate and enhance a data-informed or data leadership career in organizations or another functional area such as finance, marketing, research and development, innovation, accounting, workforce management, strategic management, or acquisitions.

Understanding how to get the right information in the right form and format to the right people at the right time is essential in today's business world, especially when companies and the individuals that do this well are achieving significant competitive advantages. Students have the opportunity to explore new, cutting-edge approaches that allow them to use the powerful resource of information to its greatest advantage. These approaches often use analytical concepts such as information visualization, artificial intelligence, and data mining. The importance of information privacy and security is also emphasized. Students have the opportunity to develop technical and problem-solving skills that are in high demand by employers, and to apply those skills through both classroom activities and co-ops focused on information management or business analytics.

Managers in the information management function need to interact frequently with other managers throughout an organization. Therefore, students are also encouraged to complete a dual concentration in information management and another area of business. Graduates of this program have a wide range of career paths that suit their particular interests. Professional options include Business/Systems/Information Analyst, Database Manager or Designer, Data Architect or Data Strategist, Information Product Designer/Manager, Data Quality Manager, Data Governance Manager, IT or Data Project Manager, Consultant, and IT or Data Specialist or Strategist within other departments, such as financial services, accounting, marketing, R&D, manufacturing, customer service, and risk management and compliance. Executive positions include Chief Data Officer or Chief Information Officer.

Concentration Requirements

Concentration in Management Information Systems

Code	Title	Hours
Only one course may double count between another concentration or minor.		
Required Courses		
MISM 3403	Data Management for Business	4
Electives		
Complete three of the following:		12
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MGMT 3530	Project Management	
MISM 3405	Data Wrangling for Business Analytics	
or MISM 2510	Fundamentals of Information Analytics	
or MISM 3515	Data Mining for Business	
or MISM 3501	Information Visualization for Business	
MISM 2420	Foundations of Business Analysis	
MISM 3460	Web Design and Development for Business	
MISM 4405	IT Requirements Analysis and Modeling for Business	
MISM 4501	Strategic Information Products	
MISM 4983	Special Topics in Management Information Systems	

Marketing

Aspiring marketers at the D'Amore-McKim School of Business have an opportunity to learn how brands, customers, and organizations impact business performance and society by creating, communicating, and delivering value to customers. The concentration embraces an approach that is analytical, creative, and practice oriented. Students receive instruction from award-winning research and teaching faculty who share their knowledge to help empower the next generation of marketing leaders.

The concentration in marketing encourages students to examine marketing as a driver of business growth, while considering the ethical and sustainable practices that are necessary for business and societal benefit.

The building blocks of the marketing concentration require courses in marketing research or analysis of customer data followed by a tailored set of electives to suit different student goals and interests.

The concentration aims to prepare students with the knowledge and skills to pursue careers in a broad range of professional settings including, but not limited to, digital marketing management, social media marketing, marketing analysis, data analysis, marketing consulting, UX design, content strategy, consumer insights analysis, sales management, and product and brand management.

The marketing concentration is available to students taking the BSBA or BSIB degree within the D'Amore-McKim School of Business and in most D'Amore-McKim combined majors (p. 594) . Other marketing-related options available to students include a minor in marketing and both concentrations and minors in brand management and marketing analytics.

Concentration Requirements

Concentration in Marketing

Code	Title	Hours
Required Courses		
MKTG 2602	Quantitative Analysis of Consumer Data	4
or MKTG 3401	Marketing Research	
Electives		
Complete three of the following:		12
ENTR 4414	Bridging Conflict, Creating Diversity	
MKTG 2301	Marketing and Society	
MKTG 2602	Quantitative Analysis of Consumer Data (if not taken as a required course)	
MKTG 2720	Enabling Technologies for Consumer Engagement	
MKTG 3301	Marketing Management	
MKTG 3401	Marketing Research (if not taken as a required course)	
MKTG 3402	Gaining Insights from Consumer Data	
MKTG 3501	Marketing Analytics	
MKTG 3720	Brand Management	
MKTG 4120	Undergraduate Research Practicum in Marketing	
MKTG 4220	Marketing in Asia	
MKTG 4420	Sales Management	
MKTG 4502	Managing Customer Engagement in a Service World	
MKTG 4504	Advertising and Brand Promotion	
MKTG 4506	Consumer Behavior	
MKTG 4508	Digital Marketing	
MKTG 4510	New Product Development	
MKTG 4512	International Marketing	
MKTG 4520	Business-to-Business Marketing	
MKTG 4604	Creating Business Value with Data and AI Technologies	
MKTG 4606	Digital, Analytics, Technology, and Automation Research Practicum	
MKTG 4720	Understanding the Platform Economy	
MKTG 4983	Special Topics in Marketing	

Marketing Analytics

Marketing analytics comprises the data-driven methods, techniques, and technologies that enable marketers to evaluate the success of their marketing initiatives and campaigns. This concentration offers the opportunity to learn the cutting-edge skills necessary to harness, process, and analyze data to address modern marketing challenges. It combines programming, quantitative analysis, data-driven consumer insights, and predictive modeling into an integrated curriculum that is designed to prepare students for successful careers in marketing analytics and other data-driven business specializations.

Concentration Requirements

Concentration in Marketing Analytics

Note: Students may double count up to one course in another business concentration.

Code	Title	Hours
Required Courses		
MKTG 2602	Quantitative Analysis of Consumer Data	4
MKTG 3402	Gaining Insights from Consumer Data	4
MKTG 3501	Marketing Analytics	4
Elective		
Complete one of the following:		4-5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	

Social Innovation and Entrepreneurship

Social entrepreneurship involves creating new products, services, or programs to address social or environmental needs. The Business Concentration in Social Innovation and Entrepreneurship is designed to prepare students from any background or area of study with the knowledge, skills, and experience to launch a new venture or project focused on creating social change through business, partner or work with innovation-driven nonprofit and for-profit social enterprises, work for a business in any industry with an emerging strategic commitment to positive social impact, work in the social finance and impact-investing sectors within the financial services industry, and create and lead intrapreneurial ventures and projects in any business or industry that evidence a commitment to the "stakeholder" model of business.

These five areas fall within the rapidly growing segments of the global economy in which social returns are elevated alongside financial returns in order to create a more equitable and inclusive society. Students will consider ethical and social issues in creating, building, managing, and growing small, medium, and large businesses. The concentration includes a structured community engagement and service requirement, either through participation in international fieldwork (Dialogues, Alternative Spring Break, or other embedded travel programs) and/or local community service programs. Students will have the opportunity to develop specific skill sets in entrepreneurial thinking and critical analysis, creative problem solving, professional communications (writing and presentations), working in diverse and multicultural teams, and interdisciplinary research and data analysis.

Concentration Requirements

Concentration in Social Innovation and Entrepreneurship

Code	Title	Hours
Required Courses		
INNO 2301	Innovation!	4
INNO 4506	Integrated Studies in Social Innovation and Entrepreneurship	4
Electives		
Complete two of the following, one of which may come from the additional elective list:		8
INNO 2206	Global Social Enterprise	
INNO 2414	Social Responsibility of Business in an Age of Inequality	
INNO 3520	Impact Investing and Social Finance	
Additional Electives		
ENTR 2215	Understanding Family Enterprise	
ENTR 2303	Marketing Strategies for Startups	
ENTR 4983	Special Topics in Entrepreneurship	
FINA 4610	Entrepreneurial Finance and Private Equity	
INNO 2304	Industry Disruption and Corporate Transformation	
MGMT 3302	Negotiating in Business	
MKTG 2301	Marketing and Society	

One course from an approved Dialogue may count toward an elective.

Supply Chain Management

From the Fortune 500 manufacturer to the small firm that produces, sells, or distributes products, all companies have a supply chain function that must be effectively managed if they are to be competitive. A supply chain manager is typically involved in making critical decisions about such matters as procurement of supplies and/or services, demand planning and forecasting, inventory policies, order fulfillment, transportation of company's materials and products, warehouse and distribution operations, location of facilities, managing interfirm relationships, and customer service. As companies become increasingly involved in global markets as both buyers and sellers, supply chain managers play a major role not only in assessing the feasibility of international activity but also in developing supply and distribution networks to support that involvement. Because supply chain managers frequently interact with those involved in other areas of management, many supply chain management students have chosen to complete a second concentration in such areas as marketing, management information systems, finance, or entrepreneurship.

There are many career options for supply chain management students. In addition to finding career opportunities with manufacturers, retailers, and distributors, supply chain management students may find similar opportunities with companies that sell supply chain services; consulting firms; financial institutions; healthcare firms; and government agencies at the federal, state, and local levels.

Concentration Requirements

Concentration in Supply Chain Management

Code	Title	Hours
Required Courses		
SCHM 3301	Global Supply Chain Strategy	4
SCHM 3305	Sourcing, Procurement, and Negotiation	4
SCHM 3310	Logistics and Transportation Management	4
Elective		
Complete one of the following:		4
SCHM 3308	Supply Chain Analytics and Emerging Technologies	
SCHM 3315	Managing Healthcare Operations and Supply Chain	
SCHM 4401	Contemporary Topics in Supply Chain Management	
SCHM 4983	Special Topics in Supply Chain Management	

Minors

Students who wish to enter one of the minor programs listed below should complete the online minor form accessible via the D'Amore-McKim School of Business Undergraduate Programs website. Students who complete all required courses successfully and have earned at least a C (2.000) average in them will be awarded the minor at graduation.

- Accounting and Advisory Services (p. 673)
- Brand Management (p. 674)
- Business Administration (p. 675)
- Business Analytics (p. 676)
- Consulting (p. 677)
- Corporate Innovation (p. 679)
- Emerging Markets (p. 680)
- Entrepreneurial Startups (p. 681)
- Family Business (p. 682)
- Leadership and Human Capital (p. 683)
- Management Information Systems (p. 684)
- Marketing (p. 685)
- Marketing Analytics (p. 686)
- Social Innovation and Entrepreneurship (p. 687)
- Strategy (p. 688)
- Supply Chain Management (p. 689)
- Sustainable Business Practices (p. 690)

Accounting and Advisory Services, Minor

Overview

The accounting and advisory services minor is aimed at nonbusiness students who wish to complement their current studies with a focus in accounting and advisory services. Accounting knowledge is the foundation for business decision makers to make sound judgments and support the operational and strategic decisions in a firm. Importantly, public accounting firms are hiring students from nonaccounting disciplines for their advisory services practices. These students work in interdisciplinary areas including mergers and acquisitions, risk management, operations, data analytics, and digital transformation where accounting knowledge from this minor will provide them with a competitive advantage. Students pursuing the minor may select among accounting courses that explore topics such as financial reporting, advisory services and emerging accounting systems, strategic cost analysis, and tax planning. Students can also choose courses from other disciplines that would benefit from accounting knowledge such as engineering, computer science, and healthcare.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. The accounting and advisory services minor is not open to D'Amore-McKim students or students pursuing a combined major with the D'Amore-McKim School of Business.

Required Courses

Code	Title	Hours
ACCT 1209	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4

Electives

Code	Title	Hours
Complete one of the following:		4
ACCT 3401	Financial Reporting and Analysis 1	
ACCT 3403	Advisory Services and Emerging Accounting Systems	
ACCT 3416	Strategic Cost Analysis for Decision Making	
ACCT 4414	Income Tax Determination and Planning	

Code	Title	Hours
Complete one of the following:		4
ACCT 3304	Business Law and Professional Ethics	
ACCT 3401	Financial Reporting and Analysis 1	
ACCT 3403	Advisory Services and Emerging Accounting Systems	
ACCT 3416	Strategic Cost Analysis for Decision Making	
ACCT 4412	Auditing and Other Assurance Services	
ACCT 4414	Income Tax Determination and Planning	
ACCT 4501	Financial Reporting and Analysis 2	
EMGT 5220	Engineering Project Management	
IE 3425	Engineering Database Systems	
IE 3500	Introduction to Healthcare Systems Engineering	
IE 4512	Engineering Economy	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5617	Lean Concepts and Applications	
IS 2000	Principles of Information Science	
IS 3500	Information System Design and Development	

GPA Requirement

2.000 GPA required in the minor

Brand Management, Minor

Think about some of your favorite brands—chances are, there is a high-powered brand manager working behind the scenes to ensure the brand resonates with you, one of its target consumers. Brand managers oversee the integrity of a brand across all marketing activities in tech, consumer packaged goods (CPG), and service industries. The position of brand manager requires strategic thinking, focus on the customer experience, communication with multiple stakeholders and cross-functional teams, creativity, and analytical skills. Brand managers are creative, organized multitaskers, who often serve as the liaison between the marketing group, design team, and engineers to oversee the consistency of the brand image. While every day is different, typical activities of a brand manager include conducting and analyzing research to identify brand opportunities, understanding market trends and competitive landscape, creating and maintaining brand marketing budget, managing cross-platform brand communication strategy, developing the brand story, executing marketing and advertising campaigns, and overseeing the overall health of a brand. When managing a brand's products or services in a tech firm, brand and product managers may also be involved in ideation, prototyping, user experience (UX) testing, and business casing. This minor offers the opportunity to learn these skills across coursework in marketing, consumer behavior, advertising, new product development, marketing analytics, project management, demand planning and forecasting, and product innovation. As such, the required courses, paired with a flexible, yet focused list of electives, support students in the aspects of brand management that are most relevant for their future career prospects.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Students in the D'Amore-McKim School of Business or in a combined major with D'Amore McKim School of Business are not allowed to pursue this minor.

Required Courses

Code	Title	Hours
MKTG 2209	Introduction to Marketing	4
or MKTG 2201	Introduction to Marketing	
MKTG 3720	Brand Management	4

Electives

Code	Title	Hours
Complete two of the following with at least one course from MKTG:		8
INNO 2301	Innovation!	
MGMT 3530	Project Management	
MKTG 2720	Enabling Technologies for Consumer Engagement	
MKTG 3401	Marketing Research	
or MKTG 3402	Gaining Insights from Consumer Data	
MKTG 4502	Managing Customer Engagement in a Service World	
MKTG 4504	Advertising and Brand Promotion	
MKTG 4506	Consumer Behavior	
MKTG 4510	New Product Development	
or ENTR 3330	Design Thinking for Startups	
or INNO 3335	Product Innovation and Portfolio Management	
MKTG 4720	Understanding the Platform Economy	

GPA Requirement

Minimum 2.000 GPA required in all courses completed

Business Administration, Minor

The minor in business administration introduces nonbusiness students to the key functional areas in business, providing a broad overview of the business world. The minor is available to nonbusiness students only.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Accounting

Code	Title	Hours
ACCT 1209	Financial Accounting and Reporting	4

Organizational Behavior

Code	Title	Hours
ORGB 3209	Organizational Behavior	4

Finance

Code	Title	Hours
FINA 2209	Financial Management (ACCT 1209 is a prerequisite)	4

Marketing

Code	Title	Hours
MKTG 2209	Introduction to Marketing	4

Business Elective

Code	Title	Hours
Complete one of the following courses or, with the approval of the undergraduate dean's office, any business course for which the prerequisites have been met:		4
ENTR 1201	The Entrepreneurial Universe	
ENTR 2215	Understanding Family Enterprise	
FINA 1209	Personal Finance	
FINA 2720	Sustainability in the Business Environment	
INNO 2206	Global Social Enterprise	
INNO 2301	Innovation!	
INNO 2414	Social Responsibility of Business in an Age of Inequality	
INTB 1209	International Business and Global Social Responsibility	
INTB 2501	Competing to Win in Emerging Markets	

GPA Requirement

2.000 GPA required in the minor

Business Analytics, Minor

The business analytics minor is open to non-business undergraduate students with any major and offers analytics courses from a business decision-making perspective. The goal of these courses is to help students develop data-driven insights into business problems and solutions, along with the skills to communicate these insights effectively across the organization. The courses include both foundational courses, those geared toward more specific data analytics challenges, and those that apply analytical techniques to specific functional areas. Business analytics courses are grounded in relevant theory and principles and explore real-world problems and data. The courses explore analytics techniques and topics such as information visualization, artificial intelligence, machine learning, and data mining. Course tools are selected based on their effectiveness, usefulness, and their widespread use by employers. Depending on the courses chosen, students can develop skills using packages and languages such as R, Python, SQL, and Tableau. Students have the opportunity to develop technical and problem-solving skills that are in high demand by many types of organizations. The business analytics minor can fit well with any majors across colleges and schools.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Starting Fall 2021 the Business Analytics minor is available to non-business majors only .

Required Course

Code	Title	Hours
MISM 2510	Fundamentals of Information Analytics	4

Electives

Code	Title	Hours
Complete three of the following:		12
Note: Only one non-MISM course may be used as an elective.		
ECON 2560	Applied Econometrics	
EECE 2300	Computational Methods for Data Analytics	
FINA 4335	Computational Methods and Their Applications in Finance	
JRNL 3610	Digital Storytelling and Social Media	
MGMT 4410	Workforce Analytics	
MISM 3403	Data Management for Business	
MISM 3501	Information Visualization for Business	
MISM 3515	Data Mining for Business	
MISM 3525	Modeling for Business Analytics	
MISM 4983	Special Topics in Management Information Systems	
MKTG 3501	Marketing Analytics	
SCHM 3308	Supply Chain Analytics and Emerging Technologies	

GPA Requirement

2.000 GPA required in the minor

Consulting, Minor

This minor is designed to provide students with a solid foundation in the skills and concepts needed to succeed in a consulting-oriented environment, as well as an introduction to a variety of possible contexts for consulting work. Consulting skills are essential work skills for many roles beyond the traditional management consultant. Many technical positions within firms demand that consultative skills be used within the firm even in early career positions (e.g., business analyst); in this respect, a consulting minor complements students' technical training. Required courses cover the fundamentals of both management and strategy consulting, as well as a framework of consulting activities that can be applied to many types of consulting and consultative roles. Electives provide students an opportunity to gain deeper knowledge in a specific consulting skill and to explore a context in which they could apply their consulting knowledge.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students may only double-count one course in the minor toward their major, concentration, or another minor.

Required Courses

Code	Title	Hours
BUSN 3110	The Consulting Environment	4
MGMT 4550	Management Consulting in Organizations	4

Electives

Code	Title	Hours
Consulting Skills		
Complete one of the following:		4
COMM 4533	Consultation Skills	
ENTR 3220	International Entrepreneurship and Innovation Consulting	
ENTR 4510	Management Consulting Abroad	
FINA 4602	Turnaround Management	
MGMT 3302	Negotiating in Business	
MGMT 3315	Managing Organizational Change and Disruption	
MGMT 3530	Project Management	
MGMT 4310	The Management Practices of Great Organizations	
MGMT 4410	Workforce Analytics	
STRT 4301	Strategic Analysis and Decision Making	
Consulting Contexts		
Complete one of the following:		4
ACCT 3403	Advisory Services and Emerging Accounting Systems	
ACCT 3416	Strategic Cost Analysis for Decision Making	
CS 3200	Database Design	
CY 2550	Foundations of Cybersecurity	
DS 3000	Foundations of Data Science	
EMGT 5220	Engineering Project Management	
ENTR 3330	Design Thinking for Startups	
ENTR 3401	Consulting Operations Growth in SMEs	
FINA 4420	Mergers and Acquisitions	
FINA 4514	Investment Banking	
IE 3500	Introduction to Healthcare Systems Engineering	
IE 4525	Logistics and Supply Chain Management	
IE 4625	Facilities Planning and Material Handling	
IE 5400	Healthcare Systems Modeling and Analysis	
IE 5640	Data Mining for Engineering Applications	
INTB 2501	Competing to Win in Emerging Markets	
MGMT 3305	Power and Influence	
MGMT 3340	Healthcare Management, Innovation, and Design	
MGMT 3420	Managing Human Capital	

MKTG 3301	Marketing Management
MKTG 4506	Consumer Behavior
PHMD 5575	Pharmaceutical Industry
POLS 2340	Business and Government

GPA Requirement

2.000 GPA required in the minor

Corporate Innovation, Minor

Corporate innovation is a series of processes by which established companies promote, design, and pursue innovation opportunities that can result in new products, services, and/or business models. It entails R&D activities, product development, internal venture accelerators, acquisitions, and alliances. Innovation is the most powerful competitive weapon for a corporation that wants to ensure growth and relevance over time.

The corporate innovation minor is designed to prepare students to develop new businesses, products, services, or processes inside of an existing organization to create value and generate new revenue growth through entrepreneurial thought and action. A minor in corporate innovation seeks to develop students to be agents of change and renewal within established companies, aspiring to leading roles in areas such as product development, new business research, and innovation-related projects. This minor targets students with co-op aspirations that involve positions within corporations such as entry-level product line management, project management, consulting, and new product and service development.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. The minor is not available to D'Amore-McKim School of Business students or students pursuing a combined major with the D'Amore-McKim School of Business.

Required Course

Code	Title	Hours
INNO 2301	Innovation!	4

Electives

Code	Title	Hours
Complete three electives, one of which may be chosen from the additional electives list:		12
INNO 2304	Industry Disruption and Corporate Transformation	
INNO 3335	Product Innovation and Portfolio Management	
INNO 4225	Growth, Acquisitions, and Alliances	
INNO 4504	Integrated Studies in Corporate Innovation	
Additional Electives		
ARTG 1250	Design Process Context and Systems	
ARTG 3462	Experience Design Principles	
CS 4500	Software Development	
CS 4520	Mobile Application Development	
CS 4550	Web Development	
ENTR 1201	The Entrepreneurial Universe	
GAME 2010	The Business of Games	
GE 1110	Engineering Design	
GE 5100	Product Development for Engineers	

GPA Requirement

2.000 GPA required in the minor

Emerging Markets, Minor

Emerging markets, such as Brazil, China, Ethiopia, India, Indonesia, Poland, or Turkey, account for 85% of the world's population, half its GDP, and about two-thirds of world economic growth. Understanding how to leverage the consumer needs, talent, and innovation potential of these economies will be vital for the future success of all for-profit and not-for-profit organizations. It will also be important for reducing global poverty and inequality. The minor combines coursework on the economic, political, and business challenges of operating in emerging markets with a hands-on, immersive field study component. This interdisciplinary minor is open to business and nonbusiness students, including BSIB students.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Emerging Markets

Code	Title	Hours
Complete one of the following:		4
INTB 2205 and INTB 2206	Business Decision Making in Developed Country Environments and International Business Decision Making in Emerging Markets	
INTB 2501	Competing to Win in Emerging Markets	
INTB 4983	Special Topics in International Business	

Field Study

Code	Title	Hours
Field study as preapproved by the director of the emerging markets minor and/or D'Amore-McKim undergraduate dean's office. Please contact the D'Amore-McKim academic advising office to confirm option(s).		4
Students may undertake 4 SH of independent research with approval.		

Electives

Code	Title	Hours
Complete two of the following:		8
AFRS 1101	Introduction to African Studies	
ANTH 2305	Global Markets and Local Culture	
ASNS 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
or HIST 1500	Modern Chinese History and Culture	
CLTR 1505	Latin American Culture, History, and Politics	
COMM 2303	Global and Intercultural Communication	
HIST 2311	Colonialism/Imperialism	
INNO 2206	Global Social Enterprise	
INTB 3310	Cultural Aspects of International Business	
INTL 3400	International Conflict and Negotiation	
INTL 3450	Security, Culture, Power	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3487	Politics of Developing Nations	

GPA Requirement

2.000 GPA required in the minor

Entrepreneurial Startups, Minor

This interdisciplinary minor guides students through the startup process. The Minor in Entrepreneurial Startups is designed to prepare students from any background or area of study to conceptualize, launch, manage, and grow a new business. Students have an opportunity to learn to shape entrepreneurial opportunities; assess feasibility; and develop other skills needed to conceptualize, launch, manage, and grow a new business venture. Students are exposed to innovation, marketing, and business modeling as they work in interdisciplinary teams to develop business plans. Courses from the College of Arts, Media and Design; the College of Engineering; and the Khoury College of Computer Sciences have been carefully selected to allow students to apply the same course to both their own college degree and the entrepreneurial startups minor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Students in the D'Amore-McKim School of Business or pursuing a combined major with the D'Amore-McKim School of Business may not pursue this minor.

Required Course

Code	Title	Hours
INNO 2301	Innovation!	4

Electives

Code	Title	Hours
Complete three of the following, one of which may be chosen from the additional elective options list:		12
ENTR 2303	Marketing Strategies for Startups	
ENTR 3305	Business Model Design and Innovation	
ENTR 3330	Design Thinking for Startups	
ENTR 4501	Integrated Studies in Entrepreneurial Startups	
Additional Elective Options		
One of the following may fulfill an elective:		
ARTG 1250	Design Process Context and Systems	
ARTG 3462	Experience Design Principles	
CS 4500	Software Development	
CS 4520	Mobile Application Development	
CS 4550	Web Development	
ENTR 1201	The Entrepreneurial Universe	
ENTR 4505	Entrepreneurial Venture Growth Strategies	
GAME 2010	The Business of Games	
GE 1110	Engineering Design (Enginerring Students Only)	
GE 5100	Product Development for Engineers (Enginerring Students Only)	

GPA Requirement

2.000 GPA required in the minor

Family Business, Minor

A family business is a commercial organization owned or controlled by members of a single family or extended family, including relatives related by blood, marriage, or adoption. Family controlled companies are a dominant form of enterprise worldwide. Due to the inextricable link between family and the business, family firms must grapple with unique challenges in that the business decisions are often intertwined with family dynamics, as in the case of succession planning and corporate governance. The purpose of this minor is to provide insight and understanding of the distinct challenges, opportunities, and practices of family/owner-controlled companies.

The minor covers family and business issues of family firms, including family values and culture, managing conflict, sibling rivalry, entitlement, hiring family and nonfamily employees, management of the family business, facilitating growth and change, and succession planning. This minor is intended for those contemplating a career in a family business and for those who plan to consult or provide professional services to family businesses. It will present both a theoretical framework for understanding the family form of business and a practical perspective on working for, or consulting to, a family/owner-controlled business.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. The minor is not available to D'Amore-McKim School of Business students nor students pursuing a combined major with the D'Amore-McKim School of Business.

Required Course

Code	Title	Hours
INNO 2301	Innovation!	4

Electives

Code	Title	Hours
Complete three courses, one of which may be chosen from the additional elective option list:		12
ENTR 2215	Understanding Family Enterprise	
ENTR 3302	Managing and Growing the Family Business	
ENTR 3401	Consulting Operations Growth in SMEs	
ENTR 4503	Integrated Studies in Family Business	
Additional Electives		
ARTG 1250	Design Process Context and Systems	
ARTG 3462	Experience Design Principles	
CS 4500	Software Development	
CS 4520	Mobile Application Development	
CS 4550	Web Development	
ENTR 1201	The Entrepreneurial Universe	
GAME 2010	The Business of Games	
GE 1110	Engineering Design (Enginerring Students Only)	
GE 5100	Product Development for Engineers (Enginerring Students Only)	

GPA Requirement

2.000 GPA required in the minor

Leadership and Human Capital, Minor

The leadership and human capital minor will deepen students' knowledge and skills that are necessary to attract, retain, develop, lead, and manage employees. Employees of a firm are resources for an employer and based on their expertise provide economic value to a firm. Thus, the effective leadership and management of human capital is instrumental to an organization's success. As organizations are seeking new ways of dealing with problems such as globalization, a weak economy, rapidly changing technology, union-management relations, and changing demographics in the workplace, managers and human resources professionals use a wide range of techniques for handling these and other challenges and ensuring that their employees and organizations are competitive and high performing.

Managing human capital is a significant component of the strategic management of an organization. The courses offered in the leadership and human capital minor will expose students to the major issues and challenges in leading and managing a global and increasingly diverse workforce. The courses address the human capital issues all employees face and offer ways to deal with them.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Please note, only one course in the minor may double count in one of the seven business concentrations.

Organizational Behavior

Code	Title	Hours
ORGB 3201	Organizational Behavior	4
or ORGB 3209	Organizational Behavior	

Managing Human Capital

Code	Title	Hours
MGMT 3420	Managing Human Capital	4

Electives

Code	Title	Hours
Complete two of the following courses:		8
MGMT 3302	Negotiating in Business	
MGMT 3305	Power and Influence	
MGMT 3315	Managing Organizational Change and Disruption	
MGMT 3350	Managing a Diverse Workforce	
MGMT 3380	Leadership	
MGMT 4310	The Management Practices of Great Organizations	
MGMT 4410	Workforce Analytics	

GPA Requirement

2.000 GPA required in the minor

Management Information Systems, Minor

The management information systems minor is open to nonbusiness undergraduate students with any major and offers contemporary information-focused courses from a global business perspective. The goal of these courses is to show students how to use and manage data and information technology (IT) to help both individuals and organizations perform more efficiently and effectively. The minor includes both fundamental courses and those geared toward more specific information management challenges. These courses will include real-world examples, grounded in relevant theories and principles, and will be reinforced using appropriate information tools and systems to gain the necessary skills and knowledge for tomorrow's work environment. The MMIS minor requires every student to build a strong understanding of how data is gathered, stored, managed, and used across the organization. Beyond this, students have the opportunity to explore new, cutting-edge areas such as information visualization, data mining, and blockchains. Other topics such as information privacy and security, mobile information systems, and artificial intelligence can also be examined in greater depth.

Minor Requirements

The management information systems minor is open to nonbusiness undergraduate students. Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Only 4 credits may be double counted toward another minor.

Required Course

Code	Title	Hours
MISM 3403	Data Management for Business	4

Electives

Code	Title	Hours
Complete three of the following (at least 8 credits must come from MISM courses):		12
ECON 4681	Information Economics and Game Theory	
FINA 4340	Blockchain Applications in Finance	
JRNL 3610	Digital Storytelling and Social Media	
MGMT 3530	Project Management	
MISM 2301	Introduction to Information Systems and Digital Technologies	
MISM 3501	Information Visualization for Business	
MISM 3515	Data Mining for Business	
MISM 4501	Strategic Information Products	
MISM 4983	Special Topics in Management Information Systems	
PHIL 1145	Technology and Human Values	
SCHM 3301	Global Supply Chain Strategy	

GPA Requirement

2.000 GPA required in the minor

Marketing, Minor

The marketing minor is aimed at non–D'Amore-McKim students who wish to complement their current studies with a focus on marketing. In the marketing minor, students can select among courses that explore topics such as consumer behavior, advertising, services marketing, marketing analytics, and international marketing. Pursuing a marketing minor offers Northeastern students an opportunity to gain a deeper appreciation of consumers, markets, metrics, and brands to help them become better business practitioners no matter where their careers take them.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Students in D'Amore-McKim or in a combined program with D'Amore McKim are not allowed to take this minor.

Required Courses

Code	Title	Hours
MKTG 2201	Introduction to Marketing	4
or MKTG 2209	Introduction to Marketing	

Electives

Code	Title	Hours
Complete three of the following:		12
MKTG 2301	Marketing and Society	
MKTG 2602	Quantitative Analysis of Consumer Data	
MKTG 2720	Enabling Technologies for Consumer Engagement	
MKTG 3301	Marketing Management	
MKTG 3401	Marketing Research	
MKTG 3402	Gaining Insights from Consumer Data	
MKTG 3501	Marketing Analytics	
MKTG 3720	Brand Management	
MKTG 4120	Undergraduate Research Practicum in Marketing	
MKTG 4420	Sales Management	
MKTG 4720	Understanding the Platform Economy	
MKTG 4502	Managing Customer Engagement in a Service World	
MKTG 4504	Advertising and Brand Promotion	
MKTG 4506	Consumer Behavior	
MKTG 4508	Digital Marketing	
MKTG 4510	New Product Development	
MKTG 4512	International Marketing	
MKTG 4520	Business-to-Business Marketing	

GPA Requirement

Minimum 2.000 GPA required in all courses completed

Marketing Analytics, Minor

Marketing analytics comprises the data-driven methods, techniques, and technologies that enable marketers to evaluate the success of their marketing initiatives and campaigns. This minor, aimed at non–D'Amore-McKim students offers the opportunity to learn the cutting-edge skills necessary to harness, process, and analyze data to address modern marketing challenges. It combines programming, quantitative analysis, data-driven consumer insights and predictive modeling into an integrated curriculum that is designed to prepare students for successful careers in marketing analytics and other data-driven business specializations.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Students in D'Amore-McKim or in a combined program with D'Amore McKim are not allowed to take this minor.

Required Courses

Code	Title	Hours
MKTG 2209	Introduction to Marketing	4
or MKTG 2201	Introduction to Marketing	
MKTG 2602	Quantitative Analysis of Consumer Data	4
MKTG 3402	Gaining Insights from Consumer Data	4
MKTG 3501	Marketing Analytics	4

GPA Requirement

Minimum 2.000 GPA required in all completed courses

Social Innovation and Entrepreneurship, Minor

This five-course interdisciplinary Minor in Social Innovation and Entrepreneurship is administered by the D'Amore-McKim School of Business through its Entrepreneurship and Innovation Group in collaboration with the College of Social Sciences and Humanities (CSSH).

The minor consists of four on-campus courses and one course from a two-course Dialogue of Civilizations program. The minor is open to business and nonbusiness students. Several of the courses included in this minor may also apply to other programs or individual course requirements. Because this minor is interdisciplinary, a student may apply only three courses from any one college toward completion of the minor.

Finally, note that business students can pursue this minor or alternatively choose to pursue the Social Innovation and Entrepreneurship concentration, which requires courses in social entrepreneurship and does not require a Dialogue.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than three courses may be taken from any one college.

Required Courses

Code	Title	Hours
INNO 2206	Global Social Enterprise	4
Approved course from Dialogue of Civilizations or another approved program.		4

Electives

Code	Title	Hours
Complete one of the following:		4
INNO 2414	Social Responsibility of Business in an Age of Inequality	
INNO 3520	Impact Investing and Social Finance	
INNO 4506	Integrated Studies in Social Innovation and Entrepreneurship	
Complete two of the following:		8
ANTH 2305	Global Markets and Local Culture	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	
INTL 1101	Globalization and International Affairs	
INTL 3400	International Conflict and Negotiation	
POLS 3406	International Law	
POLS 3487	Politics of Developing Nations	

GPA Requirement

2.000 GPA required in the minor

Strategy, Minor

The strategy minor is open to undergraduate students with any major or concentration. The curriculum is designed to develop students' ability to assume the role of a general manager and to think constructively about the strategic focus and direction of an organization, as well as its relative competitive strengths and weaknesses. Broad topics include the appropriate criteria and processes for general management decision making, especially under conditions of uncertainty; strategies a firm can follow in order to gain competitive advantage when entering into, competing within, and exiting from individual markets and how these strategies interact when the firm competes in several markets; and the optimal boundaries of the firm—the advantages and disadvantages its unique history and resources give it. The strategy minor may be of particular interest for students who plan to pursue careers in general management, management consulting, new venture management, venture capital, corporate planning, and investment banking.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
STRT 4501	Strategy in Action	4
or INTB 4202	Executing Global Strategy	
or STRT 4509	Strategic Management	
Nonbusiness students must complete STRT 4509.		

Electives

Code	Title	Hours
Complete three of the following:		12
ENTR 3305	Business Model Design and Innovation	
FINA 4420	Mergers and Acquisitions	
INNO 2414	Social Responsibility of Business in an Age of Inequality	
INNO 4225	Growth, Acquisitions, and Alliances	
INTB 2501	Competing to Win in Emerging Markets	
INTB 3320	International Business Management and Environment	
MGMT 4310	The Management Practices of Great Organizations	
MGMT 4550	Management Consulting in Organizations	
or BUSN 3110	The Consulting Environment	
MKTG 3301	Marketing Management	
SCHM 4401	Contemporary Topics in Supply Chain Management	
STRT 4301	Strategic Analysis and Decision Making	

GPA Requirement

2.000 GPA required in the minor

Supply Chain Management, Minor

The supply chain management minor is open to nonbusiness undergraduate students with any major and is comprised of contemporary courses taught from a global business perspective. Intended for future leaders, this minor intends to prepare students to understand and use supply chain tools and apply that framework to effectively manage numerous opportunities and risks across today's global supply chains. The minor includes both fundamental courses and those geared toward more specific management and analytical challenges. These courses include real-world case examples, grounded in relevant theories and principles. Learning is reinforced through various analytical tools that are designed to develop necessary skills and knowledge for tomorrow's work environment. Students have the opportunity to explore specific practice areas, such as analytics, healthcare operations, negotiating, demand planning, and logistics/transportation. In addition, the minor offers students an opportunity to gain insight and develop perspectives for important topics such as deglobalization/globalization and emerging technologies, such as blockchain, additive manufacturing, and smart robotics.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Only four credits may be double counted toward a different minor.

Required Course

Code	Title	Hours
SCHM 2301	Supply Chain and Operations Management	4

Electives

Code	Title	Hours
Complete three of the following:		12
(At least 8 credits must come from SCHM courses.)		
ACCT 3416	Strategic Cost Analysis for Decision Making	
ENTR 3401	Consulting Operations Growth in SMEs	
FINA 4340	Blockchain Applications in Finance	
IE 2310	Introduction to Industrial Engineering	
INTB 3310	Cultural Aspects of International Business	
MGMT 3302	Negotiating in Business	
MISM 2301	Introduction to Information Systems and Digital Technologies	
MISM 2510	Fundamentals of Information Analytics	
MKTG 3501	Marketing Analytics	
SCHM 3301	Global Supply Chain Strategy	
SCHM 3305	Sourcing, Procurement, and Negotiation	
SCHM 3308	Supply Chain Analytics and Emerging Technologies	
SCHM 3310	Logistics and Transportation Management	
SCHM 3315	Managing Healthcare Operations and Supply Chain	
SCHM 4401	Contemporary Topics in Supply Chain Management	

GPA Requirement

2.000 GPA required in the minor

Sustainable Business Practices, Minor

The minor in sustainable business practices seeks to provide students with a deeper understanding of sustainability issues and the tools to address these issues in a business environment. This interdisciplinary minor is open to business and nonbusiness students.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than three courses may be taken from any one college.

Required Course

Code	Title	Hours
FINA 2720	Sustainability in the Business Environment	4

Electives

Code	Title	Hours
Complete three of the following:		12
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	
ECON 3423	Environmental Economics	
ECON 3425	Energy Economics	
ENVR 1101	Environmental Science	
ENVR 1200	Dynamic Earth	
FINA 3401	Responsible Investing	
INNO 2206	Global Social Enterprise	
INNO 2414	Social Responsibility of Business in an Age of Inequality	
INNO 3520	Impact Investing and Social Finance	
INNO 4506	Integrated Studies in Social Innovation and Entrepreneurship	
INTB 1203	International Business and Global Social Responsibility	
INTB 1209	International Business and Global Social Responsibility (Only available to non-business students)	
INTB 2501	Competing to Win in Emerging Markets	
MKTG 2301	Marketing and Society	
PHIL 1180	Environmental Ethics	
PHYS 1132	Energy, Environment, and Society	
POLS 2395	Environmental Politics and Policy	
SOCL 1246	Environment and Society	

GPA Requirement

2.000 GPA required in the minor

Accelerated Bachelor/Graduate Degree Programs

Northeastern University's D'Amore-McKim School of Business develops leaders and thinkers who will guide the future of work that is being transformed by technology and data. The D'Amore-McKim PlusOne accelerated master's programs (https://damore-mckim.northeastern.edu/programs/?s=&filters%5B%5D=program%7Ctype%7Cplus-one&filters%5B%5D=program%7Ctype%7Cundergraduate) provide motivated students with the opportunity to start earning their master's degree while pursuing their undergraduate education.

Depending on the program, students accepted into a PlusOne accelerated master's may take up to a total of 16 graduate credits while they are undergraduates and can apply those credits toward both the bachelor and master's degrees.

Khoury College of Computer Sciences

Website (http://www.khoury.northeastern.edu/undergraduate/)

Elizabeth Mynatt, PhD, Dean

Ben Hescott, PhD, Teaching Professor, Senior Associate Dean of Academic Programs and Student Experience

Christo Wilson, PhD, Associate Professor, Associate Dean of Undergraduate Programs, Director of Cybersecurity Program

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Computing has transformed the way people work and live, and its applications are limitless. Today, an understanding of computing is critical in business, healthcare, science, digital art, and other areas of our information-driven society. Computing knowledge and computing technology also contribute to resolving major issues in an increasingly complex world.

The Khoury College of Computer Sciences offers undergraduate programs that combine a strong foundation in computing with the opportunity to acquire a deep knowledge of another discipline in which computing plays a critical role. The college offers undergraduate degree programs in computer science (BS and BA), data science (BS), and cybersecurity (BS) and over 25 combined majors with partner departments in six other Northeastern University colleges, allowing students to engage in intense study in two disciplines. The Bachelor of Science in Computer Science emphasizes strong technical competence in computer science, mathematics, science, and electrical engineering. The Bachelor of Arts in Computer Science combines computer science with a broad-based liberal arts education. The Bachelor of Science in Data Science combines computer science, information science, mathematics, statistics, and probability theory into an integrated curriculum. The Bachelor of Science in Cybersecurity provides the fundamental knowledge of computer science with an essential focus on experiential learning through security-related courses.

Academic Progression Standards

In addition to meeting university progression standards, it is expected that full-time Khoury students enroll in four courses with appropriate labs and recitations and successfully complete at least 12 semester hours each academic semester with an acceptable grade-point average as noted below. Any exceptions to the course load requirement must be approved by the student's academic advisor prior to the start of each semester. Pass/fail courses are restricted to electives outside of the major, minor, and NUpath requirements.

GPA REQUIREMENTS FOR GRADUATION

A minimum cumulative GPA requirement of 2.000 in major (CS/CY/DS/IS) courses and a minimum cumulative GPA requirement of 2.000 overall are required for graduation.

CRITERIA FOR ACADEMIC PROBATION

Full-time students in Khoury College of Computer Sciences will be placed on academic probation effective for the following academic semester for any of the reasons noted below:

- Not earning at least 12 semester hours in each academic full-term semester (fall, spring)
- Not following a program of study approved by the student's academic advisor

First-Year Students

- Not maintaining an overall cumulative GPA of at least 1.800 at the end of each full-term semester (fall, spring) of the first-year curriculum and a GPA of at least 2.000 in the major at the end of the second academic full-term semester of the curriculum (spring)

Upperclass and Transfer Students

- Not maintaining an overall cumulative GPA of at least 2.000 and a GPA of at least 2.000 in the major at the end of the second academic full-term semester of the curriculum completed on campus (fall or spring) and at the end of each full-term academic semester thereafter (fall, spring)

ACADEMIC DISMISSAL FROM MAJOR

Not maintaining a GPA of at least 2.000 in the major at the end of the third academic full-term semester and at the end of each full-term academic semester (fall, spring) thereafter will result in dismissal from Khoury College of Computer Sciences.

Students not following a program of study approved by the student's academic advisor for more than one semester may be dismissed from Khoury College of Computer Sciences.

Students dismissed from their major but who are otherwise eligible to remain an active student within the university may continue within Khoury College of Computer Sciences as a transitional major for one semester.

ACADEMIC DISMISSAL FROM UNIVERSITY

Students who remain on probation after two full-term academic semesters may be dismissed from the university. This action may appear on the transcript at the end of the second probationary semester. In addition, students who have below a 1.000 GPA or fewer than 4 earned semester hours

in any semester or cumulatively may be dismissed at the discretion of their college. Students may appeal this decision to the Academic Standing Committee of their college. International students must consult with an advisor in the Office of Global Services (http://www.northeastern.edu/ogs/)to discuss the impact of an academic dismissal as it relates to nonimmigrant visa status.

Program Length

The Khoury College of Computer Sciences prides itself on flexibility and a very supportive advising staff. Depending upon the number of entry-level/transfer credits, the academic program, and student planning, it is possible to complete the program within four years with at least one experiential experience and usually with two such experiences.

Computer Science

Computer science involves the application of theoretical concepts in the context of software development to the solution of problems that arise in almost every human endeavor. Computer science as a discipline draws its inspiration from mathematics, logic, science, and engineering. From these roots, computer science has fashioned paradigms for program structures, algorithms, data representations, efficient use of computational resources, robustness and security, and communication within computers and across networks. The ability to frame problems, select computational models, design program structures, and develop efficient algorithms is as important in computer science as software implementation skill. Computer science is concerned with bringing together all of the intellectual resources needed to enable the rapid and effective development of software to meet the needs of business, research, and end users.

The goal of the undergraduate program in computer science is to teach students the conceptual and practical skills that will enable them to contribute to the development of computational principles and to play a productive role in the software community. To that end, the undergraduate program focuses on the fundamentals of program design including object-oriented design, software development, computer organization, systems and networks, theory of computation, principles of languages, and advanced algorithms and data. The program also offers a variety of electives at the upper undergraduate and beginning graduate levels ranging from more theoretical courses to those that focus on important applications.

Programs

Bachelor of Science in Computer Science (BSCS)

- Computer Science (p. 695)

Bachelor of Arts in Computer Science (BACS)

- Computer Science (p. 702)

Bachelor of Science (BS)

- Computing and Law (p. 707)

Minor

- Computer Science (p. 711)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Computer Science, BSCS

The Bachelor of Science in Computer Science focuses on the fundamentals of program design, software development, computer organization, systems and networks, theories of computation, principles of languages, and advanced algorithms and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2810	Mathematics of Data Models	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Security Required Course		
Complete one of the following:		4
CY 2550	Foundations of Cybersecurity	
CY 3740	Systems Security	
CY 4740	Network Security	
Presentation Requirement		
Complete one of the following:		4
COMM 1112	Public Speaking	
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	
COMM 1511	Communication and Storytelling	
THTR 1125	Improvisation	
THTR 1130	Introduction to Acting	
THTR 1180	The Dynamic On-Screen Presenter	
THTR 2345	Acting for the Camera	
Khoury Elective Courses		

Students should plan to take a NUpath capstone using designated courses in either a concentration, computer science electives, or as a general elective.

With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.	
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	8
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Computer Science Concentrations

Pick one of the following concentrations and complete four courses in that concentration. In all concentrations, up to one Research (CS 4991) course can be substituted with college approval. Any missing prerequisites or NUpath requirements must be taken using computer science or general electives. In particular, students must arrange to take a NUpath capstone using either a course in the concentration or a CS, CY, DS, or IS course taken as a computer science elective or as a general elective.

- Artificial Intelligence (p. 698)
- Foundations (p. 698)
- Human-Centered Computing (p. 698)
- Software (p. 699)
- Systems (p. 699)

Supporting Courses

Code	Title	Hours
Mathematics Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1365	Introduction to Mathematical Reasoning	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	
Electrical Engineering		
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
Science Requirement		
Complete two courses (and any required labs) from the following science categories:		8
Biology		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	
Chemistry		
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	

CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211
CHEM 1214 and CHEM 1215 and CHEM 1216	General Chemistry 2 and Lab for CHEM 1214 and Recitation for CHEM 1214
Geology/Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200
ENVR 1202 and ENVR 1203	History of Earth and Life and Interpreting Earth History
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310
ENVR 2340 and ENVR 2341	Earth Landforms and Processes and Lab for ENVR 2340
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242
Mathematics	
MATH 1342	Calculus 2 for Science and Engineering
MATH 2331	Linear Algebra
MATH 3081	Probability and Statistics
Physics	
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Computer Science Credit Requirement

Complete 72 semester hours in the major.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

134 total semester hours required

CONCENTRATION IN ARTIFICIAL INTELLIGENCE

Code	Title	Hours
CS 4100	Artificial Intelligence	4
DS 4400	Machine Learning and Data Mining 1	4
Complete two of the following not already taken:		8
CS 4120	Natural Language Processing	
CS 4150	Game Artificial Intelligence	
CS 4610	Robotic Science and Systems	
DS 4420	Machine Learning and Data Mining 2	
IS 4200	Information Retrieval	
PSYC 3466	Cognition	

CONCENTRATION IN FOUNDATIONS

Code	Title	Hours
Complete two of the following:		8-9
CS 2800	Logic and Computation	
or CS 4820	Computer-Aided Reasoning	
CS 4805	Fundamentals of Complexity Theory	
or CS 4810	Advanced Algorithms	
Complete two of the following not already taken:		8
CS 3950 and CS 4950 and CS 4950	Introduction to Computer Science Research and Computer Science Research Seminar and Computer Science Research Seminar	
CS 4805	Fundamentals of Complexity Theory	
CS 4810	Advanced Algorithms	
CS 4820	Computer-Aided Reasoning	
CS 4830	System Specification, Verification, and Synthesis	
CY 4770	Cryptography	

CONCENTRATION IN HUMAN-CENTERED COMPUTING*

Code	Title	Hours
IS 4300	Human Computer Interaction	4
IS 4800	Empirical Research Methods	4
Complete two of the following not already taken:		8
CS 4120	Natural Language Processing	
CS 4520	Mobile Application Development	
CS 4550	Web Development	
DS 4200	Information Presentation and Visualization	
IS 2000	Principles of Information Science	

*The concentration in human-centered computing requires a fall co-op pattern.

CONCENTRATION IN SOFTWARE

Code	Title	Hours
CS 2800	Logic and Computation	4
CS 4400	Programming Languages	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Complete one of the following not already taken:		
CS 3520	Programming in C++	
CS 4410	Compilers	
CS 4550	Web Development	
CS 4700	Network Fundamentals	
CS 4730	Distributed Systems	
CS 4820	Computer-Aided Reasoning	
CS 4830	System Specification, Verification, and Synthesis	

CONCENTRATION IN SYSTEMS

Code	Title	Hours
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Complete one of the following not already taken:		4
CY 3740	Systems Security	
CY 4740	Network Security	
Complete two of the following not already taken:		8
CS 3520	Programming in C++	
CS 4300	Computer Graphics	
CS 4610	Robotic Science and Systems	
CS 4700	Network Fundamentals	
CS 4710	Mobile and Wireless Systems	
CS 4730	Distributed Systems	
CY 3740	Systems Security	
CY 4740	Network Security	
CY 4760	Security of Wireless and Mobile Systems	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	MATH 1341	4
CS 1800 and CS 1802	5	CS 2810	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Science elective with lab	4				
ENGW 1111	4	Elective	4				
MATH 1365	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		EECE 2322 and EECE 2323	5
CS 3000	4					Elective	4
CS 3650	4						
Concentration course	4						

Elective	4						
	17		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3800	4	Co-op		Co-op		ENGW 3302	4
Computing and social issues	4					Elective	4
Concentration course	4						
Presentation requirement	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Concentration course	4	CS 4530	4
Khoury elective	4	Concentration course	4
Security course	4	Khoury elective	4
Elective	4	Science elective with lab	4
	16		**16**

Total Hours: 135

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	MATH 1341	4
CS 1800 and CS 1802	5	CS 2810	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Science elective with lab	4				
ENGW 1111	4	Elective	4				
MATH 1365	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	CS 3800	4	EECE 2322 and EECE 2323	5	Co-op	
CS 3500 and CS 3501	5	Concentration course	4	Elective	4		
CS 3650	4	Presentation requirement	4				
Concentration course	4	Computing and social issues	4				
Elective	4						
	18		**16**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Concentration course	4	ENGW 3302	4	Co-op	
		Khoury elective	4	Elective	4		
		Security course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		Concentration course	4

	Khoury elective	4
	Science elective with lab	4
0		**16**

Total Hours: 135

Computer Science, BACS

The Bachelor of Arts in Computer Science offers a similar curriculum to the BS, with slightly fewer Computer Science requirements to allow students to study a foreign language and have a wider choice of electives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2810	Mathematics of Data Models	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Security Required Course		
Complete one of the following:		4
CY 2550	Foundations of Cybersecurity	
CY 3740	Systems Security	
CY 4740	Network Security	
Presentation Requirement		
Complete one of the following:		4
COMM 1112	Public Speaking	
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	
COMM 1511	Communication and Storytelling	
THTR 1125	Improvisation	
THTR 1130	Introduction to Acting	

THTR 1180	The Dynamic On-Screen Presenter	
THTR 2345	Acting for the Camera	
Khoury Elective Courses		
Students should plan to take a NUpath capstone using designated courses in either a concentration, computer science electives, or as a general elective.		
Directed study, project study, and appropriate graduate-level courses may also be taken as upper-division electives with advisor approval.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Computer Science Concentrations

Choose one of the following concentrations and complete four courses in that concentration. In all concentrations, up to one Research (CS 4991) course can be substituted with college approval.

- Artificial Intelligence (p. 704)
- Foundations (p. 705)
- Human-Centered Computing (p. 705)
- Software (p. 705)
- Systems (p. 705)

SUPPORTING COURSES

Code	Title	Hours
Mathematics Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1365	Introduction to Mathematical Reasoning	4
Science Courses		
Complete one course from one of the following groups:		4-5
Biology		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
Chemistry		
CHEM 1101 and CHEM 1102 and CHEM 1103	General Chemistry for Health Sciences and Lab for CHEM 1101 and Recitation for CHEM 1101	
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	
Geology		
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1202 and ENVR 1203	History of Earth and Life and Interpreting Earth History	
Mathematics		
MATH 1342	Calculus 2 for Science and Engineering	
MATH 2331	Linear Algebra	
MATH 3081	Probability and Statistics	
Physics		
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	

PHYS 1161	Physics 1	
and PHYS 1162	and Lab for PHYS 1161	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Any missing prerequisites or NUpath requirements must be taken using computer science or general electives.

Program Requirement

133 total semester hours required

Concentrations

ARTIFICIAL INTELLIGENCE CONCENTRATION

Code	Title	Hours
CS 4100	Artificial Intelligence	4
DS 4400	Machine Learning and Data Mining 1	4
Complete two of the following classes not already taken:		8
CS 4120	Natural Language Processing	
CS 4150	Game Artificial Intelligence	

CS 4610	Robotic Science and Systems
DS 4420	Machine Learning and Data Mining 2
IS 4200	Information Retrieval
PSYC 3466	Cognition

FOUNDATIONS CONCENTRATION

Code	Title	Hours
CS 2800	Logic and Computation	4
or CS 4820	Computer-Aided Reasoning	
CS 4805	Fundamentals of Complexity Theory	4
or CS 4810	Advanced Algorithms	
Complete two of the following classes not already taken:		8
CS 3950 and CS 4950	Introduction to Computer Science Research and Computer Science Research Seminar	
CS 4805	Fundamentals of Complexity Theory	
CS 4810	Advanced Algorithms	
CS 4820	Computer-Aided Reasoning	
CS 4830	System Specification, Verification, and Synthesis	
CY 4770	Cryptography	

HUMAN-CENTERED COMPUTING CONCENTRATION*

Code	Title	Hours
IS 4300	Human Computer Interaction	4
IS 4800	Empirical Research Methods	4
Complete two of the following classes not already taken:		8
CS 4120	Natural Language Processing	
CS 4520	Mobile Application Development	
CS 4550	Web Development	
DS 4200	Information Presentation and Visualization	
IS 2000	Principles of Information Science	

* The concentration in human-centered computing requires a fall co-op pattern.

SOFTWARE CONCENTRATION

Code	Title	Hours
CS 2800	Logic and Computation	4
CS 4400	Programming Languages	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Complete one of the following classes not already taken:		4
CS 3520	Programming in C++	
CS 4410	Compilers	
CS 4520	Mobile Application Development	
CS 4550	Web Development	
CS 4700	Network Fundamentals	
CS 4730	Distributed Systems	
CS 4820	Computer-Aided Reasoning	
CS 4830	System Specification, Verification, and Synthesis	

SYSTEMS CONCENTRATION

Code	Title	Hours
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Complete one of the following classes not already taken:		4
CY 3740	Systems Security	
CY 4740	Network Security	

Complete two of the following classes not already taken:		8
CS 3520	Programming in C++	
CS 4300	Computer Graphics	
CY 3740	Systems Security	
CS 4610	Robotic Science and Systems	
CS 4700	Network Fundamentals	
CS 4710	Mobile and Wireless Systems	
CS 4730	Distributed Systems	
CY 4740	Network Security	
CY 4760	Security of Wireless and Mobile Systems	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	MATH 1341	4
CS 1800 and CS 1802	5	CS 2810	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	MATH 1365	4				
ENGW 1111	4	Elective	4				
Foreign language course	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
CS 3650	4						
Concentration course	4						
Foreign language course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3800	4	Co-op		Co-op		ENGW 3302	4
Concentration course	4					Elective	4
Foreign language course	4						
Science course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Computing and social issues course	4	CS 4500	4
Concentration course	4	Concentration course	4
Security course	4	Presentation requirement	4
Khoury elective	4	Elective	4
	16		**16**

Total Hours: 134

Computing and Law, BS

Overview

Admissions to this program begin Fall 2024.

The Bachelor of Science in Computing and Law program is designed for Khoury students who anticipate working with lawyers, working in heavily regulated industries, or both. Offering knowledge and skills that are highly valued across technology professions, this major will also be helpful for students who are interested in law school.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Core Requirements

Code	Title	Hours
Foundational Courses		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Required Major Courses		
Technology		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500	Object-Oriented Design	4
CY 2550	Foundations of Cybersecurity	4
DS 3000	Foundations of Data Science	4
LAW 3101	Introduction to Legal Studies 1: Law and Legal Reasoning	4
LAW 3102	Introduction to Legal Studies 2: Statutes and Regulations	4
Capstone		
Complete one of the following:		4
CS 4100	Artificial Intelligence	
CS 4150	Game Artificial Intelligence	
CS 4300	Computer Graphics	
CS 4410	Compilers	
CS 4550	Web Development	
CS 4820	Computer-Aided Reasoning	
CS 4991	Research	
CY 4930	Cybersecurity Capstone	
DS 4400	Machine Learning and Data Mining 1	
DS 4420	Machine Learning and Data Mining 2	
Law Electives		
Complete six of the following:		24
LAW 3140	Data Regulation and Compliance	

LAW 3150	Introduction to Law and Organizational Management
LAW 3160	Introduction to International Regulations and Business Strategies
LAW 3170	Introduction to Financial Transactions
LAW 3180	Introduction to Health Law
LAW 3210	Introduction to Employee Rights and Employer Obligations
LAW 3232	Introduction to Intellectual Property and Media
LAW 3320	Introduction to Intellectual Property
LAW 3321	Introduction to Identifying and Securing Intellectual Property Rights
LAW 4335	Health Law and Policy
LAW 4369	Advanced Intellectual Property
LAW 4501	Patent Law and Practice
LAW 4525	Law and Economic Development
LAW 4640	Issues in Information Security Law
LAW 4664	Law and Inequality
LAW 4681	Issues in Law and Biotechnology

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Integrative Coursework

Code	Title	Hours
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
LAW 3120	Introduction to Law and Strategy	4
or LAW 3130	Introduction to Negotiation and Advocacy	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 36 semester hours of general electives.		36

Co-op Requirement

Code	Title	Hours
Complete one of the following:		
COOP 3945	Co-op Work Experience	
COOP 3948	Co-op Work Experience Abroad	

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	General elective 3	4
CS 1800 and CS 1802	5	CY 2550	4	General elective 2	4	General elective 4	4
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4	Computing and social issues course	4				
General elective 1	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210	1	General elective 6	4	Co-op	0
CS 3200	4	CY 4170	4	General elective 7	4		
DS 3000	4	LAW 3101	4				
General elective 5	4	LAW 3102	4				
		Khoury elective with capstone and WI	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315	4	General elective 8	4	Co-op	0
		LAW 3120 or 3130	4	General elective 9	4		
		LAW elective	4				
		LAW elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	LAW elective	4
		LAW elective	4
		LAW elective	4
		LAW elective	4
	0		**16**

Total Hours: 134

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	General elective 3	4
CS 1800 and CS 1802	5	CY 2550	4	General elective 2	4	General elective 4	4
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4	Computing and social issues course	4				
General elective 1	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	General elective 5	4
CS 3000	4					General elective 6	4
DS 3000	4						
LAW 3130	4						
LAW 3102	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	General elective 7	4
CY 4170	4					General elective 8	4
LAW elective	4						
LAW elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3302 or 3315	4	LAW 3120 or 3130	4
Khoury elective with capstone and WI	4	LAW elective	4
LAW elective	4	LAW elective	4
LAW elective	4	General elective 9	4
	16		**16**

Total Hours: 134

Computer Science, Minor

A computer science minor is designed to provide the computer science skills and know-how you need to succeed in today's highly digital world. A minor requires completion of five CS courses—more than enough to gain proficiency while easily fitting around your major requirements. No prior programming experience is needed.

Looking to gain technical knowledge that directly applies to your major? Students have the option to pursue a Khoury meaningful minor.

Minor Requirements

Note: Khoury minors are only available to non–Khoury majors; students in Khoury-only or Khoury-combined degrees are not eligible for Khoury minors. A student may receive at most one Khoury minor, regardless of how many Khoury minors they qualify for.

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Computer Science Fundamental Courses		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5

Computer Science Electives

Code	Title	Hours
Complete three courses that are not already required in the following ranges:		12
CS 2500 to CS 7999 but not CS 3950, CS 4950, or CS 5010		
CY 3000 or higher, except CY 4930		
IS 3000 or higher, except IS 4900		
One course from Khoury meaningful minors list (see below).		

Khoury Meaningful Minors

The concept of "Khoury meaningful minors" allows students the chance to personalize a computer science minor to meet individual academic needs and interests. Students may take *one elective* related to computation or information from a pre-approved list of courses offered across the university rather than from within Khoury. This allows students to integrate the minor with a course in their own major or with a course in another area of interest. Students may of course choose to take all electives in the minor within Khoury if they wish.

Code	Title	Hours
Bouvé Health Sciences		
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5102	Data Management in Healthcare	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
Arts, Media and Design		
ARTD 2360	Introduction to Photography	
ARTD 2370	Animation Basics	
ARTD 2380	Video Basics	
ARTG 2260	Programming Basics	
ARTG 2400	Interaction Design Principles	
ARTG 3250	Physical Computing	
ARTG 3451	Information Design 1	
ARTG 3700	Interaction Design 2: Mobile	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
COMM 2105	Social Networks	
JRNL 3610	Digital Storytelling and Social Media	
MUST 1220	Introduction to Music Technology	

Engineering	
BIOE 2365	Bioengineering Measurement, Experimentation, and Statistics
EECE 2160	Embedded Design: Enabling Robotics
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 5639	Computer Vision
EECE 5640	High-Performance Computing
EECE 5644	Introduction to Machine Learning and Pattern Recognition
Khoury Computer Sciences	
CS 1100	Computer Science and Its Applications
CS 1800	Discrete Structures
IS 1500 or higher, except IS 4900	
Science	
BIOL 2301	Genetics and Molecular Biology
BIOL 3405	Neurobiology
BIOL 5587	Comparative Neurobiology
BINF 6200	Bioinformatics Programming
BINF 6308	Bioinformatics Computational Methods 1
BINF 6309	Bioinformatics Computational Methods 2
CHEM 5638	Molecular Modeling
ENVR 3300	Geographic Information Systems
ENVR 5563	Advanced Spatial Analysis
LING 3450	Syntax
LING 3452	Semantics
MATH 1260	Math Fundamentals for Games
MATH 2331	Linear Algebra
MATH 2341	Differential Equations and Linear Algebra for Engineering
MATH 3530	Numerical Analysis
MATH 4606	Mathematical and Computational Methods for Physics
PHYS 1130	Computing, Data, and Science
PSYC 3452	Sensation and Perception
PSYC 3458	Biological Psychology
PSYC 3464	Psychology of Language
PSYC 3466	Cognition
Social Science and Humanities	
ECON 4653	
ENGL 3340	Technologies of Text
PHIL 1105	Science and Pseudoscience
PHIL 1115	Introduction to Logic
PHIL 1145	Technology and Human Values
PHIL 2001	Ethics and Evolutionary Games
PHIL 4510	Philosophy of Science
PHIL 4515	Advanced Logic
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society
D'Amore-McKim School of Business	
ACCT 3403	Advisory Services and Emerging Accounting Systems
ENTR 4501	Integrated Studies in Entrepreneurial Startups
FINA 4608	
MISM 2301	Introduction to Information Systems and Digital Technologies
MKTG 3401	Marketing Research
MKTG 3501	Marketing Analytics
MKTG 4508	Digital Marketing

SCHM 2301	Supply Chain and Operations Management
Statistics Courses	
CRIM 3700	Analyzing and Using Data on Crime and Justice
ECON 2350	Statistics for Economists
ECON 5105	Math and Statistics for Economists
ENVR 2500	Biostatistics
IE 3412	Engineering Probability and Statistics
MATH 2280	Statistics and Software
MATH 3081	Probability and Statistics
MATH 4581	Statistics and Stochastic Processes
MGSC 2301	Business Statistics
PHMD 3450	Research Methodology and Biostatistics
PHTH 2210	Foundations of Biostatistics
POLS 2400	Quantitative Techniques
PSYC 2320	Statistics in Psychological Research

Credit/GPA Requirement

20 semester hours required
2.000 GPA required in the minor

Cybersecurity

Cybersecurity combines essential computer science with conceptual and practical specialization in security to prepare students for hands-on, deeply technical work in the field. The ability to frame problems, select computational models, design program structures, and develop efficient algorithms is as important in computer science as software implementation skill. All cybersecurity students take the standard computer science course sequence, covering content such as basic programming, object-oriented design, computer architecture and operating systems, computer networks and distributed systems, and algorithmic complexity and computability theory. These courses lay the foundation for cybersecurity-specific coursework.

Cybersecurity coursework covers key areas in the field, from a broad overview of the topical space (including threat modeling, symmetric and asymmetric key cryptography, authentication, access control, social engineering, simple exploits, basic systems security, malware, the cybercrime underground, and advanced persistent threat actors) to deep dives into the design of secure operation systems and applications. Fundamental topics include analyzing prevalent classes of attacks against systems; security vulnerabilities and defense techniques; limitation of damage and strategic recovery; design and implementation of distributed authentication protocols; and existing standardized security protocols and legal infrastructure relating to privacy, data ethics, data security, hacking, automation, and intellectual property. In addition, cybersecurity students have access to a wide array of electives, including courses on wireless networking, software vulnerabilities, cybersecurity risk management and assessment, digital forensics, and criminology.

Programs

Bachelor of Science (BS)

- Cybersecurity (p. 715)

Cybersecurity, BS

The Bachelor of Science in Cybersecurity teaches students the conceptual and practical skills that will enable them to contribute to ensuring the reliability and security of cyberspace. The program will provide students with the fundamental knowledge of computer science that forms the technical foundation of the field, with an essential focus on experiential learning through laboratory exercises in the security-related courses, as well as through the co-op program. The program's holistic view of cybersecurity gives it a strong interdisciplinary focus, teaching students how social behavior, policy, and legal rules can affect cybersecurity and the tools of information technology.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 3800	Theory of Computation	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Presentation Requirement		
Complete one of the following:		4
COMM 1112	Public Speaking	
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	
COMM 1511	Communication and Storytelling	
THTR 1125	Improvisation	
THTR 1130	Introduction to Acting	
THTR 1180	The Dynamic On-Screen Presenter	
THTR 2345	Acting for the Camera	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4740	Network Security	4
CY 4770	Cryptography	4
CY 4930	Cybersecurity Capstone	4
Cybersecurity and Social Issues Elective List		

Complete one of the following:		4
COMM 2551	Free Speech in Cyberspace	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 4040	Crime Prevention	
LPSC 1101	Introduction to Law	
LPSC 2301	Introduction to Law, Policy, and Society	
LPSC 3303	Topics in Law and Public Policy	
POLS 2390	Science, Technology, and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	

Cybersecurity Electives or Cyber Operations Concentration

Students have a choice between completing the BS Cybersecurity with the below Cybersecurity Elective options, or with the Cyber Operations Concentration. The degree automatically defaults to the Cybersecurity Elective options. Students looking to choose the Cyber Operations Concentration option must declare the concentration with their Academic Advisor.

- Cybersecurity Electives (p. 717)
- Cyber Operations Concentration (p. 717)

Supporting Courses

Code	Title	Hours
Electrical Engineering Required Course		
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
Mathematics Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 3081	Probability and Statistics	4

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS and IS courses

Cybersecurity Credit Requirement

Complete 83 semester hours in the major.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines

- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

134 semester hours required

CYBERSECURITY ELECTIVES

Code	Title	Hours
Law Requirement		
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
Cybersecurity Electives		
If courses require prerequisites, those should be taken using general electives.		
Complete four courses from the following:		16
COMM 2551	Free Speech in Cyberspace	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 4040	Crime Prevention	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
CS 4700	Network Fundamentals	
CS 4710	Mobile and Wireless Systems	
or CS 6710	Wireless Network	
CS 4730	Distributed Systems	
CY 4760	Security of Wireless and Mobile Systems	
CY 5200	Security Risk Management and Assessment	
CY 5210	Information System Forensics	
CY 5770	Software Vulnerabilities and Security	
DS 4300	Large-Scale Information Storage and Retrieval	
DS 4400	Machine Learning and Data Mining 1	
EECE 3324	Computer Architecture and Organization	
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534	
IS 4300	Human Computer Interaction	
LPSC 1101	Introduction to Law	
LPSC 2301	Introduction to Law, Policy, and Society	
LPSC 3303	Topics in Law and Public Policy	
MATH 3527	Number Theory 1	
MISM 2301	Introduction to Information Systems and Digital Technologies	
POLS 2390	Science, Technology, and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	

CONCENTRATION IN CYBER OPERATIONS

Code	Title	Hours
Cyber Operations Required Courses		
CS 4710	Mobile and Wireless Systems	4
CY 5210	Information System Forensics	4
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	4

Electives

Complete two of the following:		8
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
CY 5200	Security Risk Management and Assessment	
EECE 3324	Computer Architecture and Organization	
EECE 4534	Microprocessor-Based Design	

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	General Elective	4
CS 1800 and CS 1802	5	CY 2550	4	MATH 1342	4	General Elective	4
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4	General Elective	4				
General Elective	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210	1	MATH 3081	4	Co-op	0
CS 3650	4	CS 4700 or 4730	4	General Elective	4		
Presentation Requirement	4	CY 3740	4				
Cybersecurity Elective	4	Cybersecurity Elective	4				
		General Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 3800	4	EECE 2322 and EECE 2323	5	Co-op	0
		CY 4740	4	ENGW 3302	4		
		CY 5240 or 4170	4				
		Cybersecurity Elective	4				
	0		**16**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CY 4770	4
		CY 4930	4
		Cyber and Social Issues	4
		Cybersecurity elective	4
	0		**16**

Total Hours: 135

Data Science

The Bachelor of Science in Data Science studies the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The program combines computer science, information science, mathematics, statistics, and probability theory into an integrated curriculum that is designed to prepare students for careers or graduate studies in Big Data analysis, data science, and data analytics. The coursework covers exploratory data analysis, data manipulation in a variety of programming languages, large-scale data storage, predictive analytics, machine learning, data mining, and information visualization and presentation. Data science has emerged as a discipline due to the confluence of two major events:

1. The ability to collect, store, prune, process, and transmit large amounts of data in the cloud
2. The convergence of programming, statistics, artificial intelligence, and visualization as complementary tools for the analysis and understanding of data

Programs

Bachelor of Science (BS)

- Data Science (p. 720)

Minor

- Data Science (p. 724)

Data Science, BS

The Bachelor of Science in Data Science studies the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Major Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
Programming Sequence Pathways		
Choose one of the two options.		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3520	Programming in C++	4
Data Science Electives		
Complete three of the following:		12
CS 4100	Artificial Intelligence	
CS 4120	Natural Language Processing	
IS 4200	Information Retrieval	
IS 4300	Human Computer Interaction	
Data Science Required Courses		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4

or DS 4440	Practical Neural Networks	
Presentation Requirement		
Choose one:		4
COMM 1112	Public Speaking	
COMM 1113	Business and Professional Speaking	
COMM 1210	Persuasion and Rhetoric	
COMM 1511	Communication and Storytelling	
THTR 1125	Improvisation	
THTR 1130	Introduction to Acting	
THTR 1180	The Dynamic On-Screen Presenter	
THTR 2345	Acting for the Camera	
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Data Science and Ethics		
PHIL 1145	Technology and Human Values	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Data Science Related Electives in Other Units		
Complete one of the following:		4
ARTG 3451	Information Design 1	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	
ARTG 6200	Information Design Studio 3: Synthesis	
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	
EECE 5639	Computer Vision	
EECE 5642	Data Visualization	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
ENVR 2500	Biostatistics	
GSND 5110	Game Design and Analysis	
GSND 6350	Data-Driven Player Modeling	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5102	Data Management in Healthcare	
HINF 5300	Personal Health Interface Design and Development	
HINF 5301	Evaluating Health Technologies	
IE 5640	Data Mining for Engineering Applications	
IS 4800	Empirical Research Methods	
MATH 2321	Calculus 3 for Science and Engineering	
MATH 4581	Statistics and Stochastic Processes	
MGSC 2301	Business Statistics	

MISM 3403	Data Management for Business
MKTG 3401	Marketing Research
MKTG 3501	Marketing Analytics
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics
PSYC 2320	Statistics in Psychological Research
PSYC 3466	Cognition

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 credits of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	CS 3200	4	MATH 2331	4
CS 1800 and CS 1802	5	MATH 1342	4	MATH 3081	4	Elective	4
DS 2000 and DS 2001	4	PHIL 1145	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3520	4	CS 1210	1	CS 3000	4	Co-op	
DS 3000	4	DS 4200	4	Elective	4		
DS 3500	4	DS 4300	4				

Presentation Requirement	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ENGW 3302	4	Co-op	
		Data Science Elective 2	4	Elective	4		
		Data Science Elective 1	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420 or 4440	4
		Data Science Related Elective	4
		Data Science Elective 3	4
		Khoury Elective	4
	0		**16**

Total Hours: 132

Data Science, Minor

The minor in data science studies the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes.

Minor Requirements

Note: Khoury minors are only available to non–Khoury majors; students in Khoury-only majors or Khoury combined majors are not eligible for Khoury minors. A student may declare at most one Khoury minor, regardless of how many Khoury minors they qualify for.

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Computer Science Fundamental Courses		
Complete one of the following options:		9-10
Fundamentals of Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
Programming with Data Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
Data Science Required Course		
DS 3000	Foundations of Data Science	4

Data Science Electives

Code	Title	Hours
Complete two of the following (only one course from the meaningful minor list may contribute toward the minor requirements):		8
CS 3200	Database Design	
DS 2010 to DS 4989		
Meaningful minor list (see below)		

Khoury Meaningful Minors

The concept of Khoury Meaningful Minors allows students the chance to personalize a computer science minor to meet individual academic needs and interests. Students may take *one elective* related to computation or information from a preapproved list of courses offered across the university rather than from within Khoury. This allows students to integrate the minor with a course in their own major or with a course in another area of interest. Students may of course choose to take all electives in the minor within Khoury if they wish.

Code	Title	Hours
Arts, Media and Design		
ARTG 3451	Information Design 1	
ARTG 5100	Information Design Studio 1: Principles	
ARTG 5110	Information Design History	
ARTG 5120	Research Methods for Design	
ARTG 5330	Visualization Technologies 1: Fundamentals	
ARTG 6100	Information Design Studio 2: Dynamic Mapping and Models	
ARTG 6200	Information Design Studio 3: Synthesis	
GSND 5110	Game Design and Analysis	
GSND 6350	Data-Driven Player Modeling	
Bouvé Health Sciences		
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5102	Data Management in Healthcare	
HINF 5300	Personal Health Interface Design and Development	

HINF 5301	Evaluating Health Technologies
D'Amore-McKim—Business	
FINA 4335	Computational Methods and Their Applications in Finance
FINA 4350	Applied Financial Econometrics and Data Modeling
FINA 4390	Machine Learning in Finance
MISM 2510	Fundamentals of Information Analytics
MISM 3403	Data Management for Business
MISM 3501	Information Visualization for Business
MISM 3515	Data Mining for Business
MKTG 3401	Marketing Research
MKTG 3501	Marketing Analytics
SCHM 2301	Supply Chain and Operations Management
Computer and Information Science	
CY 5010	Foundations of Information Assurance
CY 5200	Security Risk Management and Assessment
Engineering	
CIVE 3464	Probability and Engineering Economy for Civil Engineering
EECE 5639	Computer Vision
EECE 5642	Data Visualization
EECE 5644	Introduction to Machine Learning and Pattern Recognition
IE 5640	Data Mining for Engineering Applications
Science	
BINF 6308	Bioinformatics Computational Methods 1
BINF 6309	Bioinformatics Computational Methods 2
ENVR 2500	Biostatistics
MATH 2331	Linear Algebra
MATH 2341	Differential Equations and Linear Algebra for Engineering
MATH 3081	Probability and Statistics
MATH 4581	Statistics and Stochastic Processes
PSYC 2320	Statistics in Psychological Research
Social Science and Humanities	
ECON 2350	Statistics for Economists
ECON 2560	Applied Econometrics
ECON 3916	Intermediate Selected Topics in Microeconomics
POLS 2400	Quantitative Techniques

GPA Requirement

2.000 GPA required in the minor

Khoury Combined Majors

Khoury College offers combined majors with over 25 partner disciplines. Combined majors are carefully constructed degrees allowing students to explore multiple academic fields while staying on track for graduation. Each of the combined majors offers the opportunity for intense study in two disciplines with appropriate breadth in the liberal arts. Students take 9 to 13 courses in each subject and at least one integrative course that binds the disciplines together. These programs offer an excellent educational opportunity for the ambitious student.

Programs

Bachelor of Science (BS)

- Computer Science and Behavioral Neuroscience (p. 750)
- Computer Science and Biology (p. 755)
- Computer Science and Business Administration (p. 612)
- Computer Science and Cognitive Psychology (p. 765)
- Computer Science and Communication Studies (p. 363)
- Computer Science and Criminal Justice (p. 775)
- Computer Science and Design (p. 206)
- Computer Science and Economics (p. 785)
- Computer Science and English (p. 790)
- Computer Science and Environmental and Sustainability Sciences (p. 796)
- Computer Science and Game Development (p. 211)
- Computer Science and History (p. 804)
- Computer Science and Journalism (p. 440)
- Computer Science and Linguistics (p. 813)
- Computer Science and Mathematics (p. 817)
- Computer Science and Media Arts (p. 214)
- Computer Science and Music with Concentration in Music Technology (p. 481)
- Computer Science and Philosophy (p. 830)
- Computer Science and Physics (p. 834)
- Computer Science and Political Science (p. 839)
- Computer Science and Politics, Philosophy, and Economics (p. 845)
- Computer Science and Sociology (p. 849)
- Computer Science and Theatre (p. 536)
- Cybersecurity and Business Administration (p. 617)
- Cybersecurity and Criminal Justice (p. 862)
- Cybersecurity and Economics (p. 867)
- Data Science and Behavioral Neuroscience (p. 879)
- Data Science and Biochemistry (p. 871)
- Data Science and Biology (p. 875)
- Data Science and Business Administration (p. 621)
- Data Science and Chemistry (p. 887)
- Data Science and Criminal Justice (p. 891)
- Data Science and Ecology and Evolutionary Biology (p. 895)
- Data Science and Economics (p. 899)
- Data Science and Environmental and Sustainability Sciences (p. 903)
- Data Science and Health Science (p. 907)
- Data Science and International Affairs (p. 911)
- Data Science and Journalism (p. 447)
- Data Science and Linguistics (p. 922)
- Data Science and Mathematics (p. 926)
- Data Science and Philosophy (p. 929)
- Data Science and Physics (p. 932)
- Data Science and Psychology (p. 936)

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering and Computer Science (p. 728)
- Chemical Engineering and Data Science (p. 733)

Bachelor of Science in Civil Engineering (BSCE)

- Civil Engineering and Computer Science (p. 738)

Bachelor of Science in Computer Engineering (BSCmpE)

- Computer Engineering and Computer Science (p. 743)

Chemical Engineering and Computer Science, BSChE

The Bachelor of Science in Chemical Engineering and Computer Science provides expertise in computational modeling and simulation of chemical processes. The curriculum is designed to prepare students to practice in the engineering and control of processes involving chemicals, biotechnology feedstocks, and pharmaceuticals, as well as the fundamentals of program design, software development, and algorithms and data.

Program educational objectives can be found on the department website (https://che.northeastern.edu/academics/undergraduate-studies/che-accreditation/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Computer Science Requirements

Code	Title	Hours
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		

CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With advisor approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2000 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Complete one of the following:		4-5
BIOL 1111	General Biology 1	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3307	Advanced Writing in the Sciences
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CHME 4512	Chemical Engineering Process Control	4

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

Minimum 2.000 GPA required in all CHME coursework

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

136 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1115 (ND)	4	CHME 2310	4	CS 3200 (FQ, AD)	4	Vacation	
CHME 2320	4	CS 2510 (ND, AD)	4	CS 3500 and CS 3501 (ND, AD)	5		
CS 1800 (FQ)	4	CS 2511	1				
CS 1802	1	MATH 2341	4				
CS 2500 (ND, FQ)	4	General elective	4				
CS 2501	1						
	18		**17**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 3305	4	Vacation		Co-op	0
CHME 3322	4	CHME 3306	0				
CS 3000	4	CHME 4510	4				
ENGW 3302, 3307, or 3315 (WD)	4	CHME 4701	4				
		ENCP 2000	1				
		Khoury Elective	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, WI, CE)	4
		CHME 4705	0
		CS 4500 (WI)	4
		ENCP 3000	1
		Khoury elective	4
	0		**17**

Total Hours: 136

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1115 (ND)	4	CHME 2310	4	Vacation		Co-op	0
CHME 2320	4	CS 2510 (ND, AD)	4				
CS 1800 (FQ)	4	CS 2511	1				
CS 1802	1	ENCP 2000	1				
CS 2500 (ND, FQ)	4	MATH 2341	4				
CS 2501	1	General elective	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 3312	4	CS 3200 (FQ, AD)	4	Co-op	0
		CHME 3322	4	CS 3500 and CS 3501 (ND, AD)	5		
		CS 3000	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
	0		**16**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3305	4	Vacation		Co-op	
		CHME 3306	0				
		CHME 4510	4				
		CHME 4701	4				
		ENCP 3000	1				
		Khoury Elective	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHME 4512 (EI, CE, WI)	4
		CHME 4703	4

	CHME 4705	0
	CS 4500 (WI)	4
	Khoury elective	4
0		**16**

Total Hours: 136

Chemical Engineering and Data Science, BSChE

Overview

The Bachelor of Science in Chemical Engineering and Data Science provides students with the technical and analytical skills to work with large datasets. The curriculum focuses on the application of data science methods to solve problems in the chemical engineering field, including the development of predictive models, optimization of processes, and the design of experiments. Students also have an opportunity to learn data visualization, machine learning, and artificial intelligence techniques.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience may fulfill the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Data Science Courses

Code	Title	Hours
Programming Sequence Pathways		
Complete one of the following two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	

CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081 and MATH 3082	Probability and Statistics and Recitation for MATH 3081	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Supplemental Credit		
1 semester hour from the following counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3307	Advanced Writing in the Sciences
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CHME 4512	Chemical Engineering Process Control	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial courses not used toward other requirements.		8

Major GPA Requirement

Minimum 2.000 GPA required in CHME courses

Minimum 2.000 GPA required in CS, CY, DS, and IS courses

Program Requirement

133 total semester hours required

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and 1502 in approved situations.

Plan of Study

Four Years, One Co-op in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2320	4	CHME 2310	4	CS 3200 (FQ, AD)	4	Vacation	0
CS 1800 (FQ)	4	ENCP 2000	1	DS 3500	4		
CS 1802	1	DS 2500	4				
DS 2000	2	DS 2501	1				
DS 2001	2	General elective	4				
MATH 2341	4	MATH 3081	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 3305	4	Vacation		Co-op	0
CHME 3322	4	CHME 3306	0				
ENGW 3302, 3307, or 3315 (WD)	4	CHME 4510	4				
DS 3000	4	CHME 4701	4				
		DS 4200	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, WI, CE)	4

	CHME 4705	0	
	ENCP 3000	1	
	DS 4300	4	
	DS 4400	4	
	0	**17**	

Total Hours: 134

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2320	4	CHME 2310	4	Vacation		Co-op	0
CS 1800 (FQ)	4	ENCP 2000	1				
CS 1802	1	DS 2500	4				
DS 2000	2	DS 2501	1				
DS 2001	2	MATH 3081	4				
MATH 2341	4	General elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 3312	4	CS 3200 (FQ, AD)	4	Co-op	0
		CHME 3322	4	DS 3500	4		
		ENGW 3302, 3307, or 3315 (WD)	4				
		DS 3000	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3305	4	Vacation		Co-op	
		CHME 3306	0				
		CHME 4510	4				
		CHME 4701	4				
		ENCP 3000	1				
		DS 4200	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHME 4512 (EI, CE, WI)	4
		CHME 4703	4
		CHME 4705	0
		DS 4300	4

	DS 4400	4
	0	**16**

Total Hours: 134

Civil Engineering and Computer Science, BSCE

The Bachelor of Science in Civil Engineering and Computer Science provides expertise in computational modeling and simulation of civil and environmental processes and systems. Students will be prepared for practice in the engineering and control of processes and systems vital for the sustainable development and management of civil and environmental infrastructure, as well as the fundamentals of program design, software development, and algorithms and data.

Computational and simulations-based approaches in engineering research and design practices have increased substantially in recent years in response to the rapidly increasing availability of data from remote and in-situ sensors as well as networked systems. Students who graduate with this combined major degree will have the breadth and depth of understanding and abilities to contribute to innovative and sustainable solutions to support global civil and environmental infrastructure demands.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Differences and Diversity (DD) are not explicitly satisfied by required engineering courses. Students are responsible for satisfying these requirements with their general elective.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	5
CIVE 2320 and CIVE 2321	Structural Analysis and Recitation for CIVE 2320	4
CIVE 2324	Concrete Structure Design	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Civil Engineering Project Elective		
Complete one of the following:		4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 5536	Hydrologic and Hydraulic Design	
Senior Design Elective		
Complete one of the following:		5
CIVE 4765	Senior Design Project—Environmental	
CIVE 4767	Senior Design Project—Structural	
CIVE 4768	Senior Design Project—Transportation	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
2 semester hours from the following course count toward the engineering requirement:		2

GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Computer Science Requirements

Code	Title	Hours
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 3000 and CS 3001	Algorithms and Data and Recitation for CS 3000	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Computer Science Elective		
Complete 8 semester hours of the following:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective		
Complete one of the following science electives:		4
PHYS 1125	Introduction to Network Science: From the Human Cell to Facebook	
PHYS 1132	Energy, Environment, and Society	
ENVR 2515	Sustainable Development	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1

ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses.		4

Integrative Course

Code	Title	Hours
Students will complete one of these courses as part of their required courses above.		
CIVE 4765	Senior Design Project—Environmental	
CIVE 4767	Senior Design Project—Structural	
CIVE 4768	Senior Design Project—Transportation	

Engineering GPA Requirement

Minimum 2.000 GPA required in CIVE and GE courses

Khoury GPA Requirement

Minimum 2.000 GPA required in CS, CY, DS, and IS courses

Program Requirements

139 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151	4	GE 1502 (ER)	4	CS 1800 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	CS 1802	1		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	CS 2500 (FQ, ND)	4		
GE 1000	1	PHYS 1152 (AD)	1	CS 2501	1		
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective (IC, DD)	4				
	17		**17**		**10**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2260	4	Vacation		CIVE 2340	4
CIVE 2222	0	CIVE 2261 (AD)	1			CIVE 2341	1
CIVE 2334	4	CIVE 2320	4			MATH 2341	4
CS 2510 (AD, ND)	4	CIVE 2321	0				
CS 2511	1	CIVE 2331	4				
ENCP 2000	1	CIVE 3464	4				

MATH 2321 (FQ)	4						
	18		**17**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2324	4	Co-op		Co-op		Vacation	
CS 3000	4						
CS 3001	0						
CS 3200 (AD, FQ)	4						
Civil project elective	4						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CS 3500 and CS 3501 (AD, ND)	5	CS 4500 (WI)	4
ENCP 3000	1	GE 3300	4
ENGW 3302 or 3315 (WD)	4	Senior design elective (EI, WI, CE)	5
Khoury Elective	4	Khoury Elective	4
Science elective (SI)	4		
	18		**17**

Total Hours: 139

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151	4	GE 1502 (ER)	4	CS 1800 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	CS 1802	1		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	CS 2500 (FQ, ND)	4		
GE 1000	1	PHYS 1152 (AD)	1	CS 2501	1		
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective (IC, DD)	4				
	17		**17**		**10**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	Co-op	0	Co-op	0	CIVE 2340	4
CIVE 2222	0					CIVE 2341	1
CIVE 2260	4					MATH 2341	4
CIVE 2261 (AD)	1						
CIVE 2334	4						
ENCP 2000	1						
MATH 2321 (FQ)	4						
	18		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours
CIVE 2320	4	Co-op	0	Co-op	0
CIVE 2321	0				
CIVE 2331	4				
CIVE 3464	4				
CS 2510 (AD, ND)	4				
CS 2511	1				
	17		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2324	4	Co-op	0	Co-op	0	Vacation	
CS 3000	4						
CS 3001	0						
CS 3200 (AD, FQ)	4						
Civil project elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
CS 3500 and CS 3501 (AD, ND)	5	CS 4500 (WI)	4
ENCP 3000	1	GE 3300	4
ENGW 3302 or 3315 (WD)	4	Senior design elective (EI, WI, CE)	5
Khoury Elective	4	Khoury Elective	4
Science elective (SI)	4		
	18		**17**

Total Hours: 139

Computer Engineering and Computer Science, BSCmpE

This intercollege dual major serves students who are interested in both computer hardware and software, combining an accredited Bachelor of Science degree in engineering with the added benefits of depth in software principles found in a Bachelor of Science degree in computer science. This program provides a well-rounded computing education that includes engineering design principles, computational thinking, proper program design, and a solid background in mathematics and science. The degree is fully accredited as a Bachelor of Science in Computer Engineering and adds the computer science depth.

Because of the large body of shared knowledge between computer engineering and computer science, an integrated dual major between these two disciplines is a logical course of study and can be accomplished within a student's usual five-year program (including three co-op placements) without requiring course overloading in any semester. A student graduating from this program will have a solid foundation in both computer hardware and software principles, and should be prepared for a wide range of career paths in the computing field or any related field that relies on the application of engineering or computing principles.

Students interested in this program should contact the Department of Electrical and Computer Engineering or the Department of Computer and Information Science as early as possible, preferably prior to registering for first-year courses.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Computer Engineering Fundamentals		
CS 3000	Algorithms and Data	4
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
EECE 2540	Fundamentals of Networks	4
Electrical Engineering Fundamentals		
Complete one of the following:		4
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	
EECE 2520	Fundamentals of Linear Systems	
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	
Computer Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
EECE Technical Electives		

Students can register for EECE 4991 / EECE 4992 / EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most one of these courses (4 semester hours) can be taken in a semester.		
Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following:		8
EECE 2412 to EECE 2530		
EECE 2750	Enabling Engineering	
EECE 3324 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Computer Science Requirements

Code	Title	Hours
Computer Science Introductory Courses		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Upper-Level Courses		
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

MATH 3081	Probability and Statistics	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 SH of academic, nonremedial, nonrepetitive courses.		8

Integrative Courses

Code	Title	Hours
The following courses are already required above and also fulfill the integrative requirement.		
CS 1800	Discrete Structures	
EECE 4791	Electrical and Computer Engineering Capstone 1	
EECE 4792	Electrical and Computer Engineering Capstone 2	
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342	Calculus 2 for Science and Engineering	
MATH 3081	Probability and Statistics	
PHYS 1151 and PHYS 1152	Physics for Engineering 1 and Lab for PHYS 1151	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum GPA in EECE courses

2.000 minimum GPA required in all CS, CY, DS, and IS courses

Program Requirement

140 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CS 2500 (ND, FQ)	4	MATH 2341	4	General Elective	4
CHEM 1153	0	CS 2501	1	PHYS 1155 (ND)	3	General Elective	4
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1156 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1157	1		
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	CS 2800	4	CS 3000	4	Co-op	0
CS 1802	1	EECE 2160	4	Khoury Elective	4		
CS 2510 (ND, AD)	4	EECE 2540	4				
CS 2511	1	ENCP 2000	1				
EECE 2140	4	MATH 3081 (AD)	4				
EECE 2150 (AD)	5						
	19		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 3650	4	CS 3500 and CS 3501 (ND, AD)	5	Co-op	0
		EECE 2322	4	EECE 4791 (EI, WI, CE)[2]	1		
		EECE 2323	1	EECE Technical Elective	4		
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		EE Fundamentals	4				
	0		**18**		**10**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		EECE 4792 (EI, WI, CE)[2]	4
		EECE Technical Elective	4
		Khoury Elective	4
	0		**16**

Total Hours: 140

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CS 2500 (ND, FQ)	4	MATH 2341	4	General Elective	4
CHEM 1153	0	CS 2501	1	PHYS 1155 (ND)	3	General Elective	4
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1156 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1157	1		
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	CS 3000	4
CS 1802	1					Khoury Elective	4
CS 2510 (ND, AD)	4						
CS 2511	1						
EECE 2140	4						
EECE 2150 (AD)	5						
ENCP 2000	1						
	20		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2800	4	Co-op	0	Co-op	0	EECE 4791 (EI, WI, CE)[2]	1
EECE 2160	4					EECE Technical Elective	4
EECE 2540	4					Khoury Elective	4
ENCP 3000	1						
MATH 3081 (AD)	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
CS 3500 and CS 3501	5	CS 3650	4
EECE 2322	4	CS 4530	4
EECE 2323	1	ENGW 3302 or 3315 (WD)	4
EECE 4792 (EI, WI, CE)[2]	4	EECE Technical Elective	4
EE Fundamentals	4		
	18		**16**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	CS 2510 (ND, AD)	4	Vacation	0	Co-op	0
CS 1802	1	CS 2511	1				
CS 2500 (ND, FQ)	4	CS 2800	4				
CS 2501	1	EECE 2160	4				
EECE 2140	4	ENCP 2000	1				
MATH 2341	4	PHYS 1155 (ND)	3				
		PHYS 1156 (AD)	1				
		PHYS 1157	1				
	18		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 3650	4	CS 3500 and CS 3501 (ND, AD)	5	Co-op	0
		EECE 2150 (AD)	5	ENGW 3302 or 3315 (WD)	4		
		EECE 2322	4				
		EECE 2323	1				
		EECE 2540	4				
	0		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	CS 3000	4	Co-op	0
		MATH 3081 (AD)	4	EECE 4791 (EI, WI, CE)[2]	1		
		EE Fundamentals	4	General Elective	4		
		Khoury Elective	4				
		Khoury Elective	4				
	0		**17**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		EECE 4792 (EI, WI, CE)[2]	4
		EECE Technical Elective	4
		EECE Technical Elective	4
	0		**16**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	Vacation	0
CS 1802	1						
CS 2500 (ND, FQ)	4						
CS 2501	1						
EECE 2140	4						
ENCP 2000	1						
MATH 2341	4						
	19		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2510 (ND, AD)	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
CS 2511	1					MATH 3081 (AD)	4
CS 2800	4						
EECE 2160	4						

PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501 (ND, AD)	5	Co-op	0	Co-op	0	CS 3000	4
CS 3650	4					EECE 4791 (EI, WI, CE)[2]	1
EECE 2150 (AD)	5					EECE Technical Elective	4
EECE 2540	4						
ENCP 3000	1						
	19		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
EECE 2322	4	CS 4530	4
EECE 2323	1	EE Fundamentals	4
EECE 4792 (EI, WI, CE)[2]	4	EECE Technical Elective	4
Khoury Elective	4	General Elective	4
Khoury Elective	4		
	17		**16**

Total Hours: 140

[2] The capstone design courses are taken as follows:

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring, or...
- ... Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall.

Computer Science and Behavioral Neuroscience, BS

The Bachelor of Science in Computer Science and Behavioral Neuroscience underscores how research in neuroscience has become a computational field of study. The combined major is designed for students who are interested in applying mathematical and computational methodologies toward understanding human behavior, artificial intelligence, and the human-machine interface. Courses across multiple science disciplines—including biology, chemistry, and computer science—lay a strong foundation necessary to explore brain mechanisms and how they give rise to behavioral functions and pathological states using computational approaches. Students will have an opportunity to develop skills in software development as they apply algorithms and data structures to brain research and neurotechnology.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Requirements

Code	Title	Hours
Overview		
CS 1200	First Year Seminar [1]	1
CS 1210	Professional Development for Khoury Co-op [2]	1
Computer Science Foundations		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4100	Artificial Intelligence	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Statistics Foundation		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
PSYC 2320	Statistics in Psychological Research	

1 Students entering through the behavioral neuroscience program may take Behavioral Neuroscience at Northeastern (BNSC 1000).

2 Students entering through the behavioral neuroscience program may take Professional Development for Co-op (EESC 2000).

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		

Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Behavioral Neuroscience Requirements

Code	Title	Hours
COS Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
PSYC 1101	Foundations of Psychology	4
Mathematics Foundation		
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1251	Calculus and Differential Equations for Biology 1	
Behavioral Neuroscience Foundations		
BIOL 3405	Neurobiology	4
or BIOL 5587	Comparative Neurobiology	
PT 5410 and PT 5411	Functional Human Neuroanatomy and Lab for PT 5410	4-5
or PSYC 3200	Clinical Neuroanatomy	
Psychology Elective		
Complete one of the following:		4
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
PSYC 4524	Cognitive Development	
Behavioral Neuroscience Core Courses		
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 4709	Neurobiology of Learning and Memory	
BIOL 5595	Cell and Molecular Neuroscience	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
PSYC 3506	Neuropsychology of Fear	
PSYC 3508	Behavioral Endocrinology	
PSYC 3510	Brain, Behavior, and Immunity	
PSYC 4510	Psychopharmacology	
PSYC 4512	Neuropsychology	
PSYC 4514	Clinical Neuroscience	
PSYC 4570	Behavioral Genetics	

Integrative Requirements

Code	Title	Hours
Integrative Courses		
IS 4300	Human Computer Interaction	4
or CS 4120	Natural Language Processing	
or CS 4180	Reinforcement Learning	
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience	4
or BINF 6308	Bioinformatics Computational Methods 1	
Upper-Division Elective		
Complete four credits from the following list, not taken to fulfill previous requirements:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
BNSC 4970 or higher		
BIOL 3400 or higher		
BINF 6309	Bioinformatics Computational Methods 2	
PSYC 3200 or higher		

Supporting Courses

Code	Title	Hours
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Required General Electives

Code	Title	Hours
Complete 16 credits of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Computer Science and Behavioral Neuroscience Major Credit Requirement

102 SH required in the major

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Patterns:

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	CS 3500 and CS 3501	5	Vacation	
CS 1200	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	PSYC 1101	4		
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4						
	20		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op		Co-op		PSYC Elective	4
BIOL 3405 or 5587	4					General Elective	4
CS 1210	1						
CS 3000	4						
CS 3200	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	Co-op		Co-op		General elective	4
PSYC 3200 or PT 5410 ***and*** PT 5411	4	ENGW 3302, 3307, or 3315	4			General elective	4
Statistics course	4						
General elective	4						
	17		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	BINF 6308 or PSYC 4540	4
IS 4300, CS 4120, or CS 4180	4	CS 4100	4
BNS core	4	Computing and social issues	4
BNS core	4	General elective	4
	16		**16**

Total Hours: 134

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	CS 3500 and CS 3501	5	Vacation	

CS 1200	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	PSYC 1101	4		
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4						
	20		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	CHEM 2311 and CHEM 2312	5	PSYC elective	4	Co-op	
BIOL 3405 or 5587	4	CS 1210	1	General elective	4		
CS 3000	4	PSYC 3200 or PT 5410 ***and*** PT 5411	4				
CS 3200	4	Statistics course	4				
		General elective	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4530	4	Upper-division elective	4	Co-op	
		Computing and Social Issues	4	General elective	4	ENGW 3302, 3307, or 3315 (online)	4
		BNS core	4				
		BNS core	4				
	0		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		BINF 6308 or PSYC 4540	4
		CS 4100	4
		IS 4300, CS 4120, or CS 4180	4
		General elective	4
	0		**16**

Total Hours: 134

Computer Science and Biology, BS

The computer science and biology combined major reflects how research in biology, especially genetics, has become a computational science. The program provides a strong foundation in biology, chemistry, and mathematics, as well as software development and algorithms.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar [1]	
CS 1210	Professional Development for Khoury Co-op [2]	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation (integrative course)	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

1 Students entering through the Department of Biology may take Biology at Northeastern (BIOL 1000).
2 Students entering through the Department of Biology may take Professional Development for Co-op (EESC 2000).

Biology Courses

Code	Title	Hours
Foundations of Biology		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Molecular Biology		

BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Biology Project Lab		
BIOL 2309	Biology Project Lab	4
Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Biology Capstone		
Choose one:		4
BIOL 4701	Biology Capstone	
BIOL 4971	Junior/Senior Honors Project 2	
BIOL 4900	Biology Research Capstone	
Intermediate/Advanced Biology Electives		**8-10**
Complete two biology courses (with corequisite labs if offered). Choose one of these two courses from the following list:		
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
Choose the second elective from the following list:		
BIOL 2311 to BIOL 4999		
EEMB 2290 to EEMB 5515		
EEMB 5548 to EEMB 5569		
Biology Integrative Course		
Complete one of the following:		4-5
BINF 6308	Bioinformatics Computational Methods 1	
BIOL 4707	Cell and Molecular Biology	
BIOL 5581	Biological Imaging	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
Probability and Statistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	

ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	
Intermediate or Advanced Science		
Complete one course from the following:		4
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
CHEM 2311 to CHEM 5999		
EEMB 2290 to EEMB 5999		
ENVR 2310 to ENVR 5999		
MATH 2280 to MATH 5999		
PHYS 2303 to PHYS 5999		
PSYC 2290 to PSYC 5999		

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 credits of general electives		20

NUpath Requirements Satisfied

- `Engaging with the Natural and Designed World`
- Conducting Formal and Quantitative Reasoning
- Exploring Creative Expression and Innovation
- `Analyzing and Using Data`
- `Writing in the First Year`
- `Advanced Writing in the Disciplines`
- `Writing-Intensive in the Major`
- `Demonstrating Thought and Action in a Capstone`

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

141 total semester hours required

Plan of Study
Sample Pattern:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	CS 2510 and CS 2511	5	BIOL 2301 and BIOL 2302	5	CS 3000	4
CS 1200	1	BIOL 2299	4	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4						
	20		**18**		**10**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CS 1210	1	BIOL 3611 and BIOL 3612	5	Co-op	
Khoury Elective	4	CHEM 2313 and CHEM 2314	5	Elective	4		
Computing and Social Issues	4	BIOL 2309	4				
Elective	4	Biology Elective 1 and lab	5				
		Elective	4				
	17		**19**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4500 or 4530	4	ENGW 3302, 3307, or 3315	4	Co-op	
		ENVR 2500 and ENVR 2501	5	Elective	4		
		Biology Elective 2	4				
		Intermediate/Advanced Science	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Biology Capstone	4
		CS 3800	4
		CS 3200	4
		Biology Integrative	4
	0		**16**

Total Hours: 142

Four Years, Two Co-ops in Fall/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1200	1	BIOL 2299	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5				

CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		CHEM 2313 and CHEM 2314	5
CHEM 2311 and CHEM 2312	5					Elective	4
BIOL 2301 and BIOL 2302	5						
Computing and Social Issues	4						
Elective	4						
	19		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op		Co-op		ENGW 3302, 3307, or 3315	4
BIOL 3611 and BIOL 3612	5					Elective	4
Khoury Elective	4						
Biology Elective 1 and lab	5						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	Biology Capstone	4
ENVR 2500 and ENVR 2501	5	CS 3800	4
Intermediate/Advanced Science	4	CS 3200	4
Biology Elective 2	4	Biology Integrative	4
	17		**16**

Total Hours: 142

Computer Science and Business Administration, BS

The computer science and business combined major delivers a technical degree with a strong grounding in business. Students will complete most of the requirements of a business major, including macroeconomics and microeconomics, while also focusing on technical skills like program design, software development, computer organization, systems and networks, theories of computation, principles of languages, and advanced algorithms and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BUSN 1102	Personal Skill Development for Business	
CS 1210	Professional Development for Khoury Co-op	1
or BUSN 1103	Professional Development for Business Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Computer Science Required Electives		
Complete two of the following:		8
CS 3650	Computer Systems	
CS 4700	Network Fundamentals	
CS 4730	Distributed Systems	
DS 3000	Foundations of Data Science	
DS 4200	Information Presentation and Visualization	
DS 4300	Large-Scale Information Storage and Retrieval	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Business Courses

Code	Title	Hours
Required Business Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
MGSC 2301	Business Statistics	4
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
STRT 4501	Strategy in Action	4

Business Concentration

Complete a four-course business concentration from the following list.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Integrative Course

Code	Title	Hours
Information Resource Management		
MISM 2301	Introduction to Information Systems and Digital Technologies	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1231	Calculus for Business and Economics	
Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	

or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3304	Advanced Writing in the Business Administration Professions	

Required General Electives

Code	Title	Hours
Complete 16 credits of general electives.		16

Business Cooperative Education

Complete one cooperative education experience.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	CS 2510 and CS 2511	5	ECON 1115	4	MISM 2301	4
CS 1200 or BUSN 1102	1	CS 3200	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4				
CS 2500 and CS 2501	5	MATH 1341 or 1231	4				
ENGW 1111	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	CS 1210 or BUSN 1103	1	MKTG 2201	4	Co-op	
CS 3500 and CS 3501	5	CS 3000	4	Business concentration 1	4		
MGSC 2301	4	FINA 2201	4				
Elective	4	Computing and social issues	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS Required Elective 1	4	ENGW 3302	4	Co-op	
		Business concentration 2	4	ORGB 3201	4		
		Business concentration 3	4				
		Khoury Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		STRT 4501	4
		CS Required Elective 2	4
		Business concentration 4	4
	0		**16**

Total Hours: 134

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1200 or BUSN 1102	1	CS 3200	4	ECON 1115	4	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4				
CS 2500 and CS 2501	5	MATH 1341 or 1231	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op		Co-op		ENGW 3302	4
CS 1210 or BUSN 1103	1					MKTG 2201	4
CS 3000	4						
MGSC 2301	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
FINA 2201	4	Co-op		Co-op		ORGB 3201	4
MISM 2301	4					Elective	4
CS Required Elective 1	4						
Khoury Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4530 or 4500	4	CS Required Elective 2	4
STRT 4501	4	Computing and Social Issues	4
Business concentration 1	4	Business concentration 3	4
Business concentration 2	4	Business concentration 4	4
	16		**16**

Total Hours: 134

Computer Science and Cognitive Psychology, BS

The computer science and cognitive psychology combined major provides a foundation in general psychology, psychology of language, cognition, and statistics—all supplemented by an experimental laboratory course, seminar course, and psychology electives. Students who choose this program often have a general interest in human psychology or specific interests in artificial intelligence or human-computer interaction.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4100	Artificial Intelligence (Integrative course)	4
CS 4500	Software Development (Integrative course)	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction (Integrative course)	4
Khoury Elective Courses		
With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete twelve credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Psychology Courses

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3464	Psychology of Language	4
PSYC 3466	Cognition	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department approval).		4-5
PSYC 2320	Statistics in Psychological Research	

Advanced Psychology		
PSYC 3452	Sensation and Perception	4
or PSYC 3458	Biological Psychology	
Laboratory in Psychology		
Complete one of the following:		4
PSYC 4604	Laboratory in Learning and Motivation	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4622	Laboratory in Sensation and Perception	
Seminar in Psychology		
Complete one of the following:		4
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
Psychology Electives		
Note: Courses satisfying the categories above cannot be reused.		
Complete two of the following:		8
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 4512	Neuropsychology	
PSYC 4524	Cognitive Development	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
With prior approval, directed study research and Honors Project courses can also be counted:		
PSYC 4970	Junior/Senior Honors Project 1	
PSYC 4971	Junior/Senior Honors Project 2	
PSYC 4991	Directed Study Research	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	

PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	PSYC 3466	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4	Elective	4				
PSYC 1101	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
MATH 1341	4					Elective	4
PSYC 3464	4						
Computing and social issues	4						

Khoury elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4500 or 4530	4	Co-op		Co-op		ENGW 3302	4
PSYC 2320	4					Elective	4
PSYC 3452 or 3458	4						
PSYC elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
IS 4300	4	CS 4100	4
PSYC lab	4	PSYC Seminar	4
PSYC elective	4	Khoury elective	4
Khoury elective	4	Elective	4
	16		**16**

Total Hours: 134

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	PSYC 3466	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4	Elective	4				
PSYC 1101	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1341	4	CS 1210	1	Khoury Elective	4	Co-op	
PSYC 3464	4	IS 4300	4	Elective	4		
Computing and social issues	4	PSYC 2320	4				
Khoury Elective	4	PSYC 3452 or 3458	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC lab elective	4	ENGW 3302 or 3302	4	Co-op	
		PSYC Seminar	4	Elective	4		
		PSYC elective	4				
		PSYC elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4100	4
		CS 4530	4
		Khoury elective	4

Elective	4
0	**16**

Total Hours: 134

Computer Science and Communication Studies, BS

The computer science and communication studies combined major integrates practical skills and theory. Students will gain both a strong computer science foundation and a deep understanding of the major conceptual frameworks for human communication—plus how to apply this knowledge to solve problems in today's society.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or COMM 1000	Communication Studies at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
CS 4550	Web Development	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Communication Studies Courses

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		

Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three courses in the following range: [1]		12
COMM 1131 to COMM 4996		

[1] Junior/Senior Honors Project 1 (COMM 4970) is excluded.

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
COMM 3409	Advocacy Writing [2]	

[2] If Advocacy Writing (COMM 3409) is selected it will also satisfy a communication studies elective requirement. One additional general elective will be then required in its place.

Integrative Course

Code	Title	Hours
CS 4120	Natural Language Processing	4

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS

Communication Studies GPA Requirement

Minimum 2.000 GPA required in all COMM courses

Program Requirement

133 total semester hours required

Plan of Study

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	CS 3500 and CS 3501	5	Vacation	
CS 1200 or COMM 1000	1	CS 2510 and CS 2511	5	Elective	4		
CS 1800 and CS 1802	5	CS 3200	4				

CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EEAM 2000	1	Co-op	0	Co-op	0	Elective	4
CS 3000	4					Elective	4
MATH 1341	4						
Communication studies foundation course	4						
Khoury elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Communication studies cluster course	4	Co-op	0	Co-op	0	ENGW 3302 or 3315	4
Communication studies writing-intensive course	4					Elective	4
Communication studies elective 1	4						
Khoury elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
CS 4120	4	CS 4550	4	Elective	4		
CS 4500 or 4530	4	Communication studies elective 3	4	Elective	4		
Communication studies writing-intensive course	4	Computing and Social Issues	4				
Communication studies elective 2	4	Elective	4				
	16		**16**		**8**		

Total Hours: 134

Sample Pattern, Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	CS 3500 and CS 3501	5	Vacation	
CS 1200 or COMM 1000	1	CS 2510 and CS 2511	5	Elective	4		
CS 1800 and CS 1802	5	CS 3200	4				
CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210 or EEAM 2000	1	Elective	4	Co-op	
MATH 1341	4	Communication studies cluster course	4	Elective	4		
Communication studies foundation course	4	Communication studies writing intensive	4				

Khoury elective	4	Communication studies elective 1	4				
		Khoury elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4120	4	ENGW 3302	4	Co-op	
		CS 4530	4	Elective	4		
		Communication studies writing intensive	4				
		Communication studies elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
Co-op		CS 4550	4	Elective	4		
		Communication studies elective 3	4	Elective	4		
		Computing and Social Issues	4				
		Elective	4				
	0		**16**		**8**		

Total Hours: 134

Computer Science and Criminal Justice, BS

For students interested in criminal justice in an increasingly digital world, the computer science and criminal justice combined degree offers a strong programming foundation coupled with academic and experiential knowledge of the criminal justice system. Successful students will learn the principles, practices, and responsibilities of criminal justice professionals alongside the computer science skills necessary for practical applications in the field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or CRIM 1000	Criminal Justice at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 16 credits of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		16
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Criminal Justice Courses

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4

CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? These courses cover how to harness data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Criminal Justice Capstone		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete one additional criminal justice elective from the 3000, 4000, or 5000 level.		4

Integrative Course Requirement

Code	Title	Hours
Complete one of the following:		4
CRIM 3060	Political Crime and Terrorism	
CRIM 4040	Crime Prevention	

Supporting Course

Code	Title	Hours
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	

HIST 2220	History of Technology
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 credits of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, 2 Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3500 and CS 3501	5	Elective	4
CS 1200	1	CRIM 1120	4	Elective	4		
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4						
	19		**17**		**9**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	Co-op		Co-op		Elective	4
CS 1210 or EESH 2000	1					Elective	4
CS 3000	4						
CS 3200	4						
Current Crime and Justice Issues	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op		Co-op		Elective	4
Crime Problems and Criminal Justice Institutions	4	ENGW 3302, 3308, or 3315	4			Elective	4
Khoury elective 1	4						
Khoury elective 2	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CJ Systemic Issues	4	CRIM 4949	4
CJ Elective	4	CJ integrative course	4
Computing and social issues	4	Khoury elective 4	4
Khoury elective 3	4	Elective	4
	16		**16**

Total Hours: 134

Four Years, 2 Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3000	4	Elective	4
CS 1200	1	CRIM 1120	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CRIM 3700	4	Elective	4	Co-op	
CS 3500 and CS 3501	5	CS 1210	1	Elective	4		
Current Crime and Justice Issues	4	CS 3200	4				
Elective	4	Crime Problems and Criminal Justice Institutions	4				
		Khoury Elective 1	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Computing and social issues	4	ENGW 3302, 3308, or 3315	4	Co-op	
		CJ Elective	4	Elective	4		
		CJ Systemic Issues	4				
		Khoury Elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CRIM 4949	4
		CJ integrative course	4
		Khoury Elective 3	4
		Khoury Elective 4	4
	0		**16**

Total Hours: 134

Computer Science and Design, BS

The combined major in computer science and design integrates fundamental design courses with a strong programming foundation. Students will declare a concentration in interaction design, graphic and information design, or experience design. Students in this major often have an interest in human-centered design methods used in developing digital interfaces and applications.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction	4
Computer Science Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Design Requirements

Code	Title	Hours
Art + Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art + Design Fundamentals Elective		
Complete one of the following:		4

ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Design Elective		
Complete any one ARTG course, as long as prerequisites have been met and that is not used to fulfill other requirements of the program. ARTG 2262 and ARTG 2263 are recommended. [1]		4
Art + Design History Elective		
Complete any one ARTH course.		4
Art + Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

[1] Instead of ARTG 2262 and ARTG 2263, ARTG 5330 is recommended for students considering the Plus One in Information Design and Data Visualization.

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry [2]	
Interaction Design Option		
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3700	Interaction Design 2: Mobile	

[2] Instead of ARTG 3444, ARTG 5100 is recommended for students considering the Plus One in Information Design and Data Visualization.

Degree-Focused Electives

Code	Title	Hours
Complete two courses from the following lists:		8
Art + Design		
Complete any ARTG course as long as prerequisites have been met. If ARTG 5000 (or any other topics course in the subject listed) is completed more than once, the additional completions may be allowed toward the electives.		
Psychology		
PSYC 1101	Foundations of Psychology	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	

Computer Science

CS 3200	Database Design
CS 3520	Programming in C++
CS 3540	Game Programming
CS 3650	Computer Systems
CS 3800	Theory of Computation
CS 4100	Artificial Intelligence
CS 4150	Game Artificial Intelligence
CS 4300	Computer Graphics
CS 4400	Programming Languages
CS 4520	Mobile Application Development
CS 4550	Web Development
CS 4700	Network Fundamentals
CS 4730	Distributed Systems
CS 4850	Building Game Engines
CS 4991	Research
CS 4992	Directed Study
CS 4993	Independent Study
DS 3000	Foundations of Data Science
DS 4200	Information Presentation and Visualization
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
DS 4420	Machine Learning and Data Mining 2
IS 2000	Principles of Information Science

Integrative Requirement

Code	Title	Hours
The following courses are used in the major but also count as the integrative requirement:		
IS 4300	Human Computer Interaction	
ARTG 4550	Design Degree Project	

Supporting Course

Code	Title	Hours
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3314	Advanced Writing in the Arts, Media, and Design
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS and IS courses

Computer Science and Design Major Credit Requirement

96 SH are required in the major.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4	CS 3500 and CS 3501	5	Vacation	
ARTG 1001 and ARTG 1002	4	ARTG 1290 and ARTG 1291	4	A+D Fundamentals Elective	4		
CS 1200 or ARTF 1000	1	CS 2510 and CS 2511	5				
CS 1800 and CS 1802	5	ENGW 1111	4				
CS 2500 and CS 2501	5						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	Co-op		Co-op		Elective	4
CS 1210 or EEAM 2000	1					Elective	4
CS 3000	4						
Design Option level 1	4						
Degree-focused elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
IS 4300	4	Co-op		Co-op		Elective	4
Art+Design History elective	4			ENGW 3302	4	Elective	4

Computing and social issues		4					
Design Option level 2		4					
		16		**0**		**4**	**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	ARTG 4550	4
Art+Design elective	4	CS elective	4
Elective	4	CS elective	4
Elective	4	Degree-focused elective 2	4
	16		**16**

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1001 and ARTG 1002	4	ARTG 1270 and ARTG 1271	4	CS 3500 and CS 3501	5	Vacation	
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1290 and ARTG 1291	4	A+D Fundamentals Elective	4		
CS 1200 or ARTF 1000	1	CS 2510 and CS 2511	5				
CS 1800 and CS 1802	5	ENGW 1111	4				
CS 2500 and CS 2501	5						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2262 and ARTG 2263	4	CS 1210	1	Elective	4	Co-op	
CS 3000	4	IS 4300	4	Elective	4		
Design Option level 1	4	A+D History Elective	4				
Degree-focused elective 1	4	Computing and Social Issues	4				
		Design Option level 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4530	4	Elective	4	Co-op	
		Art + Design Elective	4	Elective	4	ENGW 3302	4
		Elective	4				
		Elective	4				
	0		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		ARTG 4550	4
		CS elective	4
		CS elective	4
		Degree-focused elective 2	4
	0		**16**

Total Hours: 130

Computer Science and Economics, BS

The combined major in computer science and economics integrates fundamental economics courses with a strong programming foundation. Studying both the behavior of individuals and the collective behavior of industries and governments, students will utilize computing skills to address complex issues within the field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ECON 1000	Economics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Choose one of the following:		4
IS 4200	Information Retrieval	
or IS 4300	Human Computer Interaction	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4

ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete four ECON elective courses from the following ranges with no more than two at the ECON 1200-1999 range:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Economics Capstone		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	

Integrative Course Requirement

Code	Title	Hours
The following courses are used in other areas of the major:		
ECON 2560	Applied Econometrics	4
IS 2000	Principles of Information Science	4

Supporting Courses

Code	Title	Hours
Mathematics		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one course from the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	

ENGW 3308	Advanced Writing in the Social Sciences
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Economics GPA Requirement

Grades in the following required Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Exploring Creative Expression and Innovation
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Computer Science and Economics Major Credit Requirement

Minimum of 100 semester hours is required in the major

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4	ECON 2315	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2800	4	CS 1210	1	ECON elective 3	4	Co-op	0
CS 3000	4	CS 3200	4	Elective	4		
ECON 2350	4	ECON 2316	4				

ECON elective 1	4	ECON 2560	4				
		ECON elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Computing and social issues requirement	4	ENGW 3302, 3308, or 3315	4	Co-op	0
		ECON elective 4	4	Elective	4		
		Khoury Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692 or 4997	4
		Information Science Course	4
		Khoury elective	4
		Elective	4
	0		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4	ECON 2315	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	ECON elective 2	4
CS 2800	4					Elective	4
CS 3000	4						
ECON 2350	4						
ECON elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	ENGW 3302, 3308, or 3315	4
ECON 2316	4					Elective	4
ECON 2560	4						
ECON elective 3	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Computing and social issues	4	ECON 4692 or 4997	4
ECON elective 4	4	Information Science Course	4

Khoury Elective	4	Khoury elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 134

Computer Science and English, BS

The computer science and English combined major focuses on the increasingly interdisciplinary processes of creating, interpreting, and analyzing texts and programs. Students will combine communication and critical judgment, gaining the creativity and adaptability necessary to utilize technology in literary studies, and apply humanities skills to solve programming problems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ENGL 1000	English at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
Computing Focus		
Students are required to complete one of the following foci (two courses total):		8
Focus 1: Natural Language Processing		
CS 3800	Theory of Computation	
CS 4120	Natural Language Processing	
Focus 2: Programming Languages		
CS 3800	Theory of Computation	
CS 4400	Programming Languages	
Focus 3: Analytics		
DS 3000	Foundations of Data Science	
DS 4200	Information Presentation and Visualization	
Computer Science/Information Science Elective Course		
Choose one:		4
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
IS 2000	Principles of Information Science	
Khoury Elective Courses		
With adviser approval, a directed study, project study, or appropriate graduate-level course may also be taken as an upper-division elective.		

Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	

ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone

Code	Title	Hours
Complete one of the following courses:		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	

Integrative Course Requirement

This course will not be allowed to double-count in the Theories and Methods section above.

Code	Title	Hours
ENGL 3340	Technologies of Text	4
or HIST 1357	History of Information in the United States: Media, Technology, Law	

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one course from the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3310	Advanced Writing in Literature	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Exploring Creative Expression and Innovation
- Writing in the First Year
- Advanced Writing in the Disciplines

- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

137 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	ENGL 1160 or 1410	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Pre-19th Century Literature	4				
ENGL 1400	4	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	Elective	4
CS 3200	4					Elective	4
ENGL 1700 or 1701	4						
19th/20th/21st Century Literature	4						
ENGL Theories & Methods	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 3340 or HIST 1357	4	Co-op	0	Co-op	0	Elective	4
IS 2000, CS 4500, or CS 4530	4			ENGW 3302, 3309, 3310, or 3315	4	Elective	4
English Comparative Course	4						
Khoury elective	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
Computing & Social Issues	4	ENGL 4710 or 4720	4
Computing Focus 1	4	Computing Focus 2	4
English Elective 1	4	English Diversity Requirement	4
English Elective 2	4	Writing Requirement	4
	16		**16**

Total Hours: 138

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4

CS 1800 and CS 1802	5	ENGL 1160 or 1410	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Pre-19th Century Literature	4				
ENGL 1400	4	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210	1	Elective	4	Co-op	0
ENGL 1700 or 1701	4	ENGL 3340 or HIST 1357	4	Elective	4		
19th/20th/21st Century Literature	4	IS 2000, CS 4500, or CS 4530 (or English Category or Elective)	4				
ENGL Theories & Methods	4	English Comparative Course	4				
		Khoury elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Computing & social issues	4	Elective	4	Co-op	0
ENGW 3302, 3309, 3310, or 3315	4	Computing Focus 1	4	Elective	4		
		English Elective 1	4				
		English Elective 2	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENGL 4710 or 4720	4
		Computing Focus 2	4
		English Diversity Requirement	4
		Writing Requirement	4
	0		**16**

Total Hours: 138

Computer Science and Environmental and Sustainability Sciences, BS

The computer science and the environmental and sustainability sciences combined major focuses on the major environmental challenges facing our planet and provides broad training to understand how these challenges can be met through advances in computer science and artificial intelligence. Understanding these processes requires both the acquisition and computational analysis of large amounts of data—underscoring the synergistic relationship between computer science and environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000 and CS 3001	Algorithms and Data and Recitation for CS 3000	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With advisor approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Environmental and Sustainability Sciences Courses

Code	Title	Hours
Environmental and Sustainability Sciences Required Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	

ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2515	Sustainable Development	4
Skills		
Complete one of the following:		4-5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 5260	Geographical Information Systems	
Earth Oceans and Environmental Change		
Complete one of the following:		4-5
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		
Complete one of the following:		4
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	
Sustainable Planning and Development		
Complete one of the following:		4
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
Environment and Society		
Complete one of the following:		4
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	
PPUA 5268	International Environmental Policy	
SOCL 2485	Environment, Technology, and Society	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
MATH 1252	Calculus and Differential Equations for Biology 2	4
or MATH 1342	Calculus 2 for Science and Engineering	
MATH 3081	Probability and Statistics	4

Chemistry		
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	5
CHEM 1214 and CHEM 1215 and CHEM 1216	General Chemistry 2 and Lab for CHEM 1214 and Recitation for CHEM 1214	5
Computing and Social Issues		
Complete one of the following:		4
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 4528	Computers and Society	

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4971	Junior/Senior Honors Project 2	
ENVR 4997	Senior Thesis	
CS 4991	Research	

Required General Electives

Code	Title	Hours
Complete 20 credits of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, DS, CY, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- `Demonstrating Thought and Action in a Capstone`

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

136 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	ENVR Skills Coures	4				
ENGW 1111	4	EEMB 2302 and EEMB 2303	5				
ENVR 1400 and ENVR 1401	5						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		MATH 1251 or 1341	4
CHEM 1211 and CHEM 1212 and CHEM 1213	5					Elective	4
CS 3000	4						
ENVR 2515	4						
ENVR 2200 or 1200	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1214 and CHEM 1215 and CHEM 1216	5	Co-op		Co-op		MATH 3081	4
MATH 1252 or 1342	4					ENGW 3302, 3307, or 3315	4
ENVR Oceans Course	4						
Khoury Elective	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	CS 4530	4
ENVR Conservation Course	4	ENVR society course	4
ENVR Sustainable Course	4	Integrative course	4
Elective	4	Computing and social issues	4
	16		**16**

Total Hours: 138

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4

CS 2500 and CS 2501	5	ENVR Skills Coures	4				
ENGW 1111	4	EEMB 2302 and EEMB 2303	5				
ENVR 1400 and ENVR 1401	5						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1211 and CHEM 1212 and CHEM 1213	5	CHEM 1214 and CHEM 1215 and CHEM 1216	5	MATH 1252 or 1342	4	Co-op	
CS 3000	4	CS 1210	1	Elective	4		
ENVR 2515	4	MATH 1251 or 1341	4				
ENVR 2200 or 1200	4	ENVR Earth oceans course	4				
		Khoury elective	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	ENGW 3302, 3307, or 3315	4	Co-op	
		ENVR conservation course	4	MATH 3081	4		
		ENVR sustainable course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		ENVR society course	4
		Integrative course	4
		Computing and social issues	4
	0		**16**

Total Hours: 138

Computer Science and Game Development, BS

The computer science and game development combined major focuses on the specific skills needed to succeed in the highly competitive game industry. Students will engage in building and developing games and playable media experiences while completing courses in computer science and specialized game technology and design. Interdisciplinary courses enable students to develop their creative and entrepreneurial abilities, as well as create a strong portfolio of game pieces.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3520	Programming in C++ (Integrative course)	4
CS 3540	Game Programming (Integrative course)	4
CS 3650	Computer Systems	4
CS 4300	Computer Graphics (Integrative course)	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
CS 4850	Building Game Engines (Integrative course)	4
Computer Science Elective Course		
CS 4150	Game Artificial Intelligence (Integrative course)	4
or IS 4300	Human Computer Interaction	

Game Design Courses

Code	Title	Hours
Game Design Required		
GAME 1110	Games and Society	4
GAME 2500	Foundations of Game Design	4
GAME 2950	Game Studio	4

GAME 3400	Level Design and Game Architecture	4
GAME 3700	Rapid Idea Prototyping for Games	4
GAME 3800	Game Concept Development	4
GAME 4700	Game Design Capstone	4
Game Design Elective		
Complete one of the following:		
GAME 1850	Experimental Game Design	4
or GAME 3300	Game Interface Design	
or GAME 4000	Topics in Game Design	
Khoury/Game-Related Electives		
Complete three of the following:		12
Any course in ARTD, ARTE, ARTF, ARTG, ARTH, and GAME subject areas as long as prerequisites have been met.		
If GAME 4000 (or any other topics course in the subjects listed above) is completed more than once, the additional completions may be allowed toward the Game Design electives.		
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
MATH 1342	Calculus 2 for Science and Engineering	
MATH 2331	Linear Algebra	
ECON 2350	Statistics for Economists	
or PSYC 2320	Statistics in Psychological Research	

Supporting Courses

Code	Title	Hours
Psychology		
PSYC 1101	Foundations of Psychology	4
Mathematics		
MATH 1260	Math Fundamentals for Games (Integrative course)	4
Complete one course from the following:		4
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342 or higher		

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Khoury College GPA Requirements

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year

- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Understanding Societies and Institutions
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or ARTF 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Vacation	0
CS 1800 and CS 1802	5	GAME 2500	4	Elective	4		
CS 2500 and CS 2501	5	PSYC 1101	4				
ENGW 1111	4	Math Elective	4				
GAME 1110	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210 or EEAM 2000	1	Math Elective	4	Co-op	
CS 3520 (*)	4	CS 3540[1]	4	Elective	4		
GAME 2950[1]	4	CS 3650	4				
GAME 3700	4	GAME 3400	4				
		Khoury/game elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 4300	4	Co-op	0	Co-op	0
		CS 4850[1]	4				
		GAME 3800	4				
		ENGW 3302	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours			Summer 2	Hours
CS 4500 or 4530	4	GAME 4700	4			Vacation	0
CS 4700 or 4730	4	Computer science elective	4				
Game design elective (*)	4	Khoury/game elective	4				
Khoury/game elective	4	Elective	4				
	16		**16**				**0**

Total Hours: 134

[1] Indicates courses that must be taken in the semester listed.

Computer Science and History, BS

The computer science and history combined major offers students the opportunity to gain both historical knowledge and a broad range of related analytical skills in both the humanities and computer science. You'll define a history course cluster according to a thematic principle, with a focus on quantitative analysis in the field, complementing your foundation in programming.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or HIST 1000	History at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 16 semester hours of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		16
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

History Courses

Code	Title	Hours
History Required Courses		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		**4**
Complete one of the following:		

HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Outside the United States and Europe		**4**
Complete one of the following:		
HIST 1150	East Asian Studies	
HIST 1180	African History	
HIST 1187	Introduction to Latin American History	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1253	History of Vietnam Wars	
HIST 1294	History of the Jews in the Modern World	
HIST 1500	Modern Chinese History and Culture	
HIST 2025	Latin American History through Film	
HIST 2311	Colonialism/Imperialism	
HIST 2351	Modern Japan	
History Electives		
Complete two HIST courses at any level in any field.		8
Intermediate/Advanced History Course		**4**
Complete a minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		
Advanced History		**4**
Complete a minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		
History Capstone Seminar or Senior Project		
HIST 4701	Capstone Seminar	4

Integrative Course Requirement

Code	Title	Hours
HIST 2211	The World Since 1945	4

Supporting Courses

Code	Title	Hours
Research Methods		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 3300	Geographic Information Systems	
ENVR 5260	Geographical Information Systems	
POLS 2400	Quantitative Techniques	
PSYC 2320	Statistics in Psychological Research	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	

ENGL 2150	Literature and Digital Diversity
HIST 2220	History of Technology
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
This requirement is satisfied by HIST 2302 taken in conjunction with HIST 2301.		

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

Khoury College GPA Requirement

A minimum 2.000 GPA is required in all CS, CY, DS, and IS courses.

Computer Science and History GPA/Credit Requirements

Complete 98 semester hours in the major with a minimum 2.000 GPA.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Writing-Intensive in the Major
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

135 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	History pre-1800 elective	4				
ENGW 1111	4	History elective 1	4				
HIST 1200	1						
HIST 1201	4						
	20		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	Elective	4
CS 3000	4					Elective	4
HIST 2301	4						
HIST 2302	1						
Research methods requirement	4						
Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	Elective	4
History outside the United States and Europe elective	4					Elective	4
Khoury elective 1	4						
Intermediate history elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HIST 2211	4	Advanced history elective	4
Computing and social issues	4	History capstone seminar or senior project	4
History elective 2	4	Khoury elective 3	4
Khoury elective 2	4	Khoury elective 4	4
	16		**16**

Total Hours: 136

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	History pre-1800 elective	4				
ENGW 1111	4	History elective 1	4				
HIST 1200	1						
HIST 1201	4						
	20		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210	1	Elective	4	Co-op	0
HIST 2301	4	CS 3200	4	Elective	4		
HIST 2302	1	History elective 2	4				
Research methods requirement	4	History outside the United States and Europe elective	4				
Elective	4	Intermediate history elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Advanced history elective	4	Elective	4	Co-op	0
		Computing and social issues	4	Elective	4		
		Khoury elective 1	4				
		Khoury elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	HIST 2211	4
		History capstone seminar or senior project	4
		Khoury elective 3	4
		Khoury elective 4	4
	0		**16**

Total Hours: 136

Computer Science and Journalism, BS

The computer science and journalism combined major supports students who understand that journalism now takes place in both print and the digital world. Students will learn the principles, practices, and responsibilities of the journalism profession while gaining a deep understanding of the systems and technologies that support digital media.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or JRNL 1000	Journalism at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4200	Information Retrieval	4
or IS 4300	Human Computer Interaction	
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 12 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Journalism Major Requirements

Students transferring from outside institutions must complete a minimum of five 4-credit journalism courses at Northeastern, and these must include:

Code	Title	Hours
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 4650	Ethics and Issues in Journalism	

Code	Title	Hours
Journalism Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Required Journalism		
JRNL 1150	Understanding Today's News	4
JRNL 2350	The History of Journalism: How the News Became the News	4
JRNL 3550	The First Amendment and the Media	4
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete two JRNL courses.		8
Journalism-Related Requirement		
HIST 1130	Introduction to the History of the United States	4

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
This course already fulfills a Journalism requirement above:		
JRNL 2301	Visual Storytelling in Journalism	

Required General Electives

Code	Title	Hours
Complete 28 credits of general electives.		28

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Interpreting Culture
- Engaging Difference and Diversity
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS courses

Journalism GPA Requirement

Minimum 2.000 GPA required in all JRNL courses

Program Requirement

134 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	JRNL 1101 and JRNL 1102	5				
ENGW 1111	4	JRNL 2350	4				
JRNL 1150	4						
	19		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	Elective	4	Co-op	
HIST 1130	4	JRNL 2301	4	Elective	4		
JRNL 2201	4	MATH 1341	4				
Khoury elective	4	Journalism elective 2	4				
		Khoury elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		IS 4200 or 4300	4	Elective	4	Co-op	
		JRNL 3550	4	Elective	4		
		JRNL 3610	4				
		Khoury elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		JRNL 4650	4
		Computing and social issues	4
		Journalism elective 2	4
	0		**16**

Total Hours: 135

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	JRNL 1101 and JRNL 1102	5				
ENGW 1111	4	JRNL 2350	4				
JRNL 1150	4						
	19		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
HIST 1130	4						
JRNL 2201	4						
Khoury elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op		Co-op		Elective	4
MATH 1341	4					Elective	4
Journalism elective 1	4						
Khoury elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours			Summer 2	Hours
IS 4200 or 4300	4	CS 4530	4				
JRNL 3550	4	JRNL 4650	4				
JRNL 3610	4	Computing and social issues	4				
Khoury elective	4	Journalism elective 2	4				
	16		**16**				**0**

Total Hours: 135

Computer Science and Linguistics, BS

The computer science and linguistics combined major provides students with extensive background in the formal structures of natural (human) languages, as well as methods and applications of linguistic and psycholinguistic analyses of human language data. This is combined with an emphasis in computer science on artificial intelligence and natural language processing techniques. The major provides excellent preparation for work or more advanced degrees focusing on computational linguistics, natural language processing, speech perception, spoken language interfaces, artificial intelligence, and a wide array of related fields.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation (Integrative course)	4
CS 4100	Artificial Intelligence (Integrative course)	4
CS 4120	Natural Language Processing (Integrative course)	4
CS 4400	Programming Languages (Integrative course)	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With adviser approval, directed study, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 credits of CS, CY, DS, or IS courses that are not already required. Choose courses within the following range:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis (Integrative course)	4

LING 3412	Language and Culture	4
Linguistic Structure		
Complete four of the following:		16
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Laboratory/Directed Study		
Complete one of the following:		4
LING 4891	Research Seminar in Linguistics	
LING 4991	Directed Study Research	
PSYC 4610	Laboratory in Psycholinguistics	
Linguistics Seminar		
LING 4654	Seminar in Linguistics	4
or PSYC 4658	Seminar in Psycholinguistics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following options.		12
DEAF 2700	ASL Linguistics	
LING 3000 to LING 4999 [1]		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
HIST 2220	History of Technology	
ENGL 2150	Literature and Digital Diversity	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 credits of general electives		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Difference and Diversity
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, One Co-op in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	LING 2350	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	LING Elective	4				
ENGW 1111	4	Elective	4				
LING 1150	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	CS 1210	1	Khoury Elective	4	Co-op	
MATH 1341	4	CS 3800	4	Elective	4		
LING Structure	4	LING Structure	4				
LING Elective	4	LING Elective	4				
		Computing and Social Issues	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4120	4	ENGW 3302, 3307, or 3315	4	Co-op	
		CS 4400	4	Elective	4		
		LING Structure	4				
		LING Seminar	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4100	4
		CS 4530	4
		LING Structure	4
		LING Lab (or directed study)	4
	0		**16**

Total Hours: 134

Computer Science and Mathematics, BS

The computer science and mathematics combined major was the first dual major created by the college. The mathematics requirements focus on courses that have computing applications or form the basis for further studies in mathematical theory. The program emphasizes the strong ties between computer science and mathematics that date back to the origins of machine computation in the 1930s and 1940s—and persist to this day.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800 (Integrative course)	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4300	Computer Graphics	4
or CS 4100	Artificial Intelligence	
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete eight semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Mathematics Courses

Code	Title	Hours
Calculus Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Mathematics Courses		

MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
MATH 3175	Group Theory	4
MATH 3527	Number Theory 1	4
Mathematics Electives		
Complete three courses in the following range:		12
MATH 3001 to MATH 4999 but not MATH 4000		

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

132 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		MATH 2321	4
CS 3000	4					Elective	4
MATH 3081	4						
MATH 2341	4						
Computing and social issues	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4500 or 4530	4	Co-op		Co-op		Khoury elective	4
ENGW 3302 or 3315	4					Elective	4
MATH 2331	4						
MATH elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	CS 4300 or 4100	4
MATH 3527	4	MATH 3175	4
Khoury elective	4	Math elective	4
MATH elective	4	Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210	1	Khoury elective	4	Co-op	

MATH 2321	4	MATH 2331	4	Elective	4		
MATH 2341	4	MATH 3081	4				
Computing and social issues	4	MATH elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
Co-op		CS 3800	4	ENGW 3302 or 3315	4	Co-op	
		CS 4530	4	Elective	4		
		MATH 3527	4				
		Math elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		CS 4300 or 4100	4
		MATH 3175	4
		Math elective	4
		Khoury elective	4
	0		**16**

Total Hours: 134

Computer Science and Media Arts, BS

The computer science and media arts combined major is ideal for creative students who love technology. Students will acquire a solid foundation in both fields through a curriculum that spans photography, animation, video, database design, computer graphics, and human-computer interaction.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4300	Computer Graphics	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction	4
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3314	Advanced Writing in the Arts, Media, and Design
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Media Arts Courses

Code	Title	Hours
Required Media Arts Courses		
ARTD 2100	Narrative Basics	4
ARTD 3000	Topics in Media Arts	4
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	5
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	5
Media Arts Electives		
Complete any six courses as long as prerequisites have been met. At least two must be a 3000-level course.		24-25
Basics		
ARTD 2360 and ARTD 2361	Introduction to Photography and Photo Tools	
ARTD 2370 and ARTD 2371	Animation Basics and Animation Tools	
ARTD 2380 and ARTD 2381	Video Basics and Video Tools	
Photography		
ARTD 3460	Photography: Concept + Process	
ARTD 4565	Photography: Visual Strategies + Context	
ARTD 4660	Studio Photography	
ARTD 4661	Photography: Experimental Processes	
Animation		
ARTD 3470	Animation 1	
ARTD 3471	Virtual Environment Design	
ARTD 3472	Character Design for Animation	
ARTD 3473	Animation for Games	
ARTD 4570	Animation 2	
ARTD 4575	Animation 3	
Video		
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
History		
ARTH 2212	Survey of the Still and Moving Image	
Media Arts Capstone		
ARTD 4530	Media Arts Degree Project	4

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 2331	Linear Algebra	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	

INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Integrative Courses

Code	Title	Hours
The following courses are fulfilled through the computer science requirement:		
CS 4300	Computer Graphics	
IS 4300	Human Computer Interaction	

Required General Electives

Code	Title	Hours
Complete 16 SH of general electives.		16

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Integrating Knowledge and Skills Through Experience
- Demonstrating Thought and Action in a Capstone

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

137 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1124 and ARTF 1125	5	ARTD 2100	4	ARTF 2223 and ARTF 2224	5	Elective	4
CS 1200 or ARTF 1000	1	ARTF 1122 (with optional ARTF 1123)	4	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	CS 3200	4				
ENGW 1111	4						
	20		**17**		**10**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 2220 and ARTF 2221	5	Co-op		Co-op		MATH 2331	4
CS 1210 or EEAM 2000	1					Elective	4
CS 3000	4						
IS 4300	4						
Khoury Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4300	4	Co-op	0	Co-op	0	ENGW 3302, 3314, or 3315	4
Khoury Elective	4					Elective	4
Media Arts Elective	4						
Media Arts Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTD 3000	4	ARTD 4530	4
CS 4500 or 4530	4	Computing and Social Issues	4
Media Arts Elective	4	Media Arts Elective	4
Media Arts Elective	4	Media Arts Elective	4
	16		**16**

Total Hours: 137

SAMPLE FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1124 and ARTF 1125	5	ARTD 2100	4	ARTF 2223 and ARTF 2224	5	Elective	4
CS 1200 or ARTF 1000	1	ARTF 1122 (with optional ARTF 1123)	4	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	CS 3200	4				
ENGW 1111	4						
	20		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 2220 and ARTF 2221	5	CS 1210 or EEAM 2000	1	MATH 2331	4	Co-op	
CS 3500 and CS 3501	5	IS 4300	4	Elective	4		
Computing and Social Issues	4	Khoury Elective	4				
Khoury Elective	4	Media Arts Elective	4				
		Media Arts Elective	4				
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARTD 3000	4	ENGW 3302, 3314, or 3315	4	Co-op	
		CS 4300	4	Elective	4		

		Media Arts Elective	4				
		Media Arts Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		ARTD 4530	4
		CS 4530	4
		Media Arts Elective	4
		Media Arts Elective	4
	0		**16**

Total Hours: 137

Computer Science and Music with Concentration in Music Technology, BS

The computer science and music combined major with concentration in music technology focuses on the creative application of sound and music technologies to a broad range of artistic, social, and industrial purposes. An emphasis is maintained throughout on imaginative exploration, collaboration across disciplines, and real-world experience. It is designed to give students a firm foundation in music and computing for digital audio technologies. This program is recommended for students with a strong background in music prior to entering Northeastern.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or MUSC 1000	Music at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction (Integrative)	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Music Courses

Code	Title	Hours
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4

Complete one of the following:		4
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition (Music Perception and Cognition)	
MUSC 3541	Music Analysis Seminar	
Music in Context		
Select one of the following for four semester hours:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Contemporary / Popular Music		
Complete one of the following:		4
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Technology		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2102	Composing with Digital Technologies	4
MUST 2431	Computer Music Fundamentals	4
Music Industry		
Complete one of the following:		4
MUSI 1230	Introduction to Music Industry	
MUSI 2331	Music Recording 2	
Music Technology Electives		
Complete two of the following:		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	
Music Technology Capstone		
MUST 4611	Music Technology Capstone/Senior Recital	4

Foundations of Psychology

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4

Computing and Social Issues

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	

CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights
ENGL 2150	Literature and Digital Diversity
HIST 2220	History of Technology
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Music Technology Grade Requirement

Students must maintain at least a 2.667 GPA (B- average) in the requirements of the music half of the combined major (MUSC, MUSI, and MUST courses) and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4

CS 1800 and CS 1802	5	MUSC 1202 (*)	4	PSYC 1101	4	Elective	4
CS 2500 and CS 2501	5	MUSC 2350	4				
ENGW 1111	4	MUST 1220 (*)	4				
MUSC 1201 (*)	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		ENGW 3302, 3314, or 3315	4
CS 3000	4					Elective	4
CS 3200	4						
MUSC 1001 or 1002 ***and*** 1003	4						
MUST 2431	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 2111, 3541, or 3300	4	Co-op	0	Co-op	0	Elective	4
Contemporary music requirement (*)	4					Elective	4
Khoury Elective	4						
Music technology elective (*)	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	IS 4300	4
MUST 2102	4	MUST 4611 (*)	4
Computing and Social Issues	4	Music industry elective	4
Khoury elective	4	Music technology elective	4
	16		**16**

Total Hours: 134

* Indicates course must be taken in the term listed.

Computer Science and Philosophy, BS

The computer science and philosophy combined major offers an opportunity to obtain a fluency in formal logic, including logical proofs and the ability to represent arguments clearly and evaluate them for cogency. Students will find that logic plays a fundamental role in computer science as they experience an in-depth programming foundation. The philosophy curriculum also focuses on oral and written communication, as well as ethical and social issues related to computing and information technologies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 2800	Logic and Computation	4
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be be taken for upper-division electives.		
Complete 8 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Philosophy Courses

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4

PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
or PHIL 2330	Modern Philosophy	
PHIL 4515	Advanced Logic	4
PHIL 5005	Information Ethics	4
or PHIL 5010	AI Ethics	
or PHIL 4050	Values and Sociotechnical Algorithmic Systems	
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Take three additional PHIL courses not used to fulfill another requirement, at least one of which is 4000 or above.		12

Integrative Course Requirement

Code	Title	Hours
These courses will double count in other areas of your major:		
CS 3800	Theory of Computation	
PHIL 4515	Advanced Logic	

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one course from the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 44 semester hours of general electives.		44

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Interpreting Culture
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Students must arrange to take a NUpath capstone using either a course in CS, CY, DS, IS or PHIL, or as a general elective.

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 2325, POLS 2325, or PHIL 2330	4				
ENGW 1111	4	Elective	4				
PHIL 1115	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
PHIL 1145	4						
PHIL elective 1	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Khoury Elective	4	Co-op		Co-op		ENGW 3302, 3309, or 3315	4
PHIL Elective 2	4					Elective	4
PHIL Elective 3	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	PHIL 4515	4
CS 4500 or 4530	4	PHIL 5005, 5010, or 4050	4
Critical Philosophy Elective	4	Elective	4
Elective	4	Khoury Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 2325, POLS 2325, or PHIL 2330	4				
ENGW 1111	4	Elective	4				
PHIL 1115	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210 or EESH 2000	1	Elective	4	Co-op	
PHIL 1145	4	Khoury Elective	4	Elective	4		
PHIL elective 1	4	PHIL Elective 2	4				
Elective	4	PHIL Elective 3	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	ENGW 3302, 3309, or 3315	4	Co-op	
		PHIL 4515	4	Elective	4		
		Khoury Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		PHIL 5005, 5010, or 4050	4
		PHIL Intermediate/ Advanced Elective	4
		Elective	4
	0		**16**

Total Hours: 134

Computer Science and Physics, BS

The computer science and physics combined major brings together three disciplines: computer science, physics, and mathematics. The mathematics requirements serve as a foundation for both computer science and physics. From hands-on experience with sophisticated physics instruments, to mathematical theory, to the latest computational innovations, our interdisciplinary approach will prepare students for the myriad challenges in today's rapidly changing world.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	

Physics Courses

Code	Title	Hours
Required Courses		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	5
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371 (Integrative course)	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4

Capstone and Electives

Code	Title	Hours
Capstone		
Complete either one computer science capstone or the physics capstone:		4
Computer Science Capstone		
CS 4100	Artificial Intelligence	
CS 4150	Game Artificial Intelligence	
CS 4300	Computer Graphics	
CS 4410	Compilers	
CS 4550	Web Development	
Physics Capstone		
PHYS 5318	Principles of Experimental Physics	
Khoury Elective		
The computer science elective is not required if the student has completed the computer science capstone (above). With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Physics Elective		
Only one physics elective is required if the student has completed the physics capstone (above).		
Complete two courses in the following range:		8
PHYS 3000 to PHYS 5999		

Integrative Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Additional Mathematics Requirements		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

135 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	ENGW 1111	4	MATH 2321	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
MATH 1341	4	PHYS 1165	4				
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
MATH 2341	4						
PHYS 2371	3						
PHYS 2372	1						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2800	4	Co-op		Co-op		PHYS 3600	4
PHYS 3602	4					PHYS 4305	4
PHYS 2303	4						
PHYS Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	ENGW 3302, 3307, or 3315	4
CS 4500 or 4530	4	CS or PHYS Capstone	4
MATH 3081	4	CS or PHYS Elective[1]	4
Computing and Social Issues	4	PHYS Elective	4
	16		**16**

Total Hours: 136

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	ENGW 1111	4	MATH 2321	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
MATH 1341	4	PHYS 1165	4				
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1						
	20		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	Elective	4	Co-op	
MATH 2341	4	CS 2800	4	Elective	4		
PHYS 2371	3	PHYS 2303	4				
PHYS 2372	1	PHYS 3602	4				
Elective	4	Computing and Social Issues	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	PHYS 3600	4	Co-op	
		MATH 3081	4	ENGW 3302, 3307, or 3315	4		
		PHYS 4305	4				
		Physics Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		CS or PHYS Capstone	4
		Elective	4

	CS or PHYS Elective[1]	4
	0	**16**

Total Hours: 136

1 Take a CS course if taking PHYS capstone or a PHYS course if taking CS Capstone

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2
- Classical Dynamics (PHYS 3601) offered spring and fall (even years)
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years)
- Quantum Mechanics (PHYS 4115) offered every fall and spring
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years)
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years)
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years)
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years)
- Medical Physics Seminar 2 (PHYS 4652) offered every spring
- Principles of Experimental Physics (PHYS 5318) offered every spring

Computer Science and Political Science, BS

The computer science and political science combined major offers both a strong computer science foundation and a deep understanding of global and societal needs. You will become an engaged citizen of the world, participating in interdisciplinary scholarship and translational research to address regional and global issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or POLS 1000	Political Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 12 semester hours of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Political Science Courses

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4

Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Capstone		
POLS 4701	Political Science Senior Capstone	4
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 841)
- Campaigns and Elections (p. 841)
- Comparative Politics (p. 841)
- Identity, Culture, and Politics (p. 842)
- International Relations and Diplomacy (p. 842)
- Law and Legal Studies (p. 842)
- Public Policy (p. 843)
- Security Studies (p. 843)

Integrative Requirement

Code	Title	Hours
Integrative Requirement		
Complete one of the following:		4
POLS 2390	Science, Technology, and Public Policy	
POLS 3405	International Political Economy	
POLS 3406	International Law	

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4

ENGW 3302	Advanced Writing in the Technical Professions
ENGW 3308	Advanced Writing in the Social Sciences
ENGW 3311	Advanced Writing for Prelaw
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

A minimum 2.000 GPA is required in all CS, CY, DS, and IS courses.

Computer Science and Political Science Major Credit Requirement

100 semester hours required in the major

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Writing-Intensive in the Major
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8

POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	

POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or POLS 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	POLS 1155	4				
ENGW 1111	4	POLS 1160	4				
POLS 1150	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
CS 3000	4					Elective	4
CS 3200	4						
POLS 2399	4						
POLS thought elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	Co-op	0	Co-op	0	ENGW 3302, 3308, 3311, or 3315	4
Khoury elective 1	4					Elective	4

POLS elective 1		4					
POLS elective 2		4					
		16		**0**		**0**	**8**

Year 4

Fall	Hours		Spring	Hours			
Computing and social issues		4	POLS 4701		4		
Khoury elective 2		4	Khoury elective 3		4		
POLS elective 3		4	POLS elective 4		4		
POLS integrative requirement		4	Elective		4		
		16			**16**		

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours		Spring	Hours		Summer 1	Hours		Summer 2	Hours	
CS 1200 or POLS 1000		1	CS 2510 and CS 2511		5	CS 3000		4	Elective		4
CS 1800 and CS 1802		5	IS 2000		4	Elective		4	Elective		4
CS 2500 and CS 2501		5	POLS 1155		4						
ENGW 1111		4	POLS 1160		4						
POLS 1150		4									
		19			**17**			**8**			**8**

Year 2

Fall	Hours		Spring	Hours		Summer 1	Hours		Summer 2	Hours	
CS 3200		4	CS 1210 or EESC 2000		1	Elective		4	Co-op		0
CS 3500 and CS 3501		5	POLS 2400		4	Elective		4			
POLS 2399		4	Khoury elective 1		4						
POLS thought elective		4	POLS elective 1		4						
			POLS elective 2		4						
		17			**17**			**8**			**0**

Year 3

Fall	Hours		Spring	Hours		Summer 1	Hours		Summer 2	Hours	
Co-op		0	Computing and social issues		4	ENGW 3302, 3308, 3311, or 3315		4	Co-op		0
			Khoury elective 2		4	Elective		4			
			POLS elective 3		4						
			POLS integrative requirement		4						
		0			**16**			**8**			**0**

Year 4

Fall	Hours		Spring	Hours			
Co-op		0	POLS 4701		4		
			Khoury elective 3		4		
			POLS elective 4		4		
			Elective		4		
		0			**16**		

Total Hours: 134

Computer Science and Politics, Philosophy, and Economics, BS

Politics, philosophy, and economics bring together three important frameworks from the humanistic social sciences for understanding the world around us. Computer science involves the application of theoretical concepts in the context of software development to the solution of problems that arise in almost every human endeavor, drawing on concepts and methods from mathematics, logic, science, and engineering. This interdisciplinary degree thus provides multiple perspectives and a set of skills that are indispensable in our increasingly interconnected world and essential in addressing the kinds of complex global problems future leaders need to tackle.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be be taken for upper-division electives.		
Complete 4 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses from the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Politics, Philosophy, and Economics Courses

Complete at least four courses in each of the following subject areas: ECON, PHIL, and POLS.

Code	Title	Hours
Foundation Course		
PHIL 1160	Introduction to Economic Justice	4

Core Courses		
Philosophy		
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Political Science		
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
ECON 2315	Macroeconomic Theory	4
or ECON 2316	Microeconomic Theory	
Methods Course		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	
PPE Elective		
Complete one course from the following ranges:		4
ECON 1200 to ECON 1999		
ECON 3000 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		
PHIL 2000 to PHIL 5999		
POLS 2000 to POLS 5999		

Integrative Course Requirements

Code	Title	Hours
IS 4300	Human Computer Interaction	4
PHIL 1115	Introduction to Logic	4
POLS 2390	Science, Technology, and Public Policy	4

Supporting Courses

Code	Title	Hours
Statistics and Mathematics		
ECON 2350	Statistics for Economists	4
or POLS 2400	Quantitative Techniques	
or MATH 2280	Statistics and Software	
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	

English Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

129 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3000	4	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210 or EESH 2000	1	ECON 2315 or 2316	4	Co-op	0
PHIL 3435 or 2325	4	CS 3200	4	Elective	4		
POLS 1150 or 1155	4	ECON 2350, POLS 2400, or MATH 2280	4				
POLS 3405	4	PHIL 2303 or 3822	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	IS 4300	4	ENGW 3302, 3309, or 3315	4	Co-op	0

	PHIL 3000	4	
	POLS 2390	4	
	Elective	4	
0		**16**	**4** **0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		Capstone	4
		Khoury elective	4
		PPE elective	4
	0		**16**

Total Hours: 130

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op	0	Co-op	0	ECON 2315 or 2316	4
CS 3000	4					Elective	4
PHIL 3435 or 2325	4						
POLS 1150 or 1155	4						
POLS 3405	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	ENGW 3302, 3309, or 3315	4
ECON 2350, POLS 2400, or MATH 2280	4						
PHIL 2303 or 3822	4						
Elective	4						
	16		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	IS 4300	4
Elective	4	Capstone	4
PHIL 3000	4	Khoury elective	4
POLS 2390	4	PPE elective	4
	16		**16**

Total Hours: 130

Computer Science and Sociology, BS

The social aspects to computing continue to grow, primarily with respect to communication and the internet. The computer science and sociology combined major examines this significant impact on society and how people communicate and share culture. Students will have an opportunity to gain a solid programming foundation, as well as the practical and theoretical skills needed to address the complex social and cultural issues in a period of far-reaching social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or SOCL 1000	Sociology at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Computer Science Writing-Intensive Requirement		
Complete one of the following:		4
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
DS 4200	Information Presentation and Visualization (Take DS 3000 either as a prerequisite of or concurrently with DS 4200.)	
IS 3500	Information System Design and Development	
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 12 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Sociology Courses

Code	Title	Hours
Sociology Required Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Sociology Electives		
Complete one sociology elective in each of the following ranges:		12
Introductory elective: SOCL 1000 to SOCL 1999		
Intermediate elective: SOCL 2000 to SOCL 3999		
Advanced elective: SOCL 4000 to SOCL 4999		
Sociology Required Capstone		
SOCL 4600	Senior Seminar	4

Integrative Course Requirement

Code	Title	Hours
Complete one of the following:		4
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

Khoury College GPA Requirements

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Sociology GPA Requirements

2.000 average GPA requirement across all sociology classes

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Writing in the First Year
- Advanced Writing in the Disciplines
- Interpreting Culture
- Understanding Societies and Institutions
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or SOCL 1000	1	ANTH 1101	4	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5	Elective	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4	SOCL 2320	4				
SOCL 1101	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		Elective	4
CS 1210 or EESH 2000	1					Elective	4
CS 3000	4						
SOCL 2321	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op		Co-op		ENGW 3302, 3308, or 3315	4
SOCL 3300	4					Elective	4
Khoury Elective	4						
Sociology Introductory Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS Intensive Writing Requirement	4	SOCL 4600	4
Integrative Requirement	4	Khoury Elective 3	4
Khoury Elective 2	4	Sociology Advanced Elective	4
Sociology Intermediate Elective	4	Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or SOCL 1000	1	ANTH 1101	4	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5	Elective	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4	SOCL 2320	4				

SOCL 1101	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	CS 1210 or EESH 2000	1	Elective	4	Co-op	
CS 3500 and CS 3501	5	CS 3200	4	Elective	4		
SOCL 2321	4	SOCL 3300	4				
Elective	4	Khoury Elective	4				
		Sociology Introductory Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS Intensive Writing Requirement	4	ENGW 3302, 3308, or 3315	4	Co-op	
		Integrative Requirement	4	Elective	4		
		Khoury Elective 2	4				
		Sociology Intermediate Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 4600	4
		Khoury Elective 3	4
		Sociology Advanced Elective	4
		Elective	4
	0		**16**

Total Hours: 134

Computer Science and Theatre, BS

The computer science and theatre combined major is ideal for creative students who love technology as a means to expand what is possible in the performing arts. This major combines a strong foundation in computing with the opportunity to acquire a deep knowledge of theatre through curriculum that spans design, performance, and the production of innovative forms of theatre, including interactive media, computer graphics, human-computer interaction, and more.

It offers both classroom and experiential learning on the creative, social, and technological relationship between theatre and computing.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or THTR 1000	Theatre at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
CS 4550	Web Development	4
IS 4300	Human Computer Interaction	4
Khoury Elective Courses		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Theatre Requirements

Code	Title	Hours
Theatre		
A grade of C or higher is required for all THTR and INAM courses.		

Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	
THTR 5700	Design for Immersive Performance	

Integrative Requirement

Code	Title	Hours
THTR 2370	Lighting Design	4
THTR 4702	Capstone: Creative Practice Research Project	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Computer Science and Theatre Combined Major Credit Requirement

A minimum of 89 semester hours is required in the major.

Combined Major GPA Requirement

Minimum 2.000 GPA in all CS, CY, DS, IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Sample Pattern, Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	MATH 1341	4	Elective	4
CS 2500 and CS 2501	5	ENGW 1111	4				
THTR 1101	4	THTR 1131	4				
THTR 1120	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
INAM 2000	4						
THTR 1100	1						
THTR 1270	4						
Khoury elective (1/2)	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4550	4	Co-op		Co-op		ENGW 3302, 3314, or 3315	4
THTR 2000	1					Elective	4
THTR 3325	4						
Khoury elective (2/2)	4						
THTR Text, Community, & Social Context Course	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	THTR 4702	4
IS 4300	4	Computing and social issues	4
THTR Elective	4	Integrative requirement	4
Elective	4	Elective	4
	16		**16**

Total Hours: 136

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	MATH 1341	4	Elective	4
CS 2500 and CS 2501	5	ENGW 1111	4				
THTR 1101	4	THTR 1131	4				

THTR 1120	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	Elective	4	Co-op	
INAM 2000	4	CS 4550	4	Elective	4		
THTR 1100	1	THTR 2000	1				
THTR 1270	4	THTR 3325	4				
Khoury elective (1/2)	4	Khoury elective (2/2)	4				
		THTR Text, Community & Social Context	4				
	18		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4530	4	ENGW 3302, 3314, or 3315	4	Co-op	
		IS 4300	4	Elective	4		
		THTR Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		THTR 4702	4
		Computing and social issues	4
		Integrative requirement	4
		Elective	4
	0		**16**

Total Hours: 136

Cybersecurity and Business Administration, BS

The cybersecurity and business combined major delivers a technical and security-focused degree with a strong grounding in business. Students will complete most of the requirements of a business major, including macroeconomics and microeconomics, while also focusing on the conceptual and practical computer science skills that will enable them to contribute to ensuring the reliability and security of cyberspace.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BUSN 1102	Personal Skill Development for Business	
CS 1210	Professional Development for Khoury Co-op	1
or BUSN 1103	Professional Development for Business Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 4740	Network Security	4
Cybersecurity Electives		
If courses require prerequisites, those should be taken using general electives.		
Complete one course from the following:		4-5
COMM 2551	Free Speech in Cyberspace	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 3030	Global Criminology	
CRIM 4040	Crime Prevention	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	

or CS 4530	Fundamentals of Software Engineering
CS 4710	Mobile and Wireless Systems
CS 6710	Wireless Network
CY 4760	Security of Wireless and Mobile Systems
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5770	Software Vulnerabilities and Security
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534
IS 4300	Human Computer Interaction
LPSC 1101	Introduction to Law
LPSC 2301	Introduction to Law, Policy, and Society
LPSC 3303	Topics in Law and Public Policy
MATH 3527	Number Theory 1
MATH 4575	Introduction to Cryptography
PHIL 1145	Technology and Human Values
POLS 2390	Science, Technology, and Public Policy
POLS 3307	Public Policy and Administration
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Statistics		
MGSC 2301	Business Statistics	4
Strategy		
STRT 4501	Strategy in Action	4

Business Concentration

Complete a four-course business concentration from the following list. (p.)

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)

- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Integrative Requirement

Code	Title	Hours
MISM 2301	Introduction to Information Systems and Digital Technologies	4

Supporting Courses

Code	Title	Hours
Mathematics Courses		
Complete one of the following:		4
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1231	Calculus for Business and Economics	
Economics		
Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
ECON 1116	Principles of Microeconomics	

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following courses:		4
ENGW 3302	Advanced Writing in the Technical Professions	
or ENGW 3304	Advanced Writing in the Business Administration Professions	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses.

Business GPA Requirement

Minimum 2.000 GPA required in all business courses.

NUpath Requirements Satisfied

- `Engaging with the Natural and Designed World`
- `Conducting Formal and Quantitative Reasoning`
- `Analyzing and Using Data`
- Understanding Societies and Institutions
- `Writing in the First Year`

- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective 2	4
CS 1200 or BUSN 1102	1	CY 2550	4	Elective 1	4	Elective 3	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4				
CS 2500 and CS 2501	5	MATH 1341 or 1231	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	CS 1210 or BUSN 1103	1	MKTG 2201	4	Co-op	
CS 3000	4	CS 4700 or 4730	4	Business concentration 1	4		
CS 3650	4	CY 3740	4				
MGSC 2301	4	FINA 2201	4				
		Elective 4	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CY 4170 or 5240	4	MISM 2301	4	Co-op	
		CY 4740	4	ORGB 3201	4		
		Business concentration 2	4				
		Business concentration 3	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENGW 3302	4
		STRT 4501	4
		Business concentration 4	4
		Cybersecurity elective	4
	0		**16**

Total Hours: 134

Cybersecurity and Criminal Justice, BS

The cybersecurity and criminal justice combined degree applies a multidisciplinary approach to ensuring the reliability and security of cyberspace. The program will provide students with a strong programming foundation coupled with academic and experiential knowledge of the criminal justice system. Students learn how social behavior, policy, and legal rules can affect cybersecurity and utilize comparative social science to understand, predict, and explain crime.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or CRIM 1000	Criminal Justice at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamentals Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4740	Network Security	4
Cybersecurity Elective		
Complete one of the following:		4
COMM 2551	Free Speech in Cyberspace	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
CS 4710	Mobile and Wireless Systems	
or CS 6710	Wireless Network	
CY 4770	Cryptography	
CY 5010	Foundations of Information Assurance	

CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5770	Software Vulnerabilities and Security
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534
IS 4300	Human Computer Interaction
LPSC 1101	Introduction to Law
LPSC 2301	Introduction to Law, Policy, and Society
LPSC 3303	Topics in Law and Public Policy
MATH 3527	Number Theory 1
MATH 4575	Introduction to Cryptography
PHIL 1145	Technology and Human Values
POLS 2390	Science, Technology, and Public Policy
POLS 3307	Public Policy and Administration
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism

Supporting Courses

Code	Title	Hours
Complete the following course:		
MATH 1341	Calculus 1 for Science and Engineering	4

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
Complete one of the following:		4
ENGW 1111	First-Year Writing	
ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3311	Advanced Writing for Prelaw	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	

CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3070	Corporate and White-Collar Crime	
CRIM 3540	Addiction and Recovery	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Elective		
Rounding out knowledge of crime and justice.		
Complete one additional criminal justice elective from the 3000, 4000 or 5000-level.		4
Criminal Justice Capstone		
Complete one of the following:		4
CRIM 4949	Senior Capstone Seminar	
CY 4930	Cybersecurity Capstone	

Criminal Justice Co-op Integration

Code	Title	Hours
Co-op students should complete at least one of the following courses. CRIM 3000 is required for the first co-op. CRIM 4000 is required if a second co-op is taken:		
CRIM 3000	Co-op Integration Seminar 2	1
CRIM 4000	Co-op Integration Seminar 3	1

Integrative Requirement

Code	Title	Hours
Cybersecurity Integrative Course		
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
Criminal Justice Integrative Course		
Complete one of the following:		4
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 3060	Political Crime and Terrorism	

CRIM 4040	Crime Prevention
CRIM 5900	Topics in Criminal Justice and Criminology

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

134 total semester hours required.

Plan of Study

Sample Plan of Study:

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3500 and CS 3501	5	General Elective	4
CS 1200	1	CRIM 1120	4	MATH 1341	4	General Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	CY 2550	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CS 1210	1	CS 3000	4	Co-op	
CRIM 3700	4	CS 4700 or 4730	4	General Elective	4		
CS 3650	4	Crime Problems/CJ Institutions	4				
Elective	4	Current Crime and Justice Issues	4				
		CRIM Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3000	1	ENGW 3302, 3308, 3311, or 3315	4	Co-op	
		CY 3740	4	General Elective	4		
		CJ Systemic Issues	4				
		Cybersecurity Elective	4				

		CRIM Integrative	4		
	0		**17**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		CY 4740	4
		CRIM 4000	1
		CY 4170 or 5240	4
		Capstone	4
		Elective	4
	0		**17**

Total Hours: 136

Cybersecurity and Economics, BS

The cybersecurity and economics combined degree applies a multidisciplinary approach integrating fundamental economics courses with a strong programming foundation. Students will study both the behavior of individuals and the collective behavior of industries and governments, utilizing computing skills to ensure the reliability and security of cyberspace.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ECON 1000	Economics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamentals Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 4740	Network Security	4
Cybersecurity Elective		
Complete one of the following:		4
COMM 2551	Free Speech in Cyberspace	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 3030	Global Criminology	
CRIM 4040	Crime Prevention	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
CS 4710	Mobile and Wireless Systems	

CY 4770	Cryptography
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5770	Software Vulnerabilities and Security
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534
IS 4300	Human Computer Interaction
LPSC 1101	Introduction to Law
LPSC 2301	Introduction to Law, Policy, and Society
LPSC 3303	Topics in Law and Public Policy
MATH 3527	Number Theory 1
MATH 4575	Introduction to Cryptography
PHIL 1145	Technology and Human Values
POLS 2390	Science, Technology, and Public Policy
POLS 3307	Public Policy and Administration
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism

Supporting Course

Code	Title	Hours
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Economics Requirements

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
Electives		
Complete four ECON electives that are found in the following range with, at most, two at the 1000 level:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Integrative Requirement

Code	Title	Hours
Capstone		
Complete one of the following:		4
CY 4930	Cybersecurity Capstone	

ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
Integrative Requirement		
ECON 2560	Applied Econometrics	4

Writing Requirement

Code	Title	Hours
College Writing		
Complete one of the following:		4
ENGW 1102	First-Year Writing for Multilingual Writers	
ENGW 1111	First-Year Writing	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3311	Advanced Writing for Prelaw	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 credits of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Economics GPA Requirement

Grades in the following four Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required.

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	Elective	4	Elective	4

CS 1800 and CS 1802	5	CY 2550	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	ECON 1116	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	ECON elective 1	4	Co-op	0
CS 3650	4	CS 3000	4	Elective	4		
ECON 2315	4	CS 4700 or 4730	4				
ECON 2350	4	ECON 2316	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CY 3740	4	ECON elective 3	4	Co-op	0
		ECON 2560	4	ECON elective 4	4		
		ENGW 3302, 3308, 3311, or 3315	4				
		ECON elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CY 4170 or 5240	4
		CY 4740	4
		Capstone	4
		Cybersecurity Elective	4
	0		**16**

Total Hours: 134

Data Science and Biochemistry, BS

The Data Science and Biochemistry Major combines computer science, biochemistry, biology, information science, mathematics, and statistics into an integrated curriculum. The program engages students in rigorous coursework designed to prepare students to interpret the ever-expanding knowledge base.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BIOC 1000	Biochemistry at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		

CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Statistics Foundations		
Complete one of the following:		4
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
MATH 3081	Probability and Statistics	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Biochemistry Requirements

Code	Title	Hours
Biology Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 2309	Biology Project Lab	4
Chemistry Foundations		
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
Biochemistry Foundations		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	3-5
or CHEM 5620	Protein Chemistry	
Intermediate or Advanced Science Elective		
Complete one course from the following:		4-5
BIOL 2301 to BIOL 5999		
CHEM 2311 to CHEM 5999		
EEMB 2290 to EEMB 5999		
ENVR 2310 to ENVR 5999		
MATH 2280 to MATH 5999		
PHYS 2303 to PHYS 5999		

Integrative Requirement

Code	Title	Hours
Integrative Courses		
BINF 6308	Bioinformatics Computational Methods 1	4
BINF 6309	Bioinformatics Computational Methods 2	4
Complete one of the following:		4
BIOL 4701	Biology Capstone	
CHEM 4750	Senior Research	

Required General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Major GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

131 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	BIOL 2301 and BIOL 2302	5	MATH 1342	4
CS 1200, BIOC 1000, or INSC 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General Elective	4	General Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5				
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4						
	19		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CHEM 2313 and CHEM 2314	5	BIOL 2309	4	Co-op	
CS 3200	4	CS 1210 or EESC 2000	1	Khoury Elective	4		
DS 3000	4	DS 3500	4				
Statistics Foundation	4	DS 4200	4				
		General Elective	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BINF 6308	4	ENGW 3302, 3307, or 3315	4	Co-op	
		BIOL 3611 and BIOL 3612	5				
		DS 4300	4				
		Intermediate/Advanced Science Elective	4				
	0		**17**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BINF 6309	4
		CHEM 5620 or 3331 ***and*** 3332	3-5
		DS 4400	4
		Capstone	4
	0		**15-17**

Total Hours: 133-135

Data Science and Biology, BS

The data science and biology major provides a strong foundation in biology, chemistry, and mathematics, as well as software development and algorithms. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Students also explore the organization and processes of life across broad areas of the field, from molecules and cells through organs and organ systems to populations, ecosystems, and evolution.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BIOL 1000	Biology at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Statistics Foundations		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5

Computer Science Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3307	Advanced Writing in the Sciences	

Biology Requirements

Code	Title	Hours
Biology Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 2309	Biology Project Lab	4
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Chemistry Foundations		
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Intermediate and Advanced Biology Elective		
Complete one of the following:		4
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
EEMB 2290 to EEMB 5515		
EEMB 5520 to EEMB5534		
EEMB 5548 to EEMB 5569		
Research:		
BIOL 4991	Research	
BIOL 4970	Junior/Senior Honors Project 1	
BIOL 4971	Junior/Senior Honors Project 2	
BIOL 4994	Internship	
Organismal and Evolutionary Biology Elective		
Complete one course and its corresponding lab, if indicated:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	

EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	
Physics Requirement		
Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152	Physics for Engineering 1 and Lab for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4

Integrative Requirements

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
BINF 6308	Bioinformatics Computational Methods 1	
BIOL 4707	Cell and Molecular Biology	
BIOL 5581	Biological Imaging	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
Capstone		
Choose one:		4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone	
BIOL 4971	Junior/Senior Honors Project 2	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

138 total semester hours required

Plan of Study
Sample Plan of Study
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	BIOL 2301 and BIOL 2302	5	General Elective	4
CS 1200	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General Elective	4	General Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5				
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4						
	19		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	CHEM 2313 and CHEM 2314	5	BIOL 3611 and BIOL 3612	5	Co-op	
CHEM 2311 and CHEM 2312	5	CS 1210	1	General Elective	4		
DS 3000	4	CS 3200	4				
PHYS 1145 and PHYS 1146	5	DS 3500	4				
		DS 4200	4				
	18		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302	4	Co-op	
		DS 4400	4	Khoury Elective	4		
		ENVR 2500 and ENVR 2501	5				
		General Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOL 4701	4
		BIOL Intermediate/ Advanced Science	4
		Integrative course	4
		Organismal and Population BIOL Elective	4
	0		**16**

Total Hours: 140

Data Science and Behavioral Neuroscience, BS

The data science and behavioral neuroscience major combines the disciplines of biology, psychology, computer science, and data science into an integrated curriculum. The human brain is a complex information processing system requiring scientists to analyze, integrate, and share large datasets garnered from multiple techniques that image and record the activity of the brain at work. Students investigate the anatomy and physiology of neural circuits that underlie brain mechanisms and pathological states that give rise to behavioral functions. Students have an opportunity to develop skills in large-scale data manipulation and storage, machine learning, data mining, and information visualization necessary to execute big brain-mapping initiatives including human neuroconnectivity maps.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BNSC 1000	Behavioral Neuroscience at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Statistics Foundation		
Complete one of the following:		4-5

ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500
PSYC 2320	Statistics in Psychological Research

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Behavioral Neuroscience Requirements

Code	Title	Hours
College of Science Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
PSYC 1101	Foundations of Psychology	4
Mathematics Foundation		
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1251	Calculus and Differential Equations for Biology 1	
Behavioral Neuroscience Foundations		
BIOL 3405	Neurobiology	4
or BIOL 5587	Comparative Neurobiology	
PT 5410 and PT 5411	Functional Human Neuroanatomy and Lab for PT 5410	4-5
or PSYC 3200	Clinical Neuroanatomy	
Psychology Elective		
Complete one of the following:		4
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
PSYC 4524	Cognitive Development	
Behavioral Neuroscience Core Courses		
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 4709	Neurobiology of Learning and Memory	

BIOL 5595	Cell and Molecular Neuroscience
BIOL 5601	Multidisciplinary Approaches in Motor Control
PSYC 3506	Neuropsychology of Fear
PSYC 3508	Behavioral Endocrinology
PSYC 3510	Brain, Behavior, and Immunity
PSYC 4510	Psychopharmacology
PSYC 4512	Neuropsychology
PSYC 4514	Clinical Neuroscience
PSYC 4570	Behavioral Genetics

Integrative Requirements

Code	Title	Hours
Integrative Courses		
CS 4100	Artificial Intelligence	4
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience	4
or BINF 6308	Bioinformatics Computational Methods 1	
Upper-Division Elective		
Complete four semester hours from the following, not taken to fulfill previous requirements:		4
BIOL 3400 or higher		
BINF 6309	Bioinformatics Computational Methods 2	
BNSC 4970 or higher		
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
PSYC 3200 or higher		

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

A minimum 2.000 GPA is required in all CS, CY, DS, and IS courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	PSYC 1101	4	PSYC elective	4

CS 1200, BNSC 1000, or INSC 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4	General elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5				
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4						
	19		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	CHEM 2311 and CHEM 2312	5	General elective	4	Co-op	
BIOL 3405 or 5587	4	CS 1210 or EESC 2000	1	General elective	4		
CS 3200	4	DS 3500	4				
DS 3000	4	BNS core 1	4				
		Statistics foundation	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4200	4	ENGW 3302	4	Co-op	
		DS 4300	4				
		PT 5410 and PT 5411	5				
		Khoury elective	4				
	0		**17**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BINF 6308 or PSYC 4540	4
		CS 4100	4
		DS 4400	4
		BNS core 2	4
	0		**16**

Total Hours: 133

Data Science and Business Administration, BS

The data science and business combined major integrates a technical degree with the theory and practice of management through active learning, problem-driven research, corporate partnerships, and experiential assignments. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. This program reflects the impact of data in modern business practice.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BUSN 1102	Personal Skill Development for Business	
CS 1210	Professional Development for Khoury Co-op	1
or BUSN 1103	Professional Development for Business Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Business Courses

Code	Title	Hours
Required Business Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INTB 1203	International Business and Global Social Responsibility	4
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
Business Elective		
Complete one of the following:		4
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	
STRT 4501	Strategy in Action	

Business Concentration

Complete a four-course business concentration from the following list.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

Note: If the Marketing Analytics concentration is selected, an additional general elective is required.

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Integrative Course

Code	Title	Hours
MKTG 4604	Creating Business Value with Data and AI Technologies	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1231	Calculus for Business and Economics	
Statistics		
MGSC 2301	Business Statistics	4
Economics		

ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3304	Advanced Writing in the Business Administration Professions	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Business Cooperative Education

Complete one cooperative education experience.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Ethical Reasoning
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ACCT 1201	4	CS 3200	4	ACCT 2301	4	FINA 2201	4
CS 1200 or BUSN 1102	1	DS 2500 and DS 2501	5	Elective	4	Elective	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4				
DS 2000 and DS 2001	4	MATH 1341 or 1231	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210 or BUSN 1103	1	MKTG 2201	4	Co-op	
DS 3500	4	DS 4200	4	Elective	4		
INTB 1203	4	DS 4300	4				
MGSC 2301	4	Business Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ORGB 3201	4	Co-op	
		ENGW 3302	4	Business concentration 2	4		
		Business concentration 1	4				
		Khoury elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		MKTG 4604	4
		Business concentration 3	4
		Business concentration 4	4
	0		**16**

Total Hours: 132

Data Science and Chemistry, BS

The data science and chemistry major combines chemistry, information science, and mathematics to give students both breadth and depth in chemistry and data science fundamentals. During their course of study, students have an opportunity to develop qualitative and quantitative problem-solving skills as well as effective communication skills. Students will study the collection, manipulation, storage, retrieval, and computational analysis of chemical and other scientific data in its various forms, including numeric, textual, image, and video data from small to large volumes. The program engages students in rigorous coursework designed to prepare students to interpret the ever-expanding knowledge base.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or CHEM 1000	Chemistry/Chemical Biology at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		

Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Statistics Foundations		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5

Chemistry Requirements

Code	Title	Hours
General Chemistry		
Choose one of the following paired course options:		10
Option 1		
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211	
CHEM 1214 and CHEM 1215	General Chemistry 2 and Lab for CHEM 1214	
Option 2		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	
CHEM 2161 and CHEM 2162 and CHEM 2163	Concepts in Chemistry and Lab for CHEM 2161 and Recitation for CHEM 2161	
Intermediate-Level Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	5
Advanced-Level Chemistry		
Complete one course from the following options:		4
CHEM 3410	Environmental Geochemistry	
CHEM 3501 to CHEM 4628		
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
Supporting Course		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5

Integrative Requirements

Code	Title	Hours
Integrative Courses		
CHEM 3401 and CHEM 3402	Chemical Thermodynamics and Kinetics and Lab for CHEM 3401	5
CHEM 4750	Senior Research	4

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CHEM 2161 and CHEM 2162 and CHEM 2163	5	General elective	4	Vacation	
CS 1200, CHEM 1000, or INSC 1000	1	DS 2500 and DS 2501	5	General elective	4		
CS 1800 and CS 1802	5	MATH 1341	4				
DS 2000 and DS 2001	4	General elective	4				
ENGW 1111	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CHEM 2313 and CHEM 2314	5	General elective	4	Co-op	
CS 3200	4	CS 1210 or EESC 2000	1	General elective	4		
DS 3000	4	DS 3500	4				
MATH 1342	4	DS 4200	4				
		ENVR 2500 and ENVR 2501	5				
	17		**19**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 2321 and CHEM 2322 and CHEM 2323	5	ENGW 3302, 3307, or 3315	4	Co-op	
		DS 4300	4	Khoury Elective	4		
		DS 4400	4				
		PHYS 1151 and PHYS 1152 and PHYS 1153	5				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CHEM 4750	4
		CHEM 3401 and CHEM 3402	5
		Advanced Level Chemistry	4
		General elective	4
	0		**17**

Total Hours: 132

Data Science and Criminal Justice, BS

Overview

This combined major offers students the opportunity to gain cutting-edge data science skills and expertise in important and urgent social issues: crime, the law, and the criminal justice system. Data science classes allow students to develop skills in the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Criminology and criminal justice courses provide a foundation for understanding crime, the law, and our criminal justice system. Together, the combined major is designed to prepare students to apply data science skills to crime and justice topics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or CRIM 1000	Criminal Justice at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 credits of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Criminal Justice Courses

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Creating Knowledge About Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? This course covers how to harness data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
Criminal Justice Capstone		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000, or 5000 level.		8

Integrative Course Requirement

Code	Title	Hours
Complete one of the following:		4
CRIM 4040	Crime Prevention	
CRIM 4800	Crime Mapping	

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics Foundation		
ECON 2350	Statistics for Economists	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 credits of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3200	4	Elective	4
CS 1200	1	CRIM 1120	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5				
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CS 1210	1	CJ elective	4	Co-op	
DS 3000	4	DS 4200	4	Elective	4		
DS 3500	4	ECON 2350	4				
CJ current issues elective	4	CJ survey elective	4				
		Khoury elective 1	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302	4	Co-op	
		Computing and social issues		Elective	4		
		CJ general elective	4				
		CJ problems and institutions elective	4				
		CJ systemic elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CRIM 4949	4
		DS 4400	4
		CJ integrative course	4
		Elective	4
	0		**16**

Total Hours: 132

Data Science and Ecology and Evolutionary Biology, BS

The combined major in data science and ecology and evolutionary biology provides a strong foundation in the fundamentals of ecology and evolutionary biology, including focal points in population, community, and ecosystem ecology; evolutionary ecology and biology; conservation biology; population genetics; behavior; and ecological and evolutionary genomics. Data science allows students to study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The interdisciplinary nature of the major fosters critical thinking and creativity in scientific problem solving.

Students majoring in ecology and evolutionary biology and associated combined majors cannot combine majors in biology, marine biology, or environmental and sustainability sciences, nor can they minor in biology, marine science, or environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Coursework

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ENVR 1000	Marine and Environmental Sciences at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the two options.		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective Courses		

With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.	
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Ecology and Evolutionary Biology Coursework

Code	Title	Hours
Ecology and Evolutionary Biology		
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	5
Ecology and Evolutionary Genomics		
EEMB 1105 and EEMB 1106	Foundations in Ecological and Evolutionary Genomics and Lab for EEMB 1105	5
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Evolution		
EEMB 2400	Introduction to Evolution	4
Ecology		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
Capstone		
ENVR 4997	Senior Thesis	4

Ecology and Evolutionary Biology Topical Requirement

Code	Title	Hours
Complete 16 semester hours of the following (at least one course must be taken from each list):		16
Evolution of Organisms		
EEMB 2290	Ecology and Evolution of Behavior	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3001	Genetics and Evolution in Action	
EEMB 3450	Physiological Adaptations to the Environment	
EEMB 3600	Animal Behavior	
EEMB 3700	Desert Ecology	
Ecology and Conservation Biology		
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 3475	Wildlife Ecology	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 3125	Global Oceanic Change	
ENVR 3150	Food Security and Sustainability	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	
Analytical Skills		
EEMB 3465	Ecological and Conservation Genomics	
EEMB 5130	Population Dynamics	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	

ENVR 5500	Advanced Biostatistics
ENVR 5563	Advanced Spatial Analysis

Supporting Courses

Code	Title	Hours
Calculus		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
Chemistry		
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	5
Physics		
Complete one of the following:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Requirement

Code	Title	Hours
Integrative Course		
DS 4420	Machine Learning and Data Mining 2	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200, ENVR 1000, or INSC 1000	1	DS 2500 and DS 2501	5	BIOL 2301 and BIOL 2302	5	General Elective	4
CS 1800 and CS 1802	5	EEMB 1105 and EEMB 1106	5	General Elective	4	General Elective	4
DS 2000 and DS 2001	4	ENVR 2500 and ENVR 2501	5				
EEMB 1101 and EEMB 1102	5	MATH 1251 or 1341	4				
ENGW 1111	4						
	19		**19**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1211 and CHEM 1212 and CHEM 1213	5	CS 1210 or EESC 2000	1	General Elective	4	Co-op	
CS 3200	4	DS 3500	4	Khoury Elective	4		
DS 3000	4	DS 4200	4				
EEB Topical Requirement	4	EEMB 2400	4				
		EEB Topical Requirement	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302, 3307, or 3315	4	Co-op	
		DS 4400	4				
		EEMB 2302 and EEMB 2303	5				
		EEB Topical Requirement	4				
	0		**17**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		ENVR 4997	4
		EEB Topical Requirement	4
		Physics Requirement	5
	0		**17**

Total Hours: 135

Data Science and Economics, BS

The combined major in data science and economics integrates fundamental economics courses with a strong programming foundation. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Utilizing these skill sets allows students to address complex issues in the behavior of individuals and the collective behavior of industries and governments.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ECON 1000	Economics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
Economics Electives		
Complete five ECON elective courses that are found in the following ranges, with no more than two in the ECON 1200 to ECON 1999 range:		20
ECON 1200–ECON 1999		
ECON 2990–ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		
Economics Capstone		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	

Integrative Course Requirement

Code	Title	Hours
ECON 2560	Applied Econometrics	4

Supporting Course Requirements

Code	Title	Hours
Mathematics		
MATH 1241 or higher is recommended.		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Economics GPA Requirement

Grades in the following four courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Exploring Creative Expression and Innovation
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study

Sample Pattern: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 3200	4	CS 3200	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	Elective	4	Elective	4
DS 2000 and DS 2001	4	ECON 1116	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210	1	Elective	4	Co-op	
DS 3500	4	DS 4200	4	Elective	4		
ECON 2315	4	DS 4300	4				
ECON 2350	4	ECON 2316	4				

		ECON elective 1	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ENGW 3302, 3308, or 3315	4	Co-op	
		ECON 2560	4	ECON elective 3	4		
		ECON elective 2	4				
		Khoury elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ECON 4692 or 4997	4
		Computing and social issues	4
		ECON elective 4	4
		ECON elective 5	4
	0		**16**

Total Hours: 132

Data Science and Environmental and Sustainability Sciences, BS

The data science and environmental and sustainability sciences combined major focuses on major environmental challenges facing our planet and provides broad training to understand how these challenges can be met through advances in data science. Understanding these processes requires acquisition and analysis of large amounts of data—an ideal fit with data science, where students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ENVR 1000	Marine and Environmental Sciences at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500	Object-Oriented Design	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Environmental Science and Sustainability Courses

Code	Title	Hours
Environmental and Sustainability Sciences Major Requirements		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	
ENVR 2515	Sustainable Development	4
Skills Courses		
Complete one of the following:		4-5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 5260	Geographical Information Systems	
Earth Oceans and Environmental Change		
Complete one of the following:		4-5
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3600	Oceanography	
ENVR 3125	Global Oceanic Change	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		
Complete one of the following:		4
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	
Sustainable Planning and Development		
Complete one of the following:		4
ENVR 3200	Water Resources	
ENVR 3150	Food Security and Sustainability	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
Environment and Society		
Complete one of the following:		4
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	

PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	5
CHEM 1214 and CHEM 1215 and CHEM 1216	General Chemistry 2 and Lab for CHEM 1214 and Recitation for CHEM 1214	5

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4971	Junior/Senior Honors Project 2	
ENVR 4997	Senior Thesis	
CS 4991	Research	

Required General Electives

Code	Title	Hours
Complete 24 credits of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- `Demonstrating Thought and Action in a Capstone`

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

134 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3200	4	Elective	4
CS 1800 and CS 1802	5	EEMB 2302 and EEMB 2303	5	CS 3500	4	Elective	4
CS 2500 and CS 2501	5	ENVR 1400 and ENVR 1401	5				
ENGW 1111	4	ENVR 2515	4				
ENVR 2200	4						
	19		**19**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1211 and CHEM 1212 and CHEM 1213	5	CHEM 1214 and CHEM 1215 and CHEM 1216	5	MATH 1341 or 1251	4	Co-op	
DS 3000	4	CS 1210	1	Elective	4		
ENVR skills course	4	DS 4200	4				
ENVR Earth oceans course	4	DS 4300	4				
		ENVR 2500	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ENGW 3302	4	Co-op	
		ENVR conservation course	4	Elective	4		
		ENVR sustainable course	4				
		ENVR society course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		Integrative course	4
		Khoury elective	4
		Elective	4
		Elective	4
	0		**20**

Total Hours: 141

Data Science and Health Science, BS

The data science and health science combined major offers a solid academic and experiential foundation integrating studies in health administration, computer science, mathematics, and statistics. This program reflects the impact of data in modern healthcare and prepares students for success in careers in health administration, community-based health promotion, public health, and big data analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or HSCI 1000	College: An Introduction	
CS 1210	Professional Development for Khoury Co-op	1
or HSCI 2000	Professional Development for Bouvé Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Information Science Requirement		
IS 4300	Human Computer Interaction	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Supporting Courses for Data Science

Code	Title	Hours
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1241	Calculus 1	

Data Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4

Supporting Courses for Health Science

Code	Title	Hours
Research Methods		
Complete one of the following:		4
IS 4800	Empirical Research Methods	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
Statistics		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 2500	Biostatistics	
MATH 3081	Probability and Statistics	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
PSYC 2320	Statistics in Psychological Research	
Philosophy		
Complete one of the following:		4
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
Life Sciences Core		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Integrative Requirement

Code	Title	Hours
Upper-Division Elective		
Complete four semester hours from the following:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
HSCI 4000 or higher		
IS 2000 or higher, except IS 4900		
PHTH 4000 or higher		
Integrative Course		
DS 4420	Machine Learning and Data Mining 2	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Four Years, One Co-op Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	DS 3000	4	Vacation	
CS 1200	1	DS 2500 and DS 2501	5	PHTH 2350	4		
CS 1800 and CS 1802	5	PHTH 1260	4				
DS 2000 and DS 2001	4	PSYC 1101	4				
ENGW 1111	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CS 1210	1	General Elective	4	Vacation	
CS 3200	4	DS 3500	4	General Elective	4		
MATH 1341 or 1241	4	DS 4200	4				
Statistics Course	4	PHTH 2300	4				
		PHTH 2515	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315	4	CS 1210	1	Vacation		Co-op	
IS 4300	4	DS 4300	4				
PHIL 1145 or 1165	4	DS 4400	4				
Upper Division Elective	4	PHTH 4202 or IS 4800	4				
		PHTH 4540	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		PHTH 4120	4
		General Elective	4
		General Elective	4
	0		**16**

Total Hours: 136

Data Science and International Affairs, BS

Overview

This combined degree offers both a strong data science foundation and an interdisciplinary understanding of global affairs and international issues. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Utilizing these skill sets allows students to address topics such as interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship). Upon graduation, students are equipped with the skills and knowledge needed to work across national cultures in fields that relate to utilizing data to address complex regional and international issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or INTL 1000	International Affairs at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
Programming Sequence Pathways		
Complete one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		

Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 2718	Research Methods in International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following with one course numbered 2000 or above. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements:		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	

PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions

PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses:		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	

HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Supporting Courses

Code	Title	Hours
Mathematics		
ECON 2350	Statistics for Economists	4
MATH 1341	Calculus 1 for Science and Engineering	4

Integrative Requirements

Code	Title	Hours
Senior Seminar		
Complete with a thesis or project that integrates both international affairs and data science:		
INTL 4700	Senior Capstone Seminar in International Affairs	4
Digital Ethics		
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	ANTH 1101, HIST 2211, or HIST 2311	4	CS 3200	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	ECON 2350	4	Elective	4
DS 2000 and DS 2001	4	POLS 1160	4				
ENGW 1111	4	MATH 1341	4				
INTL 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210	1	Elective (Dialogue of Civilizations possible)	4	Co-op	0
DS 3500	4	DS 4200	4	Elective (Dialogue of Civilizations possible)	4		

Global Dynamics Course 1	4	INTL 2718	4				
International Affairs Elective	4	Regional Analysis Requirement 1	4				
		Khoury Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	DS 4300	4	Elective (Dialogue of Civilizations possible)	4	Co-op	0
		INTL 3400	4	Elective (Dialogue of Civilizations possible)	4		
		Global Dynamics Course 2	4				
		Regional Analysis Requirement 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CY 4170	4
ENGW 3302, 3308, or 3315	4	DS 4400	4
		INTL 4700	4
		Regional Analysis Requirement 3	4
	4		**16**

Total Hours: 136

Data Science and Journalism, BS

The data science and journalism combined major offers students an opportunity to gain the skills to be able to engage in both the print and digital worlds of journalism. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data. Combined with learning the principles, practices, and responsibilities of journalism, students can extract meaning from massive information flows and utilize it in effective investigative reporting.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or JRNL 1000	Journalism at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EEAM 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Journalism Major Requirements

Students transferring from outside institutions must complete a minimum of five 4-semester-hour journalism courses at Northeastern, and these must include:

Code	Title	Hours
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	
JRNL 4650	Ethics and Issues in Journalism	

Code	Title	Hours
Journalism Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Required Journalism		
JRNL 1150	Understanding Today's News	4
JRNL 3550	The First Amendment and the Media	4
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Complete three JRNL courses.		12

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics Foundation		
ECON 2350	Statistics for Economists	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		

This course already fulfills a Journalism requirement above.	
JRNL 2301	Visual Storytelling in Journalism

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
JRNL 3700	Data Storytelling	
JRNL 5500	Coding for Digital Storytelling	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS courses

Journalism GPA Requirement

Minimum 2.000 GPA required in all JRNL courses

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or JRNL 1000	1	CS 3200	4	DS 3000	4	Vacation	
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	MATH 1341	4		
DS 2000 and DS 2001	4	JRNL 1101 and JRNL 1102	5				
JRNL 1150	4	JRNL 3550	4				
ENGW 1111	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3500	4	CS 1210 or EEAM 2000	1	ECON 2350	4	Co-op	
JRNL 2201	4	DS 4200	4	Elective	4		
JRNL 2301	4	DS 4300	4				
Computing and social issues	4	JRNL 3610	4				

		JRNL 3700 or 5500	4				
	16		**17**		**8**		**0**

Year 3

Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
Co-op		DS 4400	4	Elective	4	Co-op	
		JRNL 4650	4	Elective	4		
		JRNL elective 1	4				
		Khoury Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**		
Co-op		CY 4170	4	Elective	4		
		DS 4420	4	Elective	4		
		JRNL elective 2	4				
		JRNL elective 3	4				
	0		**16**		**8**		

Total Hours: 133

Data Science and Linguistics, BS

The data science and linguistics combined major provides students with extensive background in the formal structures of natural (human) languages and in the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms. The program teaches the methods and applications of linguistic and psycholinguistic analyses of human language data combined with skills in big data analysis, data science, and data analytics. The major provides excellent preparation for work or more advanced degrees focusing on computational linguistics, natural language processing, machine learning, and a wide array of related fields.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or LING 1000	Linguistics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective Course		

With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.

Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
Complete four of the following:		16
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Laboratory/Directed Study		
Complete one of the following:		4
LING 4891	Research Seminar in Linguistics	
LING 4991	Directed Study Research	
PSYC 4610	Laboratory in Psycholinguistics	
Seminar Requirement		
LING 4654	Seminar in Linguistics	4
or PSYC 4658	Seminar in Psycholinguistics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following options:		12
DEAF 2700	ASL Linguistics	
LING 3000 to LING 4999 [1]		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4

Integrative Requirement

Code	Title	Hours
Integrative Course		
CS 4120	Natural Language Processing	4

Data Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	LING Elective	4	Elective	4
CS 1800 and CS 1802	5	LING 2350	4	Elective	4	Elective	4
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4	LING Elective	4				
LING 1150	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210	1	Khoury Elective	4	Co-op	
DS 3000	4	DS 3500	4	Elective	4		
LING 3412	4	DS 4200	4				
LING Structure	4	LING Structure	4				
		LING Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4120	4	ENGW 3302	4	Co-op	
		DS 4300	4	Elective	4		
		DS 4400	4				
		LING Structure	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		LING Lab (or directed study)	4
		LING Seminar	4
		LING Structure	4
	0		**16**

Total Hours: 132

Data Science and Mathematics, BS

The data science and mathematics combined major combines computer science, data science, and mathematics into an integrated curriculum. The program provides the rigorous theoretical background necessary for success in the data science field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or MATH 1000	Mathematics at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500	Object-Oriented Design	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS,CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Mathematics Courses

Code	Title	Hours
Problem-Solving Requirement		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus Requirements		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Math Requirements		
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
MATH 3175	Group Theory	4
MATH 3527	Number Theory 1	4
Mathematics Elective Requirements		
Complete four courses in the following range:		16
MATH 3001 to MATH 4999 but not MATH 4000		

Integrative Requirements

Code	Title	Hours
Integrative Courses		
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4

Computer Science Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	MATH 3081	4	Elective	4
CS 1800 and CS 1802	5	MATH 1342	4	Elective	4	Elective	4
DS 2000 and DS 2001	4	MATH 1365	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210	1	MATH 3527	4	Co-op	0
DS 3000	4	DS 3500	4	Khoury elective	4		
MATH 2321	4	DS 4200	4				
MATH 2341	4	MATH 2331	4				
		MATH elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	DS 4300	4	ENGW 3302 or 3315	4	Co-op	0
		DS 4400	4	Elective	4		
		MATH 3175	4				
		MATH elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	DS 4420	4
		Khoury elective	4
		MATH elective	4
		Elective	4
	0		**16**

Total Hours: 132

Data Science and Philosophy, BS

Overview

The data science and philosophy combined major offers an opportunity to obtain a fluency in formal logic, including logical proofs and the ability to represent arguments clearly and evaluate them for cogency. Students will find that logic plays a fundamental role in computer science as they experience an in-depth programming foundation. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The philosophy curriculum also focuses on oral and written communication, as well as ethical and social issues related to data storage, usage, manipulation, and presentation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
or DS 4440	Practical Neural Networks	
Khoury Elective Courses		

With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.

Complete 4 SH of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Philosophy Requirements

Code	Title	Hours
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
or PHIL 2330	Modern Philosophy	
PHIL 4515	Advanced Logic	4
Philosophy Electives		
Complete four additional PHIL courses, at least one of which is 4000 or above.		16

Integrative Requirement

Code	Title	Hours
PHIL 3050	Information and Uncertainty	4
or PHIL 1300	Knowledge in a Digital World	
or PHIL 2001	Ethics and Evolutionary Games	
PHIL 5005	Information Ethics	4
or PHIL 4050	Values and Sociotechnical Algorithmic Systems	
or PHIL 5010	AI Ethics	

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics Foundation		
ECON 2350	Statistics for Economists	4

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions

- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS courses

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 3200	4	MATH 1341	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	PHIL elective 1	4	Elective	4
DS 2000 and DS 2001	4	PHIL 1145	4				
ENGW 1111	4	PHIL 2325, 2330, or POLS 2325	4				
PHIL 1115	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210 or EESH 2000	1	ECON 2350	4	Co-op	0
DS 3500	4	DS 4200	4	Elective	4		
PHIL 4515	4	PHIL 5005, 5010, or 4050	4				
Elective	4	PHIL elective 2	4				
		PHIL elective 3	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	DS 4300	4	ENGW 3302	4	Co-op	0
		DS 4400	4	Elective	4		
		PHIL 3050	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	DS 4420 or 4440	4
		Khoury elective	4
		PHIL elective 4	4
		Elective	4
	0		**16**

Total Hours: 132

Data Science and Physics, BS

The data science and physics combined major brings together computer and data science, physics, and mathematics. The computer science and mathematics requirements serve as a foundation for both data science and physics. From hands-on experience with sophisticated physics instruments, to mathematical theory, to the latest computational innovations, our interdisciplinary approach is designed to prepare students for the myriad challenges in today's rapidly changing world.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or INSC 1000	Science at Northeastern	
or PHYS 1000	Physics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Physics Courses

Code	Title	Hours
Required Courses		
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	5
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	5
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 3603	Electricity and Magnetism 2	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 4115	Quantum Mechanics	4
or PHYS 5116	Network Science 1	
PHYS 4305	Thermodynamics and Statistical Mechanics	4

Electives

Code	Title	Hours
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Physics Elective		
Complete one course not already required in the following range:		4
PHYS 3000 to PHYS 5999		

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Additional Mathematics Requirements		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4

Integrative Course and Capstone

Code	Title	Hours
PHYS 5318	Principles of Experimental Physics	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

132 total semester hours required

Plan of Study

Sample Plan of Study:

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	MATH 2321	4	MATH 2341	4
CS 1800 and CS 1802	5	ENGW 1111	4	General elective	4	General elective	4
DS 2000 and DS 2001	4	MATH 1342	4				
MATH 1341	4	PHYS 1165 and PHYS 1166 and PHYS 1167	5				
PHYS 1161 and PHYS 1162 and PHYS 1163	5						
	19		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210	1	MATH 3081	4	Co-op	0
PHYS 2303	4	DS 3500	4	PHYS 3600	4		
PHYS 3602	4	DS 4200	4				
General elective	4	PHYS 3601	4				
		General elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	PHYS 3603	4	Co-op	
		PHYS 4305	4	PHYS Elective	4		
		CS 3200	4				

		ENGW 3302, 3307, or 3315	4				
	0		**16**	**8**	**0**		

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		DS 4400	4
		PHYS 5318	4
		PHYS 4115 or 5116	4
		Khoury Elective	4
	0		**16**

Total Hours: 134

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2
- Classical Dynamics (PHYS 3601) offered spring and fall (even years)
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years)
- Quantum Mechanics (PHYS 4115) offered every fall and spring
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years)
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years)
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years)
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years)
- Medical Physics Seminar 2 (PHYS 4652) offered every spring
- Principles of Experimental Physics (PHYS 5318) offered every spring

Data Science and Psychology, BS

The psychology and data science combined major offers an integrative curriculum in the study of mind, brain, and behavior and in the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The study of psychology draws upon empirical research with both humans and animals to investigate and seek explanations for the behavior and mental life of individuals and develop assessment tools and treatment options for addressing clinical problems. In this program, students have an opportunity to augment such knowledge with skills in big data analysis, data science, and data analytics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or INSC 1000	Science at Northeastern	
or PSYC 1000	Psychology at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		

Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Computer Science Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Psychology Requirements

Code	Title	Hours
Foundations of Psychology		
PSYC 1101	Foundations of Psychology	4
Statistics in Psychological Research		
PSYC 2320	Statistics in Psychological Research	4
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4
Personality/Social Basis of Behavior		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Cognitive/Biological Basis of Behavior		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
or PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Laboratory		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Seminar		
Complete one of the following:		4

PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Electives		
Complete two of the following:		8
PSYC 2370 to PSYC 5999		

Integrative Requirement

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
IS 4300	Human Computer Interaction	
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Psychology GPA Requirement

Minimum 2.000 GPA required in all PSYC courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	PYSC elective	4	General elective	4
CS 1800 and CS 1802	5	PSYC 2320	4	General elective	4	General elective	4
DS 2000 and DS 2001	4	Personality/social basis of behavior 1	4				
ENGW 1111	4	General elective	4				

PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210	1	PSYC elective	4	Co-op	
DS 3000	4	DS 3500	4	General elective	4		
MATH 1341	4	DS 4200	4				
Cognitive/biological basis of behavior 1	4	Cognitive/biological basis of behavior 2	4				
		Personality/social basis of behavior 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302, 3307, or 3315	4	Co-op	
		DS 4400	4	General elective	4		
		PSYC laboratory	4				
		PSYC seminar	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		Integrative requirement	4
		Khoury elective	4
		General elective	4
	0		**16**

Total Hours: 132

Accelerated Bachelor/Graduate Degree Programs

Khoury College of Computer Sciences offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

College of Engineering

Website (http://www.coe.neu.edu)

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The mission of the College of Engineering is to provide a teaching, learning, and research environment that results in the highest-quality education for our students. Consistent with this goal, while providing a practice-oriented, experiential, and interdisciplinary program, the College of Engineering seeks to prepare students to contribute to the accumulation and application of technical knowledge. The college further seeks to help students master the fundamental mathematical and scientific principles underlying a particular branch of engineering; develop and demonstrate competence in analysis and design appropriate to an engineering specialization; reason clearly and communicate effectively; and recognize the need to continue professional development.

Through laboratory exercises, senior design projects, professional association activities, cooperative work assignments, and other experiential opportunities, students put theory into practice and clarify their professional goals.

The college offers a Bachelor of Science degree with specializations in bioengineering, chemical engineering, civil engineering, computer engineering, electrical engineering, environmental engineering, industrial engineering, and mechanical engineering. There are also a number of combined majors offered within the college and between the College of Engineering and other colleges. Combined majors are continually being developed in response to student interest. In addition, students can pursue accelerated master's program offerings.

Students have options available to participate in cooperative education experiences as they pursue completion of Bachelor of Science degree programs. Those seeking an 18-month co-op work experience may wish to enroll in the PlusOne accelerated master's program. Four-year programs are available for all majors and combined majors in the college.

The college encourages students to study the arts, sciences, business, and other areas outside engineering to allow for an increased awareness of the social, economic, political, aesthetic, and philosophical influences that shape the world in which graduates will practice their professions. Students may complete a minor in different areas such as business, computer science, biomedical engineering, math, or music. In many cases, the minor can be completed without course overloads.

The college also offers an array of international educational experiences, including a number of study-abroad options, international co-op experiences, and Dialogue of Civilizations classes (which offer a four- to six-week opportunity to study engineering or a related field in the context of an international experience).

In addition to a full array of university services, specialized advising and other support services (including tutoring) are provided. Students in the University Honors Program may participate in honors sections of a number of courses. Students are encouraged to become involved in a broad range of student organizations offered within the college as an enriching addition to academic studies and co-op experience. There are over 50 student organizations in the College of Engineering that offer a broad array of experiences and opportunities. Students are also encouraged to explore research opportunities and participate in experiences that complement classroom learning.

Undergraduate Academic Standards

Effective September 6, 2023

ACADEMIC PROGRESSION STANDARDS

In addition to meeting university progression standards, it is expected that undergraduate engineering students enroll in four (4 credit) courses, with corresponding labs and recitations, and successfully complete at least 12 semester hours each academic semester (fall, spring) with an acceptable grade-point average as noted below.

CRITERIA FOR ACADEMIC PROBATION

Students will be placed on academic probation effective for the following academic semester for any of the reasons noted below:

- Not earning a semester GPA of at least a 1.800 at the end of an academic semester (fall, spring)
- Not earning at least 12 semester hours at the end of an academic semester (fall, spring)

Upper-level and transfer students:

- Not earning a semester GPA of at least a 1.800 at the end of an academic semester (fall, spring)
- Not earning at least 12 semester hours in an academic semester (fall, spring)
- Not maintaining a cumulative GPA of at least 2.000 at the end of an academic semester (fall, spring)
- Accumulating three or more outstanding course deficiencies (grades of F, I, W, NE, U, or missing grades, excluding 1 semester hours courses, labs, and recitations)

A notation of the academic probation action will appear on the internal record but not on the permanent transcript.

CRITERIA FOR ACADEMIC DISMISSAL

Students who earn below a 1.000 GPA or earn fewer than 4 semester hours in any academic semester (fall, spring) may be dismissed, regardless of their prior academic status. After two semesters (fall, spring) on academic probation, students may be academically dismissed if they fail to meet academic progression standards.

A notation of the academic dismissal action will appear on the permanent transcript.

PASS/FAIL COURSEWORK

Students may elect to take courses on a pass/fail basis in accordance with university policy. A maximum of 8 semester hours may be taken pass/fail toward fulfillment of degree requirements in the College of Engineering. A maximum of 4 semester hours of pass/fail coursework is allowed per semester. Only general electives taken outside the College of Engineering may be taken on a pass/fail grading basis.

GRADUATION REQUIREMENTS

A minimum cumulative GPA requirement of 2.000 in major coursework and a minimum cumulative GPA requirement of 2.000 overall are required for graduation.

The college reserves the right to amend programs, courses, and degree requirements to fulfill its educational responsibility to respond to relevant changes in the field.

Students must complete all of the requirements in the degree program in which they are candidates. Degree requirements are based upon the year of graduation, determined by the date of entry or reentry into the College of Engineering. Degree requirements and the year of graduation for a degree candidate who fails to make normal academic progress will be subject to review and possible change.

PROGRESSION TOWARD FULFILLMENT OF DEGREE REQUIREMENTS

Students are expected to develop and follow a program of study outlining scheduled coursework to complete degree requirements. If changes to the year of graduation are to be made after completion of the third year of study in the major program curriculum, revised plans should be submitted to an academic advisor for review and approval. Students pursuing a minor course of study should declare their minor no later than the third year.

General Engineering and First-Year Engineering

General engineering encompasses the common curriculum for several interdisciplinary initiatives and programs for engineering students: the first-year engineering program, the entrepreneurial engineering minor, and some of the college's Dialogues of Civilizations experience courses.

First-Year Engineering Program

With a distinct focus on first-year engineering education, the first-year engineering program at Northeastern University prepares undergraduate engineers with the fundamental building blocks needed for all College of Engineering majors. Emphasizing hands-on, integrated design, our program leverages a state-of the art makerspace to provide our students with an immersive experience into the COE community. Through the lens of the engineering design process, the program weaves engineering ethics and research into designs created with CAD and software development programs used by leading industry engineering firms. Student designs are brought to life through our makerspace's extensive fabrication tools with support from our upperclass engineering student mentors. Dedicated first-year teaching faculty with expertise in engineering pedagogical research and a diverse array of engineering backgrounds focus on creating and evolving teaching practices to ensure that the program scaffolds students in an authentic and fully integrated manner to excel in the rest of their academic scholarship.

Mission of the Department

The mission for the first-year engineering program is to inspire our students in their pursuit of an engineering education by fostering a diverse and inclusive learning community centered around project-based, experiential learning.

Program Values

To accomplish our mission, we aim to:

- Provide state-of-the-art engineering education informed by best practices in *industry and pedagogical research*
- Introduce the fundamentals of problem solving while cultivating *systems thinking*
- Present engineering problems with *authentic complexities* that promote value-sensitive design and social and environmental justice
- Facilitate a *hands-on and teamed* learning experience through access of modern design and fabrication tools in our continually evolving makerspace
- Provide our students with the skills needed to function as independent, *lifelong learners*

Interdisciplinary Minors

- Design and Innovation in Engineering, Minor (p. 945)
- Entrepreneurial Engineering, Minor (p. 946)
- Global Perspectives in Engineering, Minor (p. 947)
- Materials Science and Engineering, Minor (p. 949)
- Sustainable Energy Systems, Minor (p. 951)

Design and Innovation in Engineering, Minor

The design and innovation in engineering minor is designed for nonengineering undergraduate students who wish to explore and develop working solutions as an engineer to the National Academy of Engineering Grand Challenges (http://www.engineeringchallenges.org/) of the 21st century. The course requirements for the minor are designed to expose the student to the engineering elements necessary to solve the important problems facing society today and include value-sensitive design as well as the ethical and professional obligations of an engineer. The elective options offer a high degree of flexibility and exposure to the engineering design process, CAD, programming, micro-controllers-based projects, and mathematical computation. The aforementioned skills will be used for making interactive open-ended projects that address one of the NAE Grand Challenges. This provides more depth within the student's discipline and improves future career opportunities. Students have an opportunity to model and analyze designs, applying many techniques engineers utilize to create and test designs toward implementation. The student, upon successful completion of the minor, will be able to apply value-sensitive design principles to determine a societal need and propose and build or develop a solution. Students apply teamwork, project management, CAD, and algorithmic thinking to the conception of a particular solution and deliver effective team presentations on engineering projects and topics.

Minor Requirements

Note: This minor is for nonengineering majors.

Required Courses

Note: For students who were previously in the College of Engineering, Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) may be substituted for Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111).

Code	Title	Hours
GE 1110	Engineering Design	4
GE 1111	Engineering Problem Solving and Computation	4
GE 2500	Design Analysis and Innovation	4

Elective

Code	Title	Hours
Complete one of the following:		4
ARTG 1250	Design Process Context and Systems	
ARTG 3250	Physical Computing	
ARTG 3462	Experience Design Principles	
EECE 2160	Embedded Design: Enabling Robotics	
GE 2010	Introduction to Customer-Driven Technical Innovation: Silicon Valley	
GE 2030	Introduction to Product Prototyping: Silicon Valley	
GE 3300	Energy Systems: Science, Technology, and Sustainability	
GE 4993	Independent Study	
IE 2310	Introduction to Industrial Engineering	
IE 3412	Engineering Probability and Statistics	
IE 4510	Simulation Modeling and Analysis	
INNO 2301	Innovation!	

GPA Requirement

Minimum 2.000 GPA required in the minor

Credit Requirement

16 hours required

Entrepreneurial Engineering, Minor

The entrepreneurial engineering minor is designed for the technology-minded entrepreneur who seeks to understand disciplinary fundamentals, assess market needs, create technologies, and determine how to manufacture solutions sustainably and economically. The course requirements for the minor are designed to incorporate both engineering elements (product development and prototyping) and creative elements (product design), along with market and societal considerations (customer discovery and needs assessment). The elective option provides an opportunity to specialize in one of three areas: manufacturing, design, or venture creation. Versions of this minor are available for both engineering and nonengineering majors. Sign up for the minor by contacting your academic advisor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Core Courses

Code	Title	Hours
For Undergraduates in the College of Engineering		
GE 5010	Customer-Driven Technical Innovation for Engineers	4
GE 5020	Engineering Product Design Methodology	4
GE 5030	Iterative Product Prototyping for Engineers	4
GE 5100	Product Development for Engineers	4
For Undergraduates outside the College of Engineering		
GE 1110	Engineering Design	4
Complete three of the following:		
GE 5010	Customer-Driven Technical Innovation for Engineers	4
GE 5020	Engineering Product Design Methodology	4
GE 5030	Iterative Product Prototyping for Engineers	4
GE 5100	Product Development for Engineers	4

Elective

Code	Title	Hours
Complete one of the following:		4
Venture Creation		
ENTR 2303	Marketing Strategies for Startups	
ENTR 3305	Business Model Design and Innovation	
ENTR 3306	Global Entrepreneurship	
ENTR 3330	Design Thinking for Startups	
ENTR 4501	Integrated Studies in Entrepreneurial Startups	
ENTR 4510	Management Consulting Abroad	
Design		
ARTE 3901	Art and Design Special Topics	
ARTF 1122 and ARTF 1123	Color and Composition and Color and Composition Tools	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTG 1250	Design Process Context and Systems	
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Manufacturing		
IE 2310	Introduction to Industrial Engineering	
IE 4512	Engineering Economy	
IE 4525	Logistics and Supply Chain Management	
IE 4530	Manufacturing Systems and Techniques	

GPA Requirement

2.000 GPA required in the minor

Global Perspectives in Engineering, Minor

Overview

This interdisciplinary minor explores work in a global context for students interested in learning about international development, gaining cultural competency across borders, or discovering the effects of globalization on business. Coursework and experience will intersect, creating multidimensional students with the cultural competency necessary in this ever-changing world. Due to the rigorous and demanding structure of the engineering curriculum, this minor allows students to take part in opportunities to merge their international passion with their technical skill.

Program Requirements

Required Courses

Code	Title	Hours
GBST 1012	The Global Learning Experience (or equivalent as a N.U.in or pathway student)	1
Complete one of the following pairs:		8
GE 1501 and GE 1502	Cornerstone of Engineering 1 and Cornerstone of Engineering 2	
GE 1110 and GE 1111	Engineering Design and Engineering Problem Solving and Computation	

Elective Courses

Code	Title	Hours
Complete 12 semester hours from the following:		12
AFRS 1101	Introduction to African Studies	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3460	Contemporary Government and Politics in Africa	
ANTH 1101	Peoples and Cultures	
ANTH 2305	Global Markets and Local Culture	
ANTH 3200	Cities in Global Context	
ANTH 4500	Latin American Society and Development	
ASNS 1150	East Asian Studies	
CLTR 1120	Introduction to Languages, Literature, and Culture	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1501	Introduction to French Culture	
CLTR 1502	Introduction to Arabic Culture	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3418	Nationalism	
ECON 1291	Development Economics	
ECON 1711	Economics of Sustainability	
ECON 3290	History of the Global Economy	
ECON 3404	International Food Policy	
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
INNO 2206	Global Social Enterprise	
INTB 1209	International Business and Global Social Responsibility	
INTL 1101	Globalization and International Affairs	
INTL 1160	Middle East Studies	
INTL 3520	Global Political Economy	
PHIL 1106	Ethics and Politics of Work	
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 2155	Human Rights	
PHIL 5001	Global Justice	
PHTH 1270	Introduction to Global Health	

PHTH 2351	Community and Public Health - Global
POLS 1160	International Relations
POLS 3405	International Political Economy
PSYC 2370	Cross-Cultural Psychology
SCHM 2301	Supply Chain and Operations Management
SCHM 3301	Global Supply Chain Strategy
SCHM 3305	Sourcing, Procurement, and Negotiation
SOCL 1101	Introduction to Sociology

Global Experience

Code	Title	Hours
Complete one global experience. This can be a Dialogue of Civilizations, Global Scholars, Global Co-op, study abroad, N.U.in, or Global Quest.		
Any class taken during a global experience that is not one of the electives listed above		

GPA Requirement

Minimum 2.000 GPA required in the minor

Credit Requirement

21 semester hours required

Materials Science and Engineering, Minor

The study of materials science and engineering has spurred breakthroughs in applications ranging from artificial limbs and organs, to space travel vehicles, to personal MP3 players. For example, the discovery of buckyballs and carbon nanotubes has led to the development of an unprecedented reduction in size of prototype electronic components and points the way to tomorrow's electronic technologies. Porous nanostructures of biocompatible materials are studied for targeted drug delivery within the body. The integration of polymers and semiconductors is used to create efficient, usable solar cells to reduce our dependence on fossil fuels. There are many more examples of both existing technologies and current research areas involving materials science and engineering that impact everyday life both today and in the future.

The minor in materials science and engineering is open to all students of the College of Engineering whose science and technical interests involve the design, processing, and optimization of engineering materials. Since the materials interests may vary across the engineering disciplines, the minor is composed of an interdisciplinary selection of courses that offer a high degree of flexibility to the student. The fundamental goals of the program are to offer the student a broad interdisciplinary program that includes a basic background in the relevant aspects of materials science and the engineering applications of materials. The objectives are to serve the needs of the chemical, civil, electrical, and mechanical engineering departments in providing a vehicle to expose students to materials science and engineering. Particular focus areas include electronic materials and processing for device applications; strength, wear, and corrosion-resistant coatings; molecular-level design of thin films and nanostructures; polymers and biomedical applications; and steels, concretes, and space-based structures.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Course

Code	Title	Hours
ME 2340	Introduction to Material Science	4

Electives

Code	Title	Hours
Complete three courses from the following disciplines:		11-13
Bioengineering		
BIOE 5820	Biomaterials	
Chemical Engineering		
CHME 5105	Materials Characterization Techniques	
CHME 5160	Drug Delivery: Engineering Analysis	
CHME 5631	Biomaterials Principles and Applications	
CHME 5632	Advanced Topics in Biomaterials	
CHME 5683	Introduction to Polymer Science	
Civil and Environmental Engineering		
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
Electrical and Computer Engineering		
EECE 3392	Electronic Materials	
EECE 5606	Micro- and Nanofabrication	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Materials Engineering		
MATL 5380	Particulate Materials Processing	
MATL 6250	Soft Matter (With Instructor permission)	
MATL 6270	Principles, Devices, and Materials for Energy Storage and Energy Harvesting (With Instructor permission)	
MATL 6285	Structure, Properties, and Processing of Polymeric Materials (With Instructor Permission)	
Mechanical and Industrial Engineering		
ME 4630	Ceramic Science and Engineering	
ME 4640	Mechanical Behavior and Processing of Materials	
ME 5600	Materials Processing and Process Selection	
ME 5620	Fundamentals of Advanced Materials	

ME 5640	Additive Manufacturing
ME 5645	Environmental Issues in Manufacturing and Product Use
Chemistry and Chemical Biology	
CHEM 3501	Inorganic Chemistry
CHEM 5651	Materials Chemistry of Renewable Energy
Or any advisor-approved course or directed study	

Capstone Design

Code	Title	Hours
Complete one of the following major capstone requirements: [1]		4-5
BIOE 4792	Capstone Design 2	
CHME 4703	Chemical Process Design Capstone	
CIVE 4765	Senior Design Project—Environmental	
CIVE 4767	Senior Design Project—Structural	
CIVE 4768	Senior Design Project—Transportation	
EECE 4792	Electrical and Computer Engineering Capstone 2	
MEIE 4702	Capstone Design 2	

GPA Requirement

2.000 GPA required in the minor

[1] Students may complete 4 semester hours of elective coursework in place of the capstone design project (if major does not have a capstone design project requirement).

Sustainable Energy Systems, Minor

The sustainable energy systems minor is an interdisciplinary selection of courses designed to offer flexibility and exposure to the principles and applications of sustainable energy systems that are needed to meet the challenges of the world's growing energy needs. Students have an opportunity to learn technical skills, analysis techniques, design strategies, and principles of economics and energy policy in topic areas including traditional (fossil fuel), alternative, renewable, and sustainable energy sources and energy system applications.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Courses required to fulfill a major requirement may not be used to fulfill minor requirements. However, one engineering course from this minor with course number 4000 to 5999 in the student's major can be used as a technical elective or advanced engineering elective to fulfill the student's major requirements. See curriculum below for details.

Core Energy Science, Technology Courses

Code	Title	Hours
Complete two of the following:		8
CHME 2320	Chemical Engineering Thermodynamics 1	
or ME 2380	Thermodynamics	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
ENSY 5000	Fundamentals of Energy System Integration	
GE 3300	Energy Systems: Science, Technology, and Sustainability	

Environmental/Economics/Policy Courses

Code	Title	Hours
Complete one of the following:		4
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
ECON 3423	Environmental Economics	
ECON 3425	Energy Economics	
ENVR 2515	Sustainable Development	
FINA 2720	Sustainability in the Business Environment	
ME 5645	Environmental Issues in Manufacturing and Product Use	

Electives

Code	Title	Hours
Complete two of the following:		8
CHME 2308	Conservation Principles in Chemical Engineering	
CHME 2320	Chemical Engineering Thermodynamics 1	
CHME 5630	Biochemical Engineering	
CHME 5699	Special Topics in Chemical Engineering	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 5680	Electric Drives	
EECE 5682	Power Systems Analysis 1	
EECE 5688	Analysis of Unbalanced Power Grids	
ENSY 5000	Fundamentals of Energy System Integration	
GE 3300	Energy Systems: Science, Technology, and Sustainability	
IE 4512	Engineering Economy (IE students may not count this course toward a sustainable energy minor if used to fulfill a major requirement.)	
ME 2380	Thermodynamics	
ME 5645	Environmental Issues in Manufacturing and Product Use	
ME 5685	Solar Thermal Engineering	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

GPA Requirement

2.000 GPA required in the minor

Details about double-counting restrictions between this minor and Engineering major requirements are as follows:

- Civil engineering, environmental engineering and environmental engineering/health science students may not count Energy Systems: Science, Technology, and Sustainability (GE 3300) toward the sustainable energy systems minor if this course is used to fulfill major requirements.
- Chemical engineering students and mechanical engineering students may not count Chemical Engineering Thermodynamics 1 (CHME 2320) or Thermodynamics (ME 2380) toward the sustainable energy systems minor since these courses are required in their respective majors.
- Chemical engineering students may not count Conservation Principles in Chemical Engineering (CHME 2308) toward the sustainable energy systems minor since this course is required in their major.
- Industrial engineering students may not count Engineering Economy (IE 4512) toward the sustainable energy systems minor since this course is required in their major.

Bioengineering

Website (http://www.bioe.neu.edu)

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The Department of Bioengineering offers students a broad education built on fundamentals in science, mathematics, and engineering, with a focus on the biological applications of engineering. The program is designed to provide a rigorous engineering training along with a comprehensive understanding of the biological constraints intrinsic to designing artificial systems to interface with, augment, replace, repair, or monitor living systems. These constraints depend on the properties of the biological system involved and the functionality that is being created. The living system may be the human body; an ecosystem; or, more broadly, a bioreactor, tissue culture system, or any system with living components. The presence of naturally occurring biological tissue places special constraints on the design and implementation of artificial constructs and their interface to living systems. Bioengineers are engineers with comprehensive understanding of the engineering requirements intrinsic to working within a biological context.

Bioengineering is a relatively new field driven by the recognition that engineering of biological systems or systems that interface with living systems requires a multidisciplinary approach that takes into account the mechanical, electrical, chemical, and materials properties of the biological system. With that in mind, the bioengineering program has been designed to provide a rigorous engineering education that endows a broad understanding of the quantitative analysis of biological systems and a deep expertise in one of four areas of bioengineering. The curriculum is structured around a core of six courses that quantitatively analyze biological systems from multiple points of view. The core provides the fundamentals of quantitative physiology, electrical engineering in the context of excitable tissues; basics of mechanical engineering in the context of the musculoskeletal system; and thermodynamics, heat transfer, and fluids mechanics within the context of physiological systems. On completion of the core, students choose one of four concentrations (biomechanics; biomedical devices and bioimaging; cell and tissue engineering; and systems, synthetic, and computational bioengineering), which provides the opportunity to develop a deep level of expertise in an important area of bioengineering. The curriculum culminates with a two-semester capstone course to provide experience in design and implementation of a novel bioengineering project.

Mission of the Department

The program is committed to providing a multidisciplinary education, making connections from the classroom and laboratory to research, co-op, and cocurricular experiences. The curriculum provides fundamentals in mathematics, physical sciences, and engineering science; laboratory experiences; as well as an emphasis on the special considerations intrinsic to design within a biological context. Through the university's general educational requirements, students gain awareness of the impact of engineering decisions in a broader societal and ethical context. The department encourages professional development through active participation and leadership in student organizations, societies, and departmental activities. As a result, the bioengineering program is designed to prepare students for success in industrial careers; graduate programs; or professional medical, law, and business schools.

Other Programmatic Features

By participating in our cooperative education program, our graduates will have an opportunity to explore what career objectives fit their own skills and interests. The goal of this component of our program is to offer students valuable professional experience and contacts that will help get them started in their professional career, as well as to develop career management skills. The co-op program parallels the academic program in level of responsibility and sophistication.

The department also offers significant research opportunities throughout all fields of bioengineering, including participating in research centers based in our department and college, as well as new interdisciplinary graduate and professional master's programs.

The bioengineering curriculum is an innovative plan that is continuously and carefully assessed and evaluated to ensure that graduates of the program are fully prepared for success as professional bioengineers and are prepared for graduate or professional school.

Programs

Bachelor of Science in Bioengineering (BSBioE)

- Bioengineering (p. 954)
- Bioengineering and Biochemistry (p. 962)

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering and Bioengineering (p. 968)

Bachelor of Science in Mechanical Engineering (BSME)

- Mechanical Engineering and Bioengineering (p. 972)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Bioengineering, BSBioE

Bioengineering is engineering in a biological context such as the human body, an ecosystem, or a bioreactor. In every case, the interface between engineered and biological systems places unique constraints on the design and implementation of devices, instruments, or implants. These depend on the properties of the biological system involved and the functionality that is being created.

The interface of engineering and medicine as embodied in bioengineering will be one of the most exciting endeavors and greatest adventures of the 21st century. Job opportunities are expected to expand dramatically with a focus on development of entirely new classes of products, instrumentation, and implants. The impact to human health will be extraordinary.

Bioengineering is intrinsically multidisciplinary and it is essential that students learn the languages used by multidisciplinary teams. To that end, our curriculum is structured around a core of six courses that analyze biological systems from every possible quantitative point of view. On the completion of the core, students choose one of four concentrations, which provides the opportunity to develop a deep level of expertise in a specific area of bioengineering.

Bioengineering students will have unique opportunities in the classroom, research labs, and experiential learning. The projects that they may be able to contribute to include bio-bandages that monitor bacterial growth or that help damaged ligaments heal faster; sheets of cells folded like origami to form a working kidney; and new materials that—like a leaf in the sun—automatically sense and adapt to changes in the environment.

Our undergraduate program includes four research concentrations, including:

- Biomechanics
- Biomedical Devices and Bioimaging
- Cell and Tissue Engineering
- Systems, Synthetic, and Computational Bioengineering

Program Educational Objectives

Program educational objectives describe what graduates are expected to attain within a few years after graduation. The program educational objectives of the BS in bioengineering program are to prepare graduates to:

- Be technically proficient, innovative, and rigorous problem solvers who excel in the professional practice of engineering while maintaining a high standard of professional and ethical responsibility.
- Be multifaceted and able to work with and demonstrate leadership in multidisciplinary teams.
- Be able to pursue advanced studies in engineering, medicine, and other fields that leverage their technical and problem-solving skills.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering

Code	Title	Hours
Required Engineering		
BIOE 2350	Biomechanics	4
BIOE 2355	Quantitative Physiology for Bioengineers	4
BIOE 2365 and BIOE 2366	Bioengineering Measurement, Experimentation, and Statistics and Lab for BIOE 2365	5
BIOE 3210	Bioelectricity	4
BIOE 3310	Transport and Fluids for Bioengineers	4
BIOE 3380	Biomolecular Dynamics and Control	4

Bioengineering Capstone		
BIOE 4790	Capstone Design 1	4
BIOE 4792	Capstone Design 2	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Concentration

Complete one concentration:

- Biomechanics (p. 956)
- Biomedical Devices and Bioimaging (p. 956)
- Cell and Tissue Engineering (p. 957)
- Systems, Synthetic, and Computational Bioengineering (p. 957)

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1171 and PHYS 1172 and PHYS 1173	Physics 1 for Bioscience and Bioengineering and Lab for PHYS 1171 and Interactive Learning Seminar for PHYS 1171	5
or PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1175 and PHYS 1176 and PHYS 1177	Physics 2 for Bioscience and Bioengineering and Lab for PHYS 1175 and Interactive Learning Seminar for PHYS 1175	5
or PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 SH of academic, nonremedial, nonrepetitive courses.		28

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum GPA required in BIOE coursework

Program Requirement

135 total semester hours required

CONCENTRATION IN BIOMECHANICS

Code	Title	Hours
Required Courses		
Complete three of the following:		12
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5640	Computational Biomechanics	
BIOE 5650	Multiscale Biomechanics	
ME 5665	Musculoskeletal Biomechanics	
Elective Courses		
Complete two of the following. Any course on the required course list not used toward the core requirement may also be taken.		8
BIOE 4991	Research	
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
CHME 5105	Materials Characterization Techniques	
CHME 5632	Advanced Topics in Biomaterials	
ME 4508	Mechanical Engineering Computation and Design	
ME 4555	System Analysis and Control	

CONCENTRATION IN BIOMEDICAL DEVICES AND BIOIMAGING

Code	Title	Hours
Required Courses		
BIOE 5800	Systems, Signals, and Controls for Bioengineers	4
Complete two of the following:		8
BIOE 5235	Biomedical Imaging	
or BIOE 5648	Biomedical Optics	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5810	Design of Biomedical Instrumentation	
Elective Courses		
Complete two of the following. Any course on the required course list not used toward the core requirement may also be taken.		8
BIOE 4991	Research	
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	

BIOE 5820	Biomaterials
or CHME 5631	Biomaterials Principles and Applications
BIOE 5850	Design of Implants
CHME 5632	Advanced Topics in Biomaterials
EECE 2530	Fundamentals of Electromagnetics
EECE 2750	Enabling Engineering
EECE 3468	Noise and Stochastic Processes
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340
ME 4508	Mechanical Engineering Computation and Design

CONCENTRATION IN CELL AND TISSUE ENGINEERING

Code	Title	Hours
Required Courses		
BIOE 5410	Molecular Bioengineering	4
or BIOE 5411	Applied Molecular Bioengineering	
BIOE 5420	Cellular Engineering	4
BIOE 5430	Principles and Applications of Tissue Engineering	4
Elective Courses		
Complete two of the following:		8
BIOE 3410	Experimental Laboratory Methods	
BIOE 4991	Research	
BIOE 5060	Special Topics in Bioengineering	
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5411	Applied Molecular Bioengineering	
BIOE 5440	The Cell as a Machine	
BIOE 5450	Stem Cell Engineering	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5650	Multiscale Biomechanics	
BIOE 5820	Biomaterials	
or CHME 5631	Biomaterials Principles and Applications	
CHME 5630	Biochemical Engineering	
CHME 5632	Advanced Topics in Biomaterials	

CONCENTRATION IN SYSTEMS, SYNTHETIC, AND COMPUTATIONAL BIOENGINEERING

Code	Title	Hours
Required Courses		
Complete three of the following:		12
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5710	Experimental Systems and Synthetic Bioengineering	
BIOE 5720	Physical Bioengineering	
BIOE 5750	Modeling and Inference in Bioengineering	
Elective Courses		
Complete two of the following:		8
BIOE 4991	Research	
BIOE 5060	Special Topics in Bioengineering	
BIOE 5440	The Cell as a Machine	
BIOE 5510	Bioengineering Products/Technology Commercialization	
BIOE 5640	Computational Biomechanics	
BIOE 5760	Method and Logic in Systems Biology and Bioengineering	
BIOE 5860	Engineering Approaches to Precision Medicine I	
BIOE 5870	Engineering Approaches to Precision Medicine II	
BIOE 5880	Computational Methods in Systems Bioengineering	
CHME 5630	Biochemical Engineering	

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	BIOL 1111 (ND)	4	General elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	BIOL 1112	1	General elective	4
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3	General elective	4		
GE 1000	1	PHYS 1172 or 1152 (AD)	1				
GE 1501	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	MATH 2321 (FQ)	4	BIOE 3310	4	Co-op	0
BIOE 2366	1	BIOE 2350	4	General elective	4		
MATH 2341	4	BIOE 2355	4				
PHYS 1175 or 1155 (ND)	3	ENCP 2000	1				
PHYS 1176 or 1156 (AD)	1	General elective	4				
PHYS 1177 or 1157	1						
General elective	4						
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 3210	4	BIOE 4790 (EI, CE, WI)	4	Co-op	0
		BIOE 3380	4	ENGW 3302 or 3315 (WD)	4		
		ENCP 3000	1				
		BIOE concentration	4				
		BIOE concentration	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	BIOE 4792 (EI, CE, WI)	4		
		BIOE concentration	4		
		BIOE concentration	4		
		BIOE concentration	4		
	0		**16**		**0**

Total Hours: 135

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	BIOL 1111 (ND)	4	General elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	BIOL 1112	1	General elective	4
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3	PHYS 1175 or 1155 (ND)	3		
GE 1000	1	PHYS 1172 or 1152 (AD)	1	PHYS 1176 or 1156 (AD)	1		
GE 1501	4	PHYS 1173 or 1153	1	PHYS 1177 or 1157	1		
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**10**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	Co-op		Co-op		BIOE 3210	4

BIOE 2365 (AD, WI)	4					General elective	4
BIOE 2366	1						
ENCP 2000	1						
MATH 2321 (FQ)	4						
MATH 2341	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2350	4	Co-op		Co-op		BIOE 4790 (EI, CE, WI)	4
BIOE 3380	4					General elective	4
BIOE concentration	4						
General elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
BIOE 3310	4	ENGW 3302 or 3315 (WD)	4
BIOE 4792 (EI, CE, WI)	4	BIOE concentration	4
ENCP 3000	1	BIOE concentration	4
BIOE concentration	4	BIOE concentration	4
General elective	4		
	17		**16**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3				
GE 1000	1	PHYS 1172 or 1152 (AD)	1				
GE 1501	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	BIOE 2350	4	Vacation		Co-op	
BIOE 2366	1	BIOE 2355	4				
BIOL 1111 (ND)	4	ENCP 2000	1				
BIOL 1112	1	MATH 2341	4				
MATH 2321 (FQ)	4	General elective	4				
PHYS 1175 or 1155 (ND)	3						
PHYS 1176 or 1156 (AD)	1						
PHYS 1177 or 1157	1						
	19		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOE 3210	4	BIOE 3310	4	Co-op	
		BIOE 3380	4	General elective	4		
		ENGW 3302 or 3315 (WD)	4				
		BIOE concentration	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENCP 3000	1	BIOE 4790 (EI, CE, WI)	4	Co-op	
		BIOE concentration	4	General elective	4		
		BIOE concentration	4				
		BIOE concentration	4				
		General elective	4				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		BIOE 4792 (EI, CE, WI)	4
		BIOE concentration	4
		General elective	4
		General elective	4
	0		**16**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3				
GE 1000	1	PHYS 1172 or 1152 (AD)	1				
GE 1501	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	Co-op		Co-op		Vacation	
BIOE 2366	1						
BIOL 1111 (ND)	4						
BIOL 1112	1						
ENCP 2000	1						
MATH 2321 (FQ)	4						
PHYS 1175 or 1155 (ND)	3						
PHYS 1176 or 1156 (AD)	1						
PHYS 1177 or 1157	1						
	20		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2350	4	Co-op		Co-op		BIOE 3210	4
BIOE 2355	4					General elective	4
MATH 2341	4						
General elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3310	4	Co-op		Co-op		BIOE 4790 (EI, CE, WI)	4
BIOE 3380	4					General elective	4
ENCP 3000	1						
ENGW 3302 or 3315 (WD)	4						

BIOE concentration		4					
		17		**0**		**0**	**8**

Year 5

Fall	**Hours**		**Spring**	**Hours**			
BIOE 4792 (EI, CE, WI)		4	BIOE concentration	4			
BIOE concentration		4	BIOE concentration	4			
BIOE concentration		4	General elective	4			
General elective		4	General elective	4			
		16		**16**			

Total Hours: 135

Bioengineering and Biochemistry, BSBioE

This combined major from the College of Engineering and College of Science serves students who wish to develop both a scientific and an engineering mindset to solve problems in bioengineering and biochemistry. The program includes fundamentals and electives in the science of biochemistry; a complete and rigorous bioengineering core; and a series of molecular, cellular, and tissue engineering courses that allow for synthesis of the two. The curriculum aligns well with the coursework required to apply to medical school or other clinical graduate programs and aims to provide the knowledge, skills, and perspective to pursue careers in academia or industry.

Program Educational Objectives

See Accreditation—Department of Bioengineering (https://bioe.northeastern.edu/academics/undergraduate-studies/bioe-accreditation/) for program educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience may fulfill the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
BIOE 2350	Biomechanics	4
BIOE 2355	Quantitative Physiology for Bioengineers	4
BIOE 2365 and BIOE 2366	Bioengineering Measurement, Experimentation, and Statistics and Lab for BIOE 2365	5
BIOE 3210	Bioelectricity	4
BIOE 3310	Transport and Fluids for Bioengineers	4
BIOE 3380	Biomolecular Dynamics and Control	4
BIOE 5410	Molecular Bioengineering	4
or BIOE 5411	Applied Molecular Bioengineering	
BIOE 5420	Cellular Engineering	4
BIOE 5430	Principles and Applications of Tissue Engineering	4
Bioengineering Capstone		
BIOE 4790	Capstone Design 1	4
BIOE 4792	Capstone Design 2	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science Requirements

Code	Title	Hours
Required Mathematics/Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5

BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1171 and PHYS 1172 and PHYS 1173	Physics 1 for Bioscience and Bioengineering and Lab for PHYS 1171 and Interactive Learning Seminar for PHYS 1171	5
or PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1175 and PHYS 1176 and PHYS 1177	Physics 2 for Bioscience and Bioengineering and Lab for PHYS 1175 and Interactive Learning Seminar for PHYS 1175	5
or PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Advanced Biology Elective		
Complete one course in the following range (the course must be lecture based, or lecture with corequisite lab, and not an independent research course):		3-5
BIOL 2311 to BIOL 5999		
Advanced Chemistry Elective		
Complete one course in the following range (the course must be lecture based, or lecture with corequisite lab, and not an independent research course):		3-5
CHEM 2310 to CHEM 5999		
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3307	Advanced Writing in the Sciences
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 12 semester hours of academic, nonremedial, nonrepetitive courses.		12

Integrative Course

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
BIOE 4790	Capstone Design 1	4

Major GPA Requirement

A 2.000 minimum GPA is required in BIOE coursework.

Program Requirement

137 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	PHYS 1155 or 1175 (ND)	3	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHYS 1156 or 1176 (AD)	1		
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3	PHYS 1157 or 1177	1		
GE 1000	1	PHYS 1172 or 1152 (AD)	1	General elective	4		
GE 1501	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	BIOE 2350	4	Vacation		Vacation	
BIOE 2365 (AD, WI)	4	BIOL 2301 (ND)	4				
BIOE 2366	1	BIOL 2302 (AD)	1				
BIOL 1111	4	CHEM 2311	4				
BIOL 1112	1	CHEM 2312	1				
MATH 2341	4	MATH 2321 (FQ)	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3380	4	BIOE 3210	4	BIOE 3310	4	Co-op	
CHEM 2313	4	BIOE 5410, 5420, or 5430	4	BIOE 4790 (EI, CE, WI)	4		
CHEM 2314	1	BIOE 5420, 5410, or 5430	4				
ENGW 3302, 3307, or 3315 (WD)	4	BIOL 3611	4				
General elective	4	BIOL 3612	1				
		ENCP 2000	1				
	17		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOE 4792 (EI, CE, WI)	4
		BIOE 5430, 5410, or 5420	4
		ENCP 3000	1
		Advanced BIOL elective	4
		Advanced CHEM elective	4
	0		**17**

Total Hours: 139

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	PHYS 1155 or 1175 (ND)	3	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHYS 1156 or 1176 (AD)	1		
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3	PHYS 1157 or 1177	1		
GE 1000	1	PHYS 1172 or 1152 (AD)	1	General elective	4		
GE 1501	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	BIOE 2350	4	Vacation		Vacation	
BIOE 2365 (AD, WI)	4	BIOL 2301 (ND)	4				
BIOE 2366	1	BIOL 2302 (AD)	1				
BIOL 1111	4	CHEM 2311	4				
BIOL 1112	1	CHEM 2312	1				
MATH 2341	4	MATH 2321 (FQ)	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3310	4	Co-op		Co-op		BIOE 4790 (EI, CE, WI)	4
BIOE 3380	4					General elective	4
CHEM 2313	4						
CHEM 2314	1						
ENGW 3302, 3307, or 3315 (WD)	4						
ENCP 2000	1						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
BIOE 3210	4	BIOE 5420, 5410, or 5430	4
BIOE 4792 (EI, CE, WI)	4	BIOE 5430, 5410, or 5420	4
BIOE 5410, 5420, or 5430	4	Advanced BIOL elective	4
BIOL 3611	4	Advanced CHEM elective	4
BIOL 3612	1		
ENCP 3000	1		
	18		**16**

Total Hours: 139

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1171 or 1151 (ND)	3				
GE 1000	1	PHYS 1172 or 1152 (AD)	1				
GE 1501	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	BIOE 2355	4	Vacation		Co-op	0
BIOE 2366	1	BIOL 2301 (ND)	4				
BIOL 1111	4	BIOL 2302 (AD)	1				
BIOL 1112	1	CHEM 2311	4				
MATH 2321 (FQ)	4	CHEM 2312	1				
PHYS 1175 or 1155 (ND)	3	ENCP 2000	1				
PHYS 1176 or 1156 (AD)	1	MATH 2341	4				
PHYS 1177 or 1157	1						
	19		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 2350	4	BIOE 3310	4	Co-op	0
		BIOE 3380	4	BIOL 3611	4		
		CHEM 2313	4	BIOL 3612	1		
		CHEM 2314	1				
		ENGW 3302, 3307, or 3315 (WD)	4				
	0		**17**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 3210	4	BIOE 4790 (EI, CE, WI)	4	Co-op	0
		BIOE 5410, 5420, or 5430	4	General elective	4		
		ENCP 3000	1				
		Advanced BIOL or CHEM elective	4				
		General elective	4				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	BIOE 4792 (EI, CE, WI)	4
		BIOE 5420, 5410, or 5430	4
		BIOE 5430, 5410, or 5420	4
		Advanced BIOL or CHEM elective	4
	0		**16**

Total Hours: 139

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1171 or 1151 (ND)	3				
GE 1501	4	PHYS 1172 or 1152 (AD)	1				
ENGW 1111 (WF)	4	PHYS 1173 or 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	Co-op	0	Co-op	0	Vacation	
BIOE 2366	1						
BIOL 1111	4						
BIOL 1112	1						
ENCP 2000	1						
MATH 2321 (FQ)	4						
PHYS 1175 or 1155 (ND)	3						
PHYS 1176 or 1156 (AD)	1						
PHYS 1177 or 1157	1						
	20		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2350	4	Co-op	0	Co-op	0	BIOE 3210	4
BIOE 2355	4					CHEM 2313	4
CHEM 2311	4					CHEM 2314	1
CHEM 2312	1						
MATH 2341	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3310	4	Co-op	0	Co-op	0	BIOE 4790 (EI, CE, WI)	4
BIOE 3380	4					General elective	4
BIOL 2301 (ND)	4						
BIOL 2302 (AD)	1						
ENGW 3302, 3307, or 3315 (WD)	4						
	17		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
BIOE 4792 (EI, CE, WI)	4	BIOE 5420, 5410, or 5430	4
BIOE 5410, 5420, or 5430	4	BIOE 5430, 5410, or 5420	4
BIOL 3611	4	Advanced BIOL elective	4
BIOL 3612	1	Advanced CHEM elective	4
ENCP 3000	1		
General elective	4		
	18		**16**

Total Hours: 139

Chemical Engineering and Bioengineering, BSChE

The Bachelor of Science in Chemical Engineering and Bioengineering provides students with a broad education built on fundamentals in science, mathematics, and engineering, with the breadth of knowledge and problem solving established in chemical engineering applied through a bioengineering focus. Chemical engineering and bioengineering have long been closely related, working to understand human diseases, developing new therapies and drug delivery systems, and producing new medicines through cell culture techniques. This specific combined major allows for chemical engineering expertise in advanced materials and chemical processes, with the additional specialized bioengineering mastery of the biological constraints intrinsic to supporting and designing systems to aid and repair living systems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Chemical Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
Chemical Engineering Elective		
Choose any 2000-5000 level chemical engineering course to meet this elective requirement. Research for credit may not be considered for this requirement.		4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Bioengineering Requirements

Code	Title	Hours
Core Bioengineering Courses		
BIOE 2355	Quantitative Physiology for Bioengineers	4
BIOE 3210	Bioelectricity	4
Cell and Tissue Engineering Courses		
BIOE 5410	Molecular Bioengineering	4
BIOE 5420	Cellular Engineering	4
BIOE 5430	Principles and Applications of Tissue Engineering	4

Bioengineering Capstone		
BIOE 4790	Capstone Design 1	4
BIOE 4792	Capstone Design 2	4

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
BIOL 1111	General Biology 1	4
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Courses

Code	Title	Hours
These courses are already required above and also fulfill the integrative requirement.		
CHME 4315	Chemical Engineering Experimental Design 2	4
CHME 4510	Chemical Engineering Kinetics	4

Major GPA Requirement

2.000 minimum GPA required in CHME coursework

2.000 minimum GPA required in all BIOE coursework

Program Requirement

135 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111 (ND)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	CHEM 2313	4	Vacation		Vacation	
CHEM 2311 (AD, WI)	4	CHEM 2314	1				
CHEM 2312	1	CHME 2310	4				
CHME 2308	4	CHME 2320	4				
MATH 2341	4	General elective	4				
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3210	4	BIOE 5410	4	BIOE 4790 (EI, CE, WI)	4	Co-op	
CHME 3312	4	BIOE 5420	4	General elective	4		
CHME 3322	4	CHME 3305	4				
ENGW 3302, 3307, or 3315 (WD)	4	CHME 3306	0				
		CHME 4510	4				
		ENCP 2000	1				
	16		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOE 4792 (EI, CE, WI)	4
		BIOE 5430	4
		CHME 4512	4
		ENCP 3000	1

		Chemical Engineering Elective	4				
	0		**17**				

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111 (ND)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	CHME 2310	4	Vacation		Co-op	
CHEM 2311 (AD, WI)	4	CHEM 2313	4				
CHEM 2312	1	CHEM 2314	1				
CHME 2308	4	CHME 2320	4				
MATH 2341	4	ENCP 2000	1				
		General elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOE 3210	4	Vacation		Co-op	
		CHME 3312	4				
		CHME 3322	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOE 5410	4	BIOE 4790 (EI, CE, WI)	4	Co-op	
		BIOE 5420	4	General elective	4		
		CHME 3305	4				
		CHME 3306	0				
		CHME 4510	4				
		ENCP 3000	1				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		BIOE 4792 (EI, CE, WI)	4
		BIOE 5430	4
		CHME 4512	4
		Chemical Engineering Elective	4
	0		**16**

Total Hours: 135

Mechanical Engineering and Bioengineering, BSME

Overview

This combined major from the Department of Mechanical and Industrial Engineering and Department of Bioengineering provides a rigorous curriculum for students willing to learn and integrate the foundations of mechanical engineering and bioengineering toward solving multidisciplinary problems arising at the intersection of these two engineering disciplines. The combined major weaves mechanics, materials, and thermofluids courses of mechanical engineering with a set of core and elective bioengineering courses from biomechanics, biostatistics, signals, and systems, to biomaterials, biomedical imaging, and design of biomedical devices and implants.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Mechanical Engineering Requirements

Code	Title	Hours
Required Mechanical Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4550	Mechanical Engineering Design	4
ME 4570	Thermal Systems Analysis and Design	4
Senior Capstone Design Project		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2	

Bioengineering

Code	Title	Hours
Required Bioengineering Courses		
BIOE 2355	Quantitative Physiology for Bioengineers	4
BIOE 2365 and BIOE 2366	Bioengineering Measurement, Experimentation, and Statistics and Lab for BIOE 2365	5
BIOE 3210	Bioelectricity	4

BIOE 3380	Biomolecular Dynamics and Control	4
BIOE 5640	Computational Biomechanics	4
Bioengineering Electives		
Complete 16 semester hours from the course list below:		16
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOE 5820	Biomaterials	
BIOE 5850	Design of Implants	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4

ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Courses

Code	Title	Hours
These courses are already required above and also fulfill the integrative requirement.		
MEIE 4701	Capstone Design 1	
MEIE 4702	Capstone Design 2	

Major GPA Requirement

2.000 minimum GPA required in ME, IE, and MEIE courses

2.000 minimum GPA required in BIOE courses

Program Requirement

140 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	BIOL 1112	1	ME 2350	4		
ENGW 1111 (WF)	4	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	BIOE 2355	4	Vacation		Vacation	
BIOE 2366	1	ME 2340 (WI)	4				
MATH 2341	4	ME 2341	1				
ME 2355	4	ME 2380	4				
ME 2356	1	ME 2381	0				
PHYS 1155 (ND)	3	General elective	4				
PHYS 1156 (AD)	1						
PHYS 1157	1						
	19		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3210	4	BIOE 3380	4	ME 4550	4	Co-op	0
ME 3475 or 3480	4	BIOE 5640	4	MEIE 4701 (EI, WI, CE)	1		
BIOE elective	4	ENCP 2000	1	General elective	4		
BIOE elective	4	ME 3455	4				
		ME 3456	1				
		ME 4570	4				
	16		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		ENGW 3302 or 3315 (WD)	4
		MEIE 4702 (EI, WI, CE)	5
		BIOE elective	4
		BIOE elective	4
	0		**18**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111	4	Vacation		Vacation	
CHEM 1153	0	BIOL 1112	1				
ENGW 1111 (WF)	4	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	ENCP 2000	1	Vacation		Co-op	0
BIOE 2366	1	ME 2355	4				
MATH 2321 (FQ)	4	ME 2356	1				
ME 2350	4	ME 2380	4				
PHYS 1155 (ND)	3	ME 2381	0				
PHYS 1156 (AD)	1	MATH 2341	4				
PHYS 1157	1	General elective	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 2355	4	ME 3475 or 3480	4	Co-op	0
		BIOE 3210	4	General elective	4		
		ME 2340 (WI)	4				
		ME 2341	1				
		ME 3455	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 3380	4	ENGW 3302 or 3315 (WD)	4	Co-op	0
		BIOE 5640	4	MEIE 4701 (EI, WI, CE)	1		
		ME 3456	1	ME 4550	4		
		ME 4570	4				
		BIOE elective	4				
	0		**17**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		MEIE 4702 (EI, WI, CE)	5
		BIOE elective	4

	BIOE elective	4
	BIOE elective	4
0		**18**

Total Hours: 140

Chemical Engineering

Website (http://www.northeastern.edu/che/)

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The Department of Chemical Engineering at Northeastern University prepares undergraduate chemical engineers to excel at providing innovative solutions to problems related to environmental and energy systems, advanced and flexible manufacturing, personalized medicine, and novel materials for everyday living. With chemistry integrally involved in global challenges, chemical engineers utilize their undergraduate training to solve these problems in a variety of ways. For example, chemical engineers apply foundations of science, mathematics, and engineering to create new materials needed for life in space, alternative energy sources, and materials to efficiently store energy. In biotechnology, chemical engineers recapitulate and regenerate tissue, develop new therapies and drug delivery systems, and utilize the microbiome to advance medicine and sustainability. Chemical engineers are also involved in protecting our environment by exploring ways to reduce acid rain and smog; to recycle and reduce wastes; to develop new sources of environmentally clean energy; and to design inherently safe, efficient, and "green" processes. Through the design of new materials, products, and processes while reducing costs, increasing production, and improving the quality, sustainability, and safety of new products, chemical engineers impact our daily lives.

Mission of the Department

The mission of the Department of Chemical Engineering at Northeastern is to educate and train students in chemical engineering practice through integrating an inclusive classroom environment with hands-on and cooperative education experiences while solving research problems that impact our world.

Co-op enables students to integrate practical workplace knowledge with classroom learning so the educational experiences are synergistic and deepen the learning process. The chemical engineering community encourages professional development through active participation and leadership in student organizations, professional societies, and departmental activities.

Academic Programs

The department offers undergraduate programs in both chemical engineering and several combined majors:

- BS in Chemical Engineering
- BS in Chemical Engineering and Biochemistry
- BS in Chemical Engineering and Bioengineering
- BS in Chemical Engineering and Computer Science
- BS in Chemical Engineering and Data Science
- BS in Chemical Engineering and Environmental Engineering
- BS in Chemical Engineering and Physics

Please see the programs tab for a full list of the department's academic programs.

By participating in our cooperative education program, our graduates will have an opportunity to explore career objectives that fit their own skills and interests. The goal of this component of our program is to offer students valuable professional experience and contacts to help get them started in their professional career, as well as to develop career management skills. The co-op program parallels the academic program in level of responsibility and sophistication.

The department also offers research opportunities throughout all aspects of chemical engineering, with opportunities for students to participate in academic research as early as their first year. The chemical engineering curriculum is continuously evaluated and improved to ensure that graduates of the program are given every opportunity for future success as professional chemical engineers and are prepared for lifelong learning.

Programs

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering (p. 979)
- Chemical Engineering and Biochemistry (p. 986)
- Chemical Engineering and Bioengineering (p. 968)
- Chemical Engineering and Computer Science (p. 728)
- Chemical Engineering and Data Science (p. 733)

- Chemical Engineering and Environmental Engineering (p. 1004)
- Chemical Engineering and Physics (p. 1009)

Minor

- Biochemical Engineering (p. 1014)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Chemical Engineering, BSChE

The chemical engineering program offers students a broad education built on fundamentals in science, mathematics, and engineering, which are then applied to contemporary problems using modern tools, such as computational software and computer-aided design. Chemical engineers have traditionally been employed in chemical, petrochemical, agricultural chemical, pulp and paper, plastics, cosmetics, and textiles industries and in consulting and design firms. Today, chemical engineers also play an integral role in bioprocesses and biomedicine, Big Data and artificial intelligence, sustainability and energy, and study of advanced materials, including nanotechnology. For example, chemical engineers are creating new materials needed for space exploration, alternative energy sources, and faster, self-powered computer chips. In biotechnology and biomedicine, chemical engineers are working to understand human diseases, developing new therapies and drug delivery systems, and producing new medicines through cell culture techniques. Chemical engineers employ nanotechnology to revolutionize sensors, security systems, and medical diagnostics and treatments. In addition to creating important products, chemical engineers are also involved in protecting our environment by exploring ways to reduce acid rain and smog; to recycle and reduce wastes; to develop new sources of environmentally clean energy; and to design inherently safe, efficient, and "green" processes. The role of a chemical engineer is to develop new products and to design processes while reducing costs, increasing production, and improving the quality and safety of new products.

The degree also serves as a springboard to advanced study in chemical engineering or postgraduate pathways including law school, business school, or medical/health professions school.

Visit the department website (https://che.northeastern.edu/academics/undergraduate-studies/che-accreditation/) for program educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Chemical engineering elective [1]		4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Advanced Engineering Elective		
Complete one course numbered between 4000 and 5999 in any of the following subject areas:		4
BIOE, CHME, CIVE, EECE, ENGR, IE, ME, and MEIE		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [2]	

3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [2]	

[1] Students can take any 2000–5000-level chemical engineering course to meet the elective requirement. Research for credit will not be accepted for this requirement.

[2] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Complete one of the following:		4-5
BIOL 1111	General Biology 1	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Supporting Courses: Advanced Science

Code	Title	Hours
Complete one of the following pairs:		5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	
CHEM 2315 and CHEM 2316	Organic Chemistry 1 for Chemistry Majors and Lab for CHEM 2315	
Complete one of the following pairs:		5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	
CHEM 2317 and CHEM 2318	Organic Chemistry 2 for Chemistry Majors and Lab for CHEM 2317	
Complete one of the following:		4-6
BIOL 2301	Genetics and Molecular Biology	
BIOL 2327	Human Parasitology	
BIOL 3421 and BIOL 3422	Microbiology and Lab for BIOL 3421	
BIOL 3603	Mammalian Systems Physiology	
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	
CHEM 2321 and CHEM 2322	Analytical Chemistry and Lab for CHEM 2321	
CHEM 3403 and CHEM 3404	Quantum Chemistry and Spectroscopy and Lab for CHEM 3403	
CHEM 3431 and CHEM 3432	Physical Chemistry and Lab for CHEM 3431	

CHEM 3501 and CHEM 3502 and CHEM 3503	Inorganic Chemistry and Lab for CHEM 3501 and Recitation for CHEM 3501
CHEM 4628 and CHEM 4629	Introduction to Spectroscopy of Organic Compounds and Identification of Organic Compounds
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 3460	Conservation Biology
PHYS 1211	Computational Problem Solving in Physics
PHYS 2303	Modern Physics
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371
PHYS 3601	Classical Dynamics
PHYS 3602	Electricity and Magnetism 1

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of academic, nonremedial, nonrepetitive courses.		24

Major GPA Requirement

A 2.000 minimum GPA is required in CHME coursework.

Program Requirement

134 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	CHME 2320	4
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4	General elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 or 2315	4	BIOL 1111 or PHYS 1155 ***and*** PHYS 1156 ***and*** PHYS 1157 (ND)	4	Advanced science elective	4	Co-op	0
CHEM 2312 or 2316	1	CHEM 2313 or 2317	4	General elective	4		
CHME 2310	4	CHEM 2314 or 2318	1				
MATH 2341	4	CHME 3312	4				
General elective	4	CHME 3322	4				
		ENCP 2000	1				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	General elective	4	Co-op	0
		CHME 3305	4	General elective	4		
		CHME 3306	0				
		CHME 4510	4				
		CHME 4701	4				
		ENCP 3000	1				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		Chemical engineering elective	4
		Advanced engineering elective	4
	0		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	CHME 2320	4
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4	General elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 or PHYS 1155 ***and*** PHYS 1156 ***and*** PHYS 1157 (ND)	4	Co-op	0	Co-op	0	CHEM 2313	4
CHEM 2311 or 2315	4					CHEM 2314	1
CHEM 2312 or 2316	1					General elective	4
CHME 2310	4						
MATH 2341	4						
ENCP 2000	1						
	18		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	Co-op	0	Co-op	0	General elective	4
CHME 3322	4					General elective	4
CHME 3305	4						
CHME 3306	0						
ENGW 3302 or 3315 (WD)	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CHME 4510	4	CHME 4512	4
CHME 4701	4	CHME 4703 (EI, CE, WI)	4
ENCP 3000	1	CHME 4705	0
Chemical engineering elective	4	Advanced engineering elective	4
General elective	4	Advanced science elective	4
	17		**16**

Total Hours: 134

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 or PHYS 1155 ***and*** PHYS 1156 ***and*** PHYS 1157 (ND)	4	CHEM 2313 or 2317	4	Vacation		Co-op	0
CHEM 2311 or 2315	4	CHEM 2314 or 2318	1				
CHEM 2312 or 2316	1	CHME 2310	4				
CHME 2308	4	CHME 2320	4				
MATH 2321 (FQ)	4	ENCP 2000	1				
		MATH 2341	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3312	4	General elective	4	Co-op	0
		CHME 3322	4	General elective	4		
		CHME 3305	4				
		CHME 3306	0				
		ENGW 3302 or 3315 (WD)	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 4510	4	General elective	4	Co-op	0
		CHME 4701	4	General elective	4		

	Chemical engineering elective	4	
	ENCP 3000	1	
	General elective	4	
0		**17**	**8** **0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		Advanced engineering elective	4
		Advance science elective	4
	0		**16**

Total Hours: 134

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1115 or PHYS 1155 ***and*** PHYS 1156 ***and*** PHYS 1157 (ND)	4	Co-op	0	Co-op	0	CHEM 2313 or 2317	4
CHEM 2311 or 2315	4					CHEM 2314 or 2318	1
CHEM 2312 or 2316	1					CHME 2320	4
CHME 2308	4						
ENCP 2000	1						
MATH 2321 (FQ)	4						
	18		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2310	4	Co-op	0	Co-op	0	General elective	4
CHME 3322	4					General elective	4
MATH 2341	4						
General elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3305	4	Co-op	0	Co-op	0	Vacation	
CHME 3306	0						
CHME 3312	4						
ENCP 3000	1						
ENGW 3302 or 3315 (WD)	4						
General elective	4						
	17		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
CHME 4510	4	CHME 4512	4
CHME 4701	4	CHME 4703 (EI, CE, WI)	4
Chemical engineering elective	4	CHME 4705	0
Advanced science elective	4	Advanced engineering elective	4
		General elective	4
	16		**16**

Total Hours: 134

Chemical Engineering and Biochemistry, BSChE

This intercollege combined major serves students who would like to explore their interest in biochemistry while earning the benefit of a Bachelor of Science degree in chemical engineering. The program combines the fundamentals of biochemistry with the engineering skills necessary for scale-up of biochemical processes. The curriculum is designed to prepare students well to enter the growing biotechnology industry and be able to converse from the chemistry of organisms to the design of vessels for successful synthesis of cells and pharmaceuticals.

Visit the department website (https://che.northeastern.edu/academics/undergraduate-studies/che-accreditation/) for program educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Chemical Engineering Elective		
Complete one CHME course in the 2000-5000 range.		4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science Requirement

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5

BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
BIOL 4707	Cell and Molecular Biology	4
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Advanced Biology Elective		
Complete one course in the following range (the course must be lecture-based, or lecture with corequisite lab, and not an independent research course):		3-5
BIOL 2311 to BIOL 5999		
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Advanced Science Requirement

Code	Title	Hours
BIOL 1111	General Biology 1	4
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	5
or CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
Advanced Chemistry Elective		
Complete one course in the following range (the course must be lecture-based, or lecture with corequisite lab, and not an independent research course):		3-5
CHEM 2310 to CHEM 5999		

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [2]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum required in CHME coursework

Program Requirement

135 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 (ND)	4	CHEM 2313	4	Vacation		BIOL 2301	4
CHEM 2311	4	CHEM 2314	1			BIOL 2302	1
CHEM 2312	1	CHEM 2321 (AD, WI)	4			CHME 2320	4
MATH 2321 (FQ)	4	CHEM 2322	1				
General Elective	4	CHEM 2323	0				
		CHME 2310	4				
		MATH 2341	4				
	17		**18**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 4510	4	BIOL 3611	4	Co-op	0
CHME 3322	4	CHME 4701	4	BIOL 3612 (WI)	1		
CHME 3305	4	Chemical Engineering Elective	4	General elective	4		
CHME 3306	0	Advanced CHEM elective	3				
ENGW 3302, 3307, or 3315 (WD)	4	ENCP 2000	1				
	16		**16**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	BIOL 4707	4
		CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		ENCP 3000	1

		Advanced BIOL elective	3				
	0		**16**				

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	General Elective	4		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1115 (ND)	4	CHEM 2313	4	Vacation		Co-op	0
CHEM 2311	4	CHEM 2314	1				
CHEM 2312	1	CHEM 2321 (AD, WI)	4				
CHME 2320	4	CHEM 2322	1				
MATH 2341	4	CHEM 2323	0				
ENCP 2000	1	CHME 2310	4				
		BIOL 2301	4				
		BIOL 2302	1				
	18		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3305	4	BIOL 3611	4	Co-op	0
		CHME 3306	0	BIOL 3612 (WI)	1		
		CHME 3312	4	Advanced CHEM elective	3		
		CHME 3322	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOL 4707	4	Vacation		Co-op	0
		CHME 4510	4				
		CHME 4701	4				
		ENCP 3000	1				
		Advanced BIOL elective	3				
	0		**16**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, WI, CE)	4
		CHME 4705	0
		Chemical Engineering Elective	4
		General Elective	4
	0		**16**

Total Hours: 135

Chemical Engineering and Bioengineering, BSChE

The Bachelor of Science in Chemical Engineering and Bioengineering provides students with a broad education built on fundamentals in science, mathematics, and engineering, with the breadth of knowledge and problem solving established in chemical engineering applied through a bioengineering focus. Chemical engineering and bioengineering have long been closely related, working to understand human diseases, developing new therapies and drug delivery systems, and producing new medicines through cell culture techniques. This specific combined major allows for chemical engineering expertise in advanced materials and chemical processes, with the additional specialized bioengineering mastery of the biological constraints intrinsic to supporting and designing systems to aid and repair living systems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Chemical Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
Chemical Engineering Elective		
Choose any 2000-5000 level chemical engineering course to meet this elective requirement. Research for credit may not be considered for this requirement.		4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Bioengineering Requirements

Code	Title	Hours
Core Bioengineering Courses		
BIOE 2355	Quantitative Physiology for Bioengineers	4
BIOE 3210	Bioelectricity	4
Cell and Tissue Engineering Courses		
BIOE 5410	Molecular Bioengineering	4
BIOE 5420	Cellular Engineering	4
BIOE 5430	Principles and Applications of Tissue Engineering	4

Bioengineering Capstone		
BIOE 4790	Capstone Design 1	4
BIOE 4792	Capstone Design 2	4

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
BIOL 1111	General Biology 1	4
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Courses

Code	Title	Hours
These courses are already required above and also fulfill the integrative requirement.		
CHME 4315	Chemical Engineering Experimental Design 2	4
CHME 4510	Chemical Engineering Kinetics	4

Major GPA Requirement

2.000 minimum GPA required in CHME coursework

2.000 minimum GPA required in all BIOE coursework

Program Requirement

135 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111 (ND)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	CHEM 2313	4	Vacation		Vacation	
CHEM 2311 (AD, WI)	4	CHEM 2314	1				
CHEM 2312	1	CHME 2310	4				
CHME 2308	4	CHME 2320	4				
MATH 2341	4	General elective	4				
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3210	4	BIOE 5410	4	BIOE 4790 (EI, CE, WI)	4	Co-op	
CHME 3312	4	BIOE 5420	4	General elective	4		
CHME 3322	4	CHME 3305	4				
ENGW 3302, 3307, or 3315 (WD)	4	CHME 3306	0				
		CHME 4510	4				
		ENCP 2000	1				
	16		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOE 4792 (EI, CE, WI)	4
		BIOE 5430	4
		CHME 4512	4
		ENCP 3000	1

		Chemical Engineering Elective	4				
	0		**17**				

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111 (ND)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2355	4	CHME 2310	4	Vacation		Co-op	
CHEM 2311 (AD, WI)	4	CHEM 2313	4				
CHEM 2312	1	CHEM 2314	1				
CHME 2308	4	CHME 2320	4				
MATH 2341	4	ENCP 2000	1				
		General elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOE 3210	4	Vacation		Co-op	
		CHME 3312	4				
		CHME 3322	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOE 5410	4	BIOE 4790 (EI, CE, WI)	4	Co-op	
		BIOE 5420	4	General elective	4		
		CHME 3305	4				
		CHME 3306	0				
		CHME 4510	4				
		ENCP 3000	1				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		BIOE 4792 (EI, CE, WI)	4
		BIOE 5430	4
		CHME 4512	4
		Chemical Engineering Elective	4
	0		**16**

Total Hours: 135

Chemical Engineering and Computer Science, BSChE

The Bachelor of Science in Chemical Engineering and Computer Science provides expertise in computational modeling and simulation of chemical processes. The curriculum is designed to prepare students to practice in the engineering and control of processes involving chemicals, biotechnology feedstocks, and pharmaceuticals, as well as the fundamentals of program design, software development, and algorithms and data.

Program educational objectives can be found on the department website (https://che.northeastern.edu/academics/undergraduate-studies/che-accreditation/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Computer Science Requirements

Code	Title	Hours
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		

CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With advisor approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2000 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Complete one of the following:		4-5
BIOL 1111	General Biology 1	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3307	Advanced Writing in the Sciences
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CHME 4512	Chemical Engineering Process Control	4

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

Minimum 2.000 GPA required in all CHME coursework

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

136 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1115 (ND)	4	CHME 2310	4	CS 3200 (FQ, AD)	4	Vacation	
CHME 2320	4	CS 2510 (ND, AD)	4	CS 3500 and CS 3501 (ND, AD)	5		
CS 1800 (FQ)	4	CS 2511	1				
CS 1802	1	MATH 2341	4				
CS 2500 (ND, FQ)	4	General elective	4				
CS 2501	1						
	18		**17**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 3305	4	Vacation		Co-op	0
CHME 3322	4	CHME 3306	0				
CS 3000	4	CHME 4510	4				
ENGW 3302, 3307, or 3315 (WD)	4	CHME 4701	4				
		ENCP 2000	1				
		Khoury Elective	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, WI, CE)	4
		CHME 4705	0
		CS 4500 (WI)	4
		ENCP 3000	1
		Khoury elective	4
	0		**17**

Total Hours: 136

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1115 (ND)	4	CHME 2310	4	Vacation		Co-op	0
CHME 2320	4	CS 2510 (ND, AD)	4				
CS 1800 (FQ)	4	CS 2511	1				
CS 1802	1	ENCP 2000	1				
CS 2500 (ND, FQ)	4	MATH 2341	4				
CS 2501	1	General elective	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 3312	4	CS 3200 (FQ, AD)	4	Co-op	0
		CHME 3322	4	CS 3500 and CS 3501 (ND, AD)	5		
		CS 3000	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
	0		**16**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3305	4	Vacation		Co-op	
		CHME 3306	0				
		CHME 4510	4				
		CHME 4701	4				
		ENCP 3000	1				
		Khoury Elective	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHME 4512 (EI, CE, WI)	4
		CHME 4703	4

	CHME 4705	0
	CS 4500 (WI)	4
	Khoury elective	4
0		**16**

Total Hours: 136

Chemical Engineering and Data Science, BSChE

Overview

The Bachelor of Science in Chemical Engineering and Data Science provides students with the technical and analytical skills to work with large datasets. The curriculum focuses on the application of data science methods to solve problems in the chemical engineering field, including the development of predictive models, optimization of processes, and the design of experiments. Students also have an opportunity to learn data visualization, machine learning, and artificial intelligence techniques.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience may fulfill the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Data Science Courses

Code	Title	Hours
Programming Sequence Pathways		
Complete one of the following two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	

CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081 and MATH 3082	Probability and Statistics and Recitation for MATH 3081	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Supplemental Credit		
1 semester hour from the following counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4

or ENGW 3307	Advanced Writing in the Sciences
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CHME 4512	Chemical Engineering Process Control	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial courses not used toward other requirements.		8

Major GPA Requirement

Minimum 2.000 GPA required in CHME courses

Minimum 2.000 GPA required in CS, CY, DS, and IS courses

Program Requirement

133 total semester hours required

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and 1502 in approved situations.

Plan of Study

Four Years, One Co-op in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2320	4	CHME 2310	4	CS 3200 (FQ, AD)	4	Vacation	0
CS 1800 (FQ)	4	ENCP 2000	1	DS 3500	4		
CS 1802	1	DS 2500	4				
DS 2000	2	DS 2501	1				
DS 2001	2	General elective	4				
MATH 2341	4	MATH 3081	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 3305	4	Vacation		Co-op	0
CHME 3322	4	CHME 3306	0				
ENGW 3302, 3307, or 3315 (WD)	4	CHME 4510	4				
DS 3000	4	CHME 4701	4				
		DS 4200	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4512	4
		CHME 4703 (EI, WI, CE)	4

	CHME 4705	0	
	ENCP 3000	1	
	DS 4300	4	
	DS 4400	4	
	0	**17**	

Total Hours: 134

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CHME 2308	4	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4	MATH 2321 (FQ)	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2320	4	CHME 2310	4	Vacation		Co-op	0
CS 1800 (FQ)	4	ENCP 2000	1				
CS 1802	1	DS 2500	4				
DS 2000	2	DS 2501	1				
DS 2001	2	MATH 3081	4				
MATH 2341	4	General elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 3312	4	CS 3200 (FQ, AD)	4	Co-op	0
		CHME 3322	4	DS 3500	4		
		ENGW 3302, 3307, or 3315 (WD)	4				
		DS 3000	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3305	4	Vacation		Co-op	
		CHME 3306	0				
		CHME 4510	4				
		CHME 4701	4				
		ENCP 3000	1				
		DS 4200	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHME 4512 (EI, CE, WI)	4
		CHME 4703	4
		CHME 4705	0
		DS 4300	4

	DS 4400	4
	0	**16**

Total Hours: 134

Chemical Engineering and Environmental Engineering, BSChE

The Bachelor of Science in Chemical Engineering and Environmental Engineering provides expertise in addressing a variety of environmental challenges built on fundamentals in engineering, chemical, biological, and ecological principles. The coursework is designed to prepare students to tackle interconnected challenges in water, energy, air quality, and related fields, through chemical engineering skills in the engineering and control of processes involving chemicals that impact our environment, exploring ways to reduce acid rain and smog; to recycle and reduce wastes; to develop new sources of environmentally clean energy; and to design inherently safe, efficient, and "green" processes.

Program Education Objectives can be found at the following websites:

- Accreditation - Department of Chemical Engineering (https://che.northeastern.edu/academics/undergraduate-studies/che-accreditation/)
- Accreditation - Department of Civil & Environmental Engineering (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/)

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Chemical Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Environmental Engineering

Code	Title	Hours
Core Environmental Engineering Courses		
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3430	Engineering Microbiology and Ecology	4

CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 3464	Probability and Engineering Economy for Civil Engineering	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
Environmental Engineering Elective Courses		
Complete at least three courses from the following list:		12
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5536	Hydrologic and Hydraulic Design	

Capstone

Code	Title	Hours
Complete at least one of the core Capstone courses from the following list:		4-5
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	
CIVE 4765	Senior Design Project—Environmental	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1

ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Course

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
CHME 2310	Transport Processes 1	4

Major GPA Requirement

2.000 minimum GPA required in CHME coursework

2.000 minimum GPA required in all CIVE coursework

Program Requirement

132 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	Science Elective (Earth)	4		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2310	4	CHME 3312	4	General elective	4	Vacation	
CHME 2320	4	CIVE 3430	4	General elective	4		
CIVE 2334	4	CIVE 3435	4				
MATH 2341	4	CIVE 3464	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3305	4	CHME 4510	4	Vacation		Co-op	
CHME 3306	0	CHME 4701	4				
CHME 3322	4	CIVE 5300	2				
CIVE 4534 (WI)	3	CIVE 5301	2				
CIVE 4535	1	ENCP 2000	1				
ENGW 3302, 3307, or 3315 (WD)	4	Environmental engineering elective	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		ENCP 3000	1
		Environmental engineering elective	4
		Environmental engineering elective	4
	0		**17**

Total Hours: 132

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	Science Elective (Earth)	4		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2310	4	CHME 3312	4	Vacation	0	Co-op	
CHME 2320	4	CIVE 2335	4				
CIVE 2334	4	CIVE 3430	4				
MATH 2341	4	CIVE 3435	4				
		ENCP 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 3315 (AD)	4	Vacation		Co-op	
		CHME 3316	0				
		CHME 3322	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
		CIVE 4534 (WI)	3				
		CIVE 4535	1				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 4315 (AD, WI)	4	General elective	4	Co-op	
		CHME 4316	0	General elective	4		
		CHME 4510	4				
		CHME 4701	4				
		CIVE 5300	2				
		CIVE 5301	2				
		ENCP 3000	1				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		Environmental engineering elective	4
		Environmental engineering elective	4
	0		**16**

Total Hours: 132

Chemical Engineering and Physics, BSChE

This intercollege combined major serves students who would like to explore their interest in physics while earning the benefit of a Bachelor of Science degree in chemical engineering. Upon completion, the successful student will understand the fundamental physics behind many chemical-based processes, resulting in the ability to design and practice in the field of engineering that deals with the movement of mass, heat transfer, and reactions involved in the processing of various materials.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
PHYS 3600	Advanced Physics Laboratory	4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science Requirement

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 5318	Principles of Experimental Physics	4
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Advanced Science Requirement

Code	Title	Hours
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
PHYS 2303	Modern Physics	4
PHYS 4115	Quantum Mechanics	4
Complete one of the following:		5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	
CHEM 2317 and CHEM 2318	Organic Chemistry 2 for Chemistry Majors and Lab for CHEM 2317	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 SH of academic, nonremedial, nonrepetitive courses.		8

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum required in CHME coursework

Program Requirement

135 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	0
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311	4	CHEM 2313	4	Vacation	0	Vacation	0
CHEM 2312	1	CHEM 2314	1				
CHME 2320	4	CHME 2310	4				
MATH 2341	4	CHME 3322	4				
PHYS 2371 (ND)	3	PHYS 2303 (ND)	4				
PHYS 2372 (EI)	1						
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 4510	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
ENGW 3302 or 3315 (WD)	4	CHME 4512	4	General Elective	4		
CHME 3305	4	CHME 4701	4				
CHME 3306	0	ENCP 2000	1				
General Elective	4	PHYS 3601 (ND)	4				
	16		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		ENCP 3000	1
		PHYS 3602 (ND)	4
		PHYS 4115 (ND, FQ)	4
		PHYS 5318 (ND, AD, WI, CE)	4
	0		**17**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	0
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311	4	CHEM 2313	4	Vacation	0	Co-op	0
CHEM 2312	1	CHEM 2314	1				
CHME 2320	4	CHME 2310	4				
MATH 2341	4	CHME 3322	4				
PHYS 2371 (ND)	3	ENCP 2000	1				
PHYS 2372 (EI)	1	PHYS 2303 (ND)	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3312	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
		ENGW 3302 or 3315 (WD)	4	General Elective	4		
		CHME 3305	4				
		CHME 3306	0				
		PHYS 3601 (ND)	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 4510	4	Vacation	0	Co-op	0
		CHME 4512	4				
		CHME 4701	4				
		ENCP 3000	1				
		PHYS 3602 (ND)	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		PHYS 4115 (ND, FQ)	4
		PHYS 5318 (ND, AD, WI, CE)	4
		General Elective	4
	0		**16**

Total Hours: 135

Notes

Physics courses are offered on the following schedule:

- Modern Physics (PHYS 2303) offered every fall, spring and summer 2.
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall.
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2.
- Classical Dynamics (PHYS 3601) is offered fall and spring semesters of even years only. Please meet with your academic advisor to discuss scheduling options for Year 4 of odd years.
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring.
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years).
- Quantum Mechanics (PHYS 4115) offered every fall and spring.
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years).
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years).
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years).

- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years).
- Medical Physics Seminar 2 (PHYS 4652) offered every spring.
- Principles of Experimental Physics (PHYS 5318) offered every spring.

Biochemical Engineering, Minor

This minor exposes the student to the fundamentals of chemical engineering. Focus is on the major conservation principles such as the conservation of mass and the conservation of energy, followed by how chemical reactions and processing are governed by these principles.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Courses taken pass/fail cannot be used to fulfill minor requirements.

Required Chemical Engineering Courses

Code	Title	Hours
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 3312	Transport Processes 2	4
CHME 5630	Biochemical Engineering	4

Capstone

Code	Title	Hours
CHME 4703	Chemical Process Design Capstone	4

Supporting Courses: Math and Science

Code	Title	Hours
MATH 1241	Calculus 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
MATH 1242	Calculus 2	4
or MATH 1342	Calculus 2 for Science and Engineering	
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
BIOL 2301	Genetics and Molecular Biology	4
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	5
CHEM 2313 and CHEM 2314 and CHEM 2320	Organic Chemistry 2 and Lab for CHEM 2313 and Recitation for CHEM 2313	5
Complete one of the following:		5
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1115 and BIOL 1116	General Biology 1 for Engineers and Lab for BIOL 1115	

GPA Requirement

2.000 GPA required in the minor

Civil and Environmental Engineering

Website (http://www.civ.neu.edu)

Jerome F. Hajjar, PhD, PE
CDM Smith Professor and Chair

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617.373.4419 (fax)

Overview

As a leader in research and education, the Department of Civil and Environmental Engineering at Northeastern University prepares undergraduate engineers to excel in their chosen careers, including engineering practice, academia, infrastructure management, land-use planning and development, urban and regional planning, public sector leadership, and many others.

Our students have an opportunity to obtain a broad knowledge base in science, engineering, and general studies that allows them flexibility in career development and graduate education. At the same time, our graduates should be responsible and scientifically educated citizens, prepared to contribute personally as well as professionally to an educated, democratic society. Our academic programs provide future professionals with the core skills necessary to practice civil and environmental engineering and to work with other engineers in an interdisciplinary environment.

Experience tells us that civil and environmental engineering graduates will enter almost every field imaginable. The knowledge and skills acquired—understanding science, critical thinking, effective communication, and understanding the social context, among them—form an excellent foundation for a host of careers, as well as for a fulfilling life outside the world of work.

Mission of the Department

Advancing innovative civil and environmental solutions for society and creating globally oriented engineering leaders by integrating experiential education and use-inspired interdisciplinary research.

Academic Programs

With a strategic focus in urban engineering, and through a range of teaching and research strengths, anchored by several multidisciplinary, multi-institutional centers and programs, our academic programs are designed to prepare future engineers to address the global, complex, and ever-evolving engineering challenges of our time by building on current department strengths and expanding into vital areas.

Three overarching themes are emphasized in our programs: environmental health, civil infrastructure security, and sustainable resource engineering. These themes are aligned with the department's premier strengths in simulation (both computational and experimental), smart sensing, data and network science, and urban informatics and are incorporated in the undergraduate programs we offer.

Successful graduates in civil engineering and environmental engineering will have the ability to create, invent, and lead a new generation of professionals and will be able to address key challenges to protect the natural environment and to design and create the built environment for community living, industry, and society development.

Our programs have been designed with a set of electives that permit students to explore or acquire further depth in other fields of interest. Students can use these electives to earn a minor in environmental chemistry, architectural engineering, business, architectural history, music, computer science, or any number of other fields. In the civil engineering field, our programs encompass several disciplines, including transportation planning and engineering; structural engineering; geotechnical engineering; environmental, water resources, and coastal engineering; and construction management. In the environmental engineering field, our programs include developing sustainable resource engineering solutions to environmental health needs with an understanding of institutional and legal frameworks, all related to interconnected challenges in water, energy, air pollution, and waste management, to protect and provide a better quality of life to the human race. For a full list of the department's academic program offerings, please refer to the programs tab.

Other Programmatic Features

By participating in our cooperative education program, our graduates will have an opportunity to explore what career objectives fit their own skills and interests. The goal of this component of our program is to offer students valuable professional experience and contacts that will help get them started in their professional career, as well as to develop career management skills. The co-op program parallels the academic program in level of responsibility and sophistication.

The department also offers significant research opportunities throughout all fields of civil and environmental engineering, including participating in research centers based in our department and college, as well as new interdisciplinary graduate and professional master's programs.

Programs

Bachelor of Science in Civil Engineering (BSCE)

- Civil Engineering (p. 1017)
- Civil Engineering and Architectural Studies (p. 149)
- Civil Engineering and Computer Science (p. 738)

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering and Environmental Engineering (p. 1004)

Bachelor of Science in Environmental Engineering (BSEnvE)

- Environmental Engineering (p. 1040)
- Environmental Engineering and Health Science (p. 1046)
- Environmental Engineering and Landscape Architecture (p. 158)

Minor

- Architectural Engineering (p. 1056)
- Civil Engineering (p. 1058)
- Environmental Chemistry (p. 1060)
- Environmental Engineering (p. 1062)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Civil Engineering, BSCE

Civil engineers play a vital role in human progress and well-being worldwide. Conceptualizing, innovating, designing, and building sustainable infrastructure and environments is fundamental in helping society progress. Modern challenges, including engineering a resilient and sustainable urban infrastructure; establishing clean water and a clean environment; and advancing technologies in computing, sensing, and human health, are all part of the development of society.

Civil engineers design and construct buildings, bridges, tunnels, dams, and river systems. They also plan, design, construct, and manage highways, railroads, canals, and airports; regulate rivers and control floods; and design and build systems for water distribution and environmental protection.

With a broad range of applications, our civil engineering students have the opportunity to explore a range of disciplinary and interdisciplinary tracks, including environmental and water systems, structural engineering, transportation engineering, geotechnical and geoenvironmental engineering, construction management, civil infrastructure security, environmental health, and sustainable resource engineering.

Our BS program in Civil Engineering is ABET accredited. Program educational outcomes can be found at the department's website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	5
CIVE 2320 and CIVE 2321	Structural Analysis and Recitation for CIVE 2320	4
CIVE 2324	Concrete Structure Design	4
or CIVE 3425	Steel Structure Design	
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Civil Engineering Project Elective		
Complete one of the following:		4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 5536	Hydrologic and Hydraulic Design	
Senior Design Project		
Complete one of the following:		5
CIVE 4765	Senior Design Project—Environmental	

CIVE 4767	Senior Design Project—Structural	
CIVE 4768	Senior Design Project—Transportation	
Civil Engineering Technical Electives		
Complete three of the following:		11-12
CIVE 2324	Concrete Structure Design	
CIVE 3425	Steel Structure Design	
CIVE 3435	Environmental Pollution: Fate and Transport	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4575	Construction Management	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 4780	Timber and Masonry Structures: Technology and Design Abroad	
CIVE 5221	Construction Project Control and Organization	
CIVE 5231	Alternative Project Delivery Systems in Construction	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5376	Traffic Engineering and Sustainable Urban Street Design	
CIVE 5520	Structural Systems	
CIVE 5522	Structural Systems Modeling	
CIVE 5524	Vibration-Based Structural Health Monitoring	
CIVE 5525	Prestressed Concrete Design	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5699	Special Topics in Civil Engineering	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	
SBSY 5250	Building Performance Simulation	
SBSY 5300	Information Systems for Integrated Project Delivery	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4

MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Science Elective		
Complete one of the following:		4-5
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1141	Microbes and Society	
BIOL 1143	Biology and Society	
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	
CHEM 3410	Environmental Geochemistry	
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	
EEMB 1450	Introduction to Marine Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 2515	Sustainable Development	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
ENVR 5350	Sustainable Energy and Climate Solutions	
PHYS 1111	Introduction to Astronomy	
PHYS 1125	Introduction to Network Science: From the Human Cell to Facebook	
PHYS 1132	Energy, Environment, and Society	
PHYS 1155 and PHYS 1156	Physics for Engineering 2 and Lab for PHYS 1155	
PHYS 4623	Medical Physics	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Supporting Course

Code	Title	Hours
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1

Additional Required Courses

1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 SH of academic, nonremedial, nonrepetitive courses.		24

Major GPA Requirement

2.000 minimum GPA required in CIVE coursework

Program Requirement

134 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CIVE 2221	4	General Elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	CIVE 2222	0	General Elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	MATH 2321 (FQ)	4		
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2260	4	CIVE 2320	4	CIVE 2324	4	Co-op	0
CIVE 2261 (AD)	1	CIVE 2321	0	General Elective	4		
CIVE 2334	4	CIVE 2331 or 2340 ***and*** 2341	4				
ECON 1115 or 1116 (SI, AD)	4	ENCP 2000	1				
MATH 2341	4	GE 3300	4				
		General Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 2331 or 2340 ***and*** 2341	5	ENGW 3302 or 3315 (WD)	4	Co-op	0
		CIVE 3464	4	General Elective	4		
		Civil Project Elective (WI)	4				
		Civil Tech. Elective	3				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765, 4767, or 4768 (EI, CE, WI)	5
		ENCP 3000	1
		Civil Tech. Elective	4
		Civil Tech. Elective	4
		Science Elective	4
	0		**18**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CIVE 2221	4	General Elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	CIVE 2222	0	General Elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	MATH 2321 (FQ)	4		
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2260	4	Co-op		Co-op		General Elective	4
CIVE 2261 (AD)	1					General Elective	4
CIVE 2320	4						
CIVE 2321	0						
CIVE 2334	4						
ENCP 2000	1						
MATH 2341	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2324	4	Co-op		Co-op		CIVE 2340	4
CIVE 2331	4					CIVE 2341	1
ECON 1115 or 1116 (SI, AD)	4					ENGW 3302 or 3315 (WD)	4
GE 3300	4						
	16		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
ENCP 3000	1	CIVE 4765, 4767, or 4768 (EI, CE, WI)	5
CIVE 3464	4	Civil Tech. Elective	4
Civil Project Elective (WI)	4	Civil Tech. Elective	4
Civil Tech. Elective	4	General Elective	4
Science Elective	4		
	17		**17**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2260	4	Vacation	0	Co-op	0
CIVE 2222	0	CIVE 2261 (AD)	1				
CIVE 2334	4	CIVE 2320	4				
ECON 1115 or 1116 (AD, SI)	4	CIVE 2321	0				
MATH 2321 (FQ)	4	ENCP 2000	1				
		GE 3300	4				
		MATH 2341	4				
	16		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 2331	4	CIVE 2324	4	Co-op	0
		CIVE 2340	4	General Elective	4		
		CIVE 2341	1				
		Civil Tech. Elective	4				
		Science Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3464	4	General Elective	4	Co-op	0
		ENCP 3000	1	General Elective	4		
		ENGW 3302 or 3315 (WD)	4				
		Civil Project Elective (WI)	4				
		Civil Tech. Elective	3				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765, 4767, or 4768 (EI, CE, WI)	5
		Civil Tech. Elective	4
		General Elective	4
		General Elective	4
	0		**17**

Total Hours: 134

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				

GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	Co-op	0	Co-op	0	Vacation	0
CIVE 2222	0						
CIVE 2260	4						
CIVE 2261 (AD)	1						
CIVE 2334	4						
ENCP 2000	1						
MATH 2321 (FQ)	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2320	4	Co-op	0	Co-op	0	CIVE 2340	4
CIVE 2321	0					CIVE 2341	1
CIVE 2331	4					MATH 2341	4
ECON 1115 or 1116 (AD, SI)	4						
GE 3300	4						
	16		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2324	4	Co-op	0	Co-op	0	General Elective	4
ENCP 3000	1					General Elective	4
ENGW 3302 or 3315 (WD)	4						
Civil Tech. Elective	3						
Science Elective	4						
	16		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
CIVE 3464	4	CIVE 4765, 4767, or 4768 (EI, CE, WI)	5
Civil Project Elective (WI)	4	Civil Tech. Elective	4
Civil Tech. Elective	4	General Elective	4
General Elective	4	General Elective	4
	16		**17**

Total Hours: 134

Civil Engineering and Architectural Studies, BSCE

Civil engineering and architecture are two important disciplines that deal with the process of creating the built environment to satisfy societal needs. Both professions have critical functions that are essential in the development of society in terms of planning cities and designing more resilient infrastructure and rely on one another to accomplish it. The combination of these two professions creates great synergy as architects focus more on the functional and human aspects of development, while civil engineers concentrate on the structural elements of the design, ensuring durable structures that perform under normal and extreme loads.

Students successfully completing the program receive a rigorous engineering training education, enabling a high level of engineering knowledge as well as exposure to a broad range of architectural topics and design experiences.

Students also have the opportunity to undertake a co-op experience consistent with the policies and opportunities offered within the College of Engineering.

Our BS program in Civil Engineering and Architectural Studies is ABET accredited. Visit the Department of Civil and Environmental Engineering website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program education outcomes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	5
CIVE 2320 and CIVE 2321	Structural Analysis and Recitation for CIVE 2320	4
CIVE 2324	Concrete Structure Design	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Civil Engineering Project Elective		
Complete one of the following:		4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 5536	Hydrologic and Hydraulic Design	
Senior Design Project		
CIVE 4767	Senior Design Project—Structural	5
Civil Engineering Technical Electives		
Complete one of the following:		4

CIVE 3425	Steel Structure Design	
CIVE 5522	Structural Systems Modeling	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Architectural Studies Requirements

Code	Title	Hours
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
ARCH 2130	Site, Space, Program	6
ARCH 2140	Urban Housing	6
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	4
ARCH 3210 and ARCH 3211	Environmental Systems and Recitation for ARCH 3210	4
Architectural Electives		
Complete two of the following:		8
ARCH 3370	Advanced Topics in Architectural History	
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 3450	Advanced Architectural Communication	
ARCH 4850	Urban and Architectural History Abroad	
ARCH 5115	Option Studio	
ARCH 5220	Integrated Building Systems	
ARCH 5310	Design Tactics and Operations	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Science Elective		
Complete one of the following:		4-5
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1141	Microbes and Society	

BIOL 1143	Biology and Society
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311
CHEM 3410	Environmental Geochemistry
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101
EEMB 1450	Introduction to Marine Biology
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
ENVR 1200	Dynamic Earth
ENVR 2200	Earth's Changing Cycles
ENVR 2515	Sustainable Development
ENVR 3125	Global Oceanic Change
ENVR 3200	Water Resources
ENVR 3600	Oceanography
ENVR 5201	Geologic Field Seminar
ENVR 5350	Sustainable Energy and Climate Solutions
PHYS 1111	Introduction to Astronomy
PHYS 1125	Introduction to Network Science: From the Human Cell to Facebook
PHYS 1132	Energy, Environment, and Society
PHYS 1155 and PHYS 1156	Physics for Engineering 2 and Lab for PHYS 1155
PHYS 4623	Medical Physics
Supplemental Credit	
3 semester hours from the following course count toward the mathematics/science requirement:	3
CIVE 3464	Probability and Engineering Economy for Civil Engineering
1 semester hour from the following course counts toward the mathematics/science requirement:	1
GE 1501	Cornerstone of Engineering 1 [1]

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4767	Senior Design Project—Structural	

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Engineering GPA Requirement

Minimum 2.000 GPA required in CIVE coursework.

Architecture GPA Requirement

Minimum 2.000 GPA required in all Architecture courses

Program Requirements

141 total semester hours required

Note:

1. Students who wish to be considered for the two-year Master of Architecture Program at Northeastern **should** take Advanced Architectural Communication (ARCH 3450) as an elective and **should not** take Option Studio (ARCH 5115) or Integrated Building Systems (ARCH 5220) as architectural electives.
2. Students who wish to be considered for the two-year Master of Architecture Program at Northeastern must have satisfied the Structural Systems (ARCH 5230) requirement. This requirement is achieved in this combined major by taking the following three courses, as follows:
   - Statics and Solid Mechanics (CIVE 2221), including Recitation for CIVE 2221 (CIVE 2222)
   - Structural Analysis (CIVE 2320), including Recitation for CIVE 2320 (CIVE 2321)
   - And at least one design course from the following:
     - Concrete Structure Design (CIVE 2324)
     - Steel Structure Design (CIVE 3425)

Plan of Study

Sample Plan of Study

FOUR YEARS, 1 CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (ND, EI)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						
MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1310 (IC, DD)	4	ARCH 2340 (IC, SI, WI)	4	CIVE 2324	4	Co-op	
ARCH 1311	0	ARCH 2341	0	GE 3300	4		
ARCH 2130	6	CIVE 2260	4				
CIVE 2221	4	CIVE 2261 (AD)	1				
CIVE 2222	0	CIVE 2320	4				
MATH 2341	4	CIVE 2321	0				
		CIVE 2334	4				
		ENCP 2000	1				
	18		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARCH 2140	6	Vacation		Vacation	
		ARCH 3210 (ND, AD)	4				
		ARCH 3211	0				
		CIVE 2331	4				

		CIVE 2340	4				
		CIVE 2341	1				
	0		**19**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours				
CIVE 3464	4	CIVE 4767 (EI, WI, CE)	5				
ENCP 3000	1	Architectural Elective	4				
ENGW 3302 or 3315 (WD)	4	Architectural Elective	4				
Civil Project Elective (WI)	4	Science Elective	4				
Civil Technical Elective (CIVE 3425 or CIVE 5522)	4						
	17		**17**				

Total Hours: 141

FIVE YEARS, 3 CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (ND, EI)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						
MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1310 (IC, DD)	4	CIVE 2260	4	Vacation		Co-op	
ARCH 1311	0	CIVE 2261 (AD)	1				
ARCH 2130	6	CIVE 2320	4				
CIVE 2221	4	CIVE 2321	0				
CIVE 2222	0	CIVE 2334	4				
MATH 2341	4	ENCP 2000	1				
		GE 3300	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARCH 2340 (IC, SI, WI)	4	CIVE 2324	4	Co-op	
		ARCH 2341	0	ENGW 3302 or 3315 (WD)	4		
		CIVE 2331	4				
		CIVE 2340	4				
		CIVE 2341	1				
		Civil Technical Elective (CIVE 3425 or CIVE 5522)	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ARCH 2140	6	Vacation		Co-op	
		ARCH 3210 (ND, AD)	4				
		ARCH 3211	0				
		CIVE 3464	4				
		ENCP 3000	1				

		Civil Project Elective (WI)	4		
	0		**19**	**0**	**0**

Year 5

Fall	**Hours**	**Spring**	**Hours**
Co-op		CIVE 4767 (EI, WI, CE)	5
		Architectural Elective	4
		Architectural Elective	4
		Science Elective	4
	0		**17**

Total Hours: 141

Civil Engineering and Computer Science, BSCE

The Bachelor of Science in Civil Engineering and Computer Science provides expertise in computational modeling and simulation of civil and environmental processes and systems. Students will be prepared for practice in the engineering and control of processes and systems vital for the sustainable development and management of civil and environmental infrastructure, as well as the fundamentals of program design, software development, and algorithms and data.

Computational and simulations-based approaches in engineering research and design practices have increased substantially in recent years in response to the rapidly increasing availability of data from remote and in-situ sensors as well as networked systems. Students who graduate with this combined major degree will have the breadth and depth of understanding and abilities to contribute to innovative and sustainable solutions to support global civil and environmental infrastructure demands.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Differences and Diversity (DD) are not explicitly satisfied by required engineering courses. Students are responsible for satisfying these requirements with their general elective.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	5
CIVE 2320 and CIVE 2321	Structural Analysis and Recitation for CIVE 2320	4
CIVE 2324	Concrete Structure Design	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Civil Engineering Project Elective		
Complete one of the following:		4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 5536	Hydrologic and Hydraulic Design	
Senior Design Elective		
Complete one of the following:		5
CIVE 4765	Senior Design Project—Environmental	
CIVE 4767	Senior Design Project—Structural	
CIVE 4768	Senior Design Project—Transportation	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
2 semester hours from the following course count toward the engineering requirement:		2

GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Computer Science Requirements

Code	Title	Hours
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 3000 and CS 3001	Algorithms and Data and Recitation for CS 3000	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Computer Science Elective		
Complete 8 semester hours of the following:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective		
Complete one of the following science electives:		4
PHYS 1125	Introduction to Network Science: From the Human Cell to Facebook	
PHYS 1132	Energy, Environment, and Society	
ENVR 2515	Sustainable Development	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1

ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses.		4

Integrative Course

Code	Title	Hours
Students will complete one of these courses as part of their required courses above.		
CIVE 4765	Senior Design Project—Environmental	
CIVE 4767	Senior Design Project—Structural	
CIVE 4768	Senior Design Project—Transportation	

Engineering GPA Requirement

Minimum 2.000 GPA required in CIVE and GE courses

Khoury GPA Requirement

Minimum 2.000 GPA required in CS, CY, DS, and IS courses

Program Requirements

139 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151	4	GE 1502 (ER)	4	CS 1800 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	CS 1802	1		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	CS 2500 (FQ, ND)	4		
GE 1000	1	PHYS 1152 (AD)	1	CS 2501	1		
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective (IC, DD)	4				
	17		**17**		**10**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2260	4	Vacation		CIVE 2340	4
CIVE 2222	0	CIVE 2261 (AD)	1			CIVE 2341	1
CIVE 2334	4	CIVE 2320	4			MATH 2341	4
CS 2510 (AD, ND)	4	CIVE 2321	0				
CS 2511	1	CIVE 2331	4				
ENCP 2000	1	CIVE 3464	4				

MATH 2321 (FQ)	4						
	18		**17**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2324	4	Co-op		Co-op		Vacation	
CS 3000	4						
CS 3001	0						
CS 3200 (AD, FQ)	4						
Civil project elective	4						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CS 3500 and CS 3501 (AD, ND)	5	CS 4500 (WI)	4
ENCP 3000	1	GE 3300	4
ENGW 3302 or 3315 (WD)	4	Senior design elective (EI, WI, CE)	5
Khoury Elective	4	Khoury Elective	4
Science elective (SI)	4		
	18		**17**

Total Hours: 139

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151	4	GE 1502 (ER)	4	CS 1800 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	CS 1802	1		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	CS 2500 (FQ, ND)	4		
GE 1000	1	PHYS 1152 (AD)	1	CS 2501	1		
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective (IC, DD)	4				
	17		**17**		**10**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	Co-op	0	Co-op	0	CIVE 2340	4
CIVE 2222	0					CIVE 2341	1
CIVE 2260	4					MATH 2341	4
CIVE 2261 (AD)	1						
CIVE 2334	4						
ENCP 2000	1						
MATH 2321 (FQ)	4						
	18		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours
CIVE 2320	4	Co-op	0	Co-op	0
CIVE 2321	0				
CIVE 2331	4				
CIVE 3464	4				
CS 2510 (AD, ND)	4				
CS 2511	1				
	17		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2324	4	Co-op	0	Co-op	0	Vacation	
CS 3000	4						
CS 3001	0						
CS 3200 (AD, FQ)	4						
Civil project elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
CS 3500 and CS 3501 (AD, ND)	5	CS 4500 (WI)	4
ENCP 3000	1	GE 3300	4
ENGW 3302 or 3315 (WD)	4	Senior design elective (EI, WI, CE)	5
Khoury Elective	4	Khoury Elective	4
Science elective (SI)	4		
	18		**17**

Total Hours: 139

Chemical Engineering and Environmental Engineering, BSChE

The Bachelor of Science in Chemical Engineering and Environmental Engineering provides expertise in addressing a variety of environmental challenges built on fundamentals in engineering, chemical, biological, and ecological principles. The coursework is designed to prepare students to tackle interconnected challenges in water, energy, air quality, and related fields, through chemical engineering skills in the engineering and control of processes involving chemicals that impact our environment, exploring ways to reduce acid rain and smog; to recycle and reduce wastes; to develop new sources of environmentally clean energy; and to design inherently safe, efficient, and “green” processes.

Program Education Objectives can be found at the following websites:

- Accreditation - Department of Chemical Engineering (https://che.northeastern.edu/academics/undergraduate-studies/che-accreditation/)
- Accreditation - Department of Civil & Environmental Engineering (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/)

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Chemical Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Environmental Engineering

Code	Title	Hours
Core Environmental Engineering Courses		
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3430	Engineering Microbiology and Ecology	4

CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 3464	Probability and Engineering Economy for Civil Engineering	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
Environmental Engineering Elective Courses		
Complete at least three courses from the following list:		12
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5536	Hydrologic and Hydraulic Design	

Capstone

Code	Title	Hours
Complete at least one of the core Capstone courses from the following list:		4-5
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	
CIVE 4765	Senior Design Project—Environmental	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1

ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Course

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
CHME 2310	Transport Processes 1	4

Major GPA Requirement

2.000 minimum GPA required in CHME coursework

2.000 minimum GPA required in all CIVE coursework

Program Requirement

132 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	Science Elective (Earth)	4		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2310	4	CHME 3312	4	General elective	4	Vacation	
CHME 2320	4	CIVE 3430	4	General elective	4		
CIVE 2334	4	CIVE 3435	4				
MATH 2341	4	CIVE 3464	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3305	4	CHME 4510	4	Vacation		Co-op	
CHME 3306	0	CHME 4701	4				
CHME 3322	4	CIVE 5300	2				
CIVE 4534 (WI)	3	CIVE 5301	2				
CIVE 4535	1	ENCP 2000	1				
ENGW 3302, 3307, or 3315 (WD)	4	Environmental engineering elective	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		ENCP 3000	1
		Environmental engineering elective	4
		Environmental engineering elective	4
	0		**17**

Total Hours: 132

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4	Science Elective (Earth)	4		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 2310	4	CHME 3312	4	Vacation	0	Co-op	
CHME 2320	4	CIVE 2335	4				
CIVE 2334	4	CIVE 3430	4				
MATH 2341	4	CIVE 3435	4				
		ENCP 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 3315 (AD)	4	Vacation		Co-op	
		CHME 3316	0				
		CHME 3322	4				
		ENGW 3302, 3307, or 3315 (WD)	4				
		CIVE 4534 (WI)	3				
		CIVE 4535	1				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHME 4315 (AD, WI)	4	General elective	4	Co-op	
		CHME 4316	0	General elective	4		
		CHME 4510	4				
		CHME 4701	4				
		CIVE 5300	2				
		CIVE 5301	2				
		ENCP 3000	1				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHME 4512	4
		CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		Environmental engineering elective	4
		Environmental engineering elective	4
	0		**16**

Total Hours: 132

Environmental Engineering, BSEnvE

Throughout the world, environmental engineers play a key role in defining the future of sustainable cities and communities. Creating innovations and designing systems that ensure clean and healthy environments are some of the greatest collective challenges of our time. Revolutionary strategies and designs are needed to create symbiosis between our natural and manmade environments.

Using new and advanced technologies, environmental engineers must address the world's growing challenges, including engineering sustainable strategies coupled with the development of devices and tools to better predict and address environmental needs to provide clean environments and planning green infrastructure in conjunction with the natural environment for a changing planet.

With a solid foundation in engineering, chemical, biological, and ecological principles, Northeastern's environmental engineering students learn how to tackle interconnected challenges as they relate to water, energy, air quality, and related fields. Understanding these complex interactions, particularly as they impact our built and natural environments, is embodied in our program through a holistic educational approach.

Our BS Environmental Engineering program is ABET accredited. Visit the department website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
CIVE 4765	Senior Design Project—Environmental	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Environmental Engineering Technical Electives		
Complete 15-17 semester hours from the following:		15-17
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4575	Construction Management	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	

CIVE 5250	Organic Pollutants in the Environment	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5670	Global Biogeochemistry	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
3 semester hours from the following course count toward the engineering requirement:		3
CIVE 3430	Engineering Microbiology and Ecology	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1120	Oceans and Coasts	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
CIVE 3430	Engineering Microbiology and Ecology	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 SH of academic, nonremedial, nonrepetitive courses.		28

Major GPA Requirement

2.000 minimum GPA required in CIVE coursework

Program Requirement

132 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2 / FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CIVE 2221	4	General Elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	CIVE 2222	0	General Elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	MATH 2321 (FQ)	4		
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2334	4	CIVE 2331	4	General Elective	4	Co-op	0
GE 3300	4	CIVE 3435	4	General Elective	4		
MATH 2341	4	CIVE 3464	4				
CIVE 2300 and CIVE 2301	4	ENCP 2000	1				
		Science Elective (Earth)	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3430	4	ENGW 3302 or 3315 (WD)	4	Co-op	0
		CIVE 4534 (WI)	3	General Elective	4		
		CIVE 4535	1				
		Environmental Tech. Elective	4				
		Environmental Tech. Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, WI, CE)	5
		ENCP 3000	1
		General Elective	4
		Environmental Tech Elective	4
		Environmental Tech Elective	3
	0		**17**

Total Hours: 132

FOUR YEARS, TWO CO-OPS IN SUMMER 1 / SPRING

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	CIVE 2221	4	General Elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	CIVE 2222	0	General Elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3	MATH 2321 (FQ)	4		
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2334	4	Co-op	0	Co-op	0	General Elective	4
CIVE 2300 and CIVE 2301	4					General Elective	4
ENCP 2000	1						
MATH 2341	4						
CIVE 3464	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2331	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
CIVE 3435	4					General Elective	4
GE 3300	4						
Science Elective (Earth)	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CIVE 3430	4	CIVE 4765 (EI, WI, CE)	5
CIVE 4534 (WI)	3	ENCP 3000	1

CIVE 4535	1	Environmental Tech. Elective	3
Environmental Tech. Elective	4	Environmental Tech Elective	4
Environmental Tech. Elective	4	General Elective	4
	16		**17**

Total Hours: 132

FIVE YEARS, THREE CO-OPS IN SUMMER 2 / FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
ENGW 1111 (WF)	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	Vacation		Co-op	0
CIVE 2222	0	CIVE 2300 and CIVE 2301	4				
CIVE 2334	4	ENCP 2000	1				
GE 3300	4	MATH 2341	4				
MATH 2321 (FQ)	4						
	16		**13**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3430	4	General Elective	4	Co-op	0
		CIVE 3435	4	General Elective	4		
		Environmental Tech. Elective	4				
		Science Elective (Earth)	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3464	4	General Elective	4	Co-op	0
		CIVE 4534 (WI)	3	General Elective	4		
		CIVE 4535	1				
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		Environmental Tech. Elective	4				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, WI, CE)	5
		Environmental Tech. Elective	3
		Environmental Tech. Elective	4
		General Elective	4

		General Elective	4
	0		**20**

Total Hours: 132

FIVE YEARS, THREE CO-OPS IN SUMMER 1 / SPRING

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	Co-op	0	Co-op	0	Vacation	
CIVE 2222	0						
CIVE 2334	4						
CIVE 2300 and CIVE 2301	4						
ENCP 2000	1						
MATH 2321 (FQ)	4						
	17		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2331	4	Co-op	0	Co-op	0	General Elective	4
GE 3300	4					General Elective	4
MATH 2341	4						
CIVE 3464	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 3430	4	Co-op	0	Co-op	0	General Elective	4
CIVE 3435	4					General Elective	4
Civil Tech. Elective	4						
Science Elective (Earth)	4						
	16		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
CIVE 4534 (WI)	3	CIVE 4765 (EI, WI, CE)	5
CIVE 4535	1	Environmental Tech. Elective	3
ENCP 3000	1	Environmental Tech. Elective	4
ENGW 3302 or 3315 (WD)	4	General Elective	4
Environmental Tech. Elective	4		
	4		
	17		**16**

Total Hours: 132

Environmental Engineering and Health Science, BSEnvE

This intercollege combined major is designed for students who would like to explore their interest in the health sciences while earning the benefit of a Bachelor of Science degree in environmental engineering. The combined major reflects the respective departmental thrusts in environmental health and sustainable resource engineering to create awareness about the complex relationship between the environment and human health, prepare professionals in this growing area capable of providing engineering solutions to current and emerging topics related to environmental engineering and health sciences, and maintain healthy environmental systems by applying and developing techniques to reduce exposure to health hazards. This program combines the content of two majors to allow students to learn the breadth and depth of of the convergence between public health and environmental engineering.

Our BS Environmental Engineering and Health Sciences program is ABET accredited. Visit the department website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
CIVE 4765	Senior Design Project—Environmental	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Technical Electives		
Complete 8-9 semester hours from the following:		8-9
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5255	Tools and Techniques of Environmental Health	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	

CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5670	Global Biogeochemistry	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
3 semester hours from the following course count toward the engineering requirement:		3
CIVE 3430	Engineering Microbiology and Ecology	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Health Sciences Major Requirements

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2414	Environmental Health	4
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
PHTH 5214	Environmental Health	3-4
or CIVE 5255	Tools and Techniques of Environmental Health	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.[2]

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1120	Oceans and Coasts	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	

ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
CIVE 3430	Engineering Microbiology and Ecology	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Course

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4765	Senior Design Project—Environmental	

Engineering GPA Requirement

A minimum 2.000 GPA is required in CIVE coursework

Health Sciences Major Requirement

A minimum grade of C or higher is required for all HLTH and PHTH courses[2]

Program Requirement

132 total semester hours required

1 Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

2 Mathematics/Science Requirement: CHEM 1151, MATH 1341, and PHYS 1151 require a grade of C- or higher.

Plan of Study

Sample Plans of Study

FOUR YEARS, 1 CO-OP SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHTH 1260 (SI)	4		
ENGW 1111 (WF)	4	PHTH 2210 and PHTH 2211 (FQ, AD)	4				

GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	MATH 2341	4	Co-op	0
CIVE 2222	0	CIVE 3430	4	PHTH 2350 (SI)	4		
CIVE 2334	4	ENCP 2000	1				
CIVE 2300 and CIVE 2301	4	PHTH 2414	4				
PHTH 2515	4	CIVE 3464	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3435	4	Vacation		Vacation	
		GE 3300	4				
		PHTH 4120 (IC, DD)	4				
		PHTH 4202	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CIVE 4534 (WI)	3	CIVE 4765 (EI, WI, CE)	5
CIVE 4535	1	PHTH 5214 or CIVE 5255	3
ENCP 3000	1	Science Elective (Earth)	4
ENGW 3302 or 3315 (WD)	4	Environmental Tech. Elective	4
PHTH 4540 (WI)	4		
Environmental Tech. Elective	4		
	17		**16**

Total Hours: 132

FIVE YEARS, 3 CO-OPS SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHTH 1260 (SI)	4		
ENGW 1111 (WF)	4	PHTH 2210 and PHTH 2211 (FQ, AD)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	MATH 2341	4	Co-op	0
CIVE 2222	0	CIVE 3430	4	PHTH 2350 (SI)	4		
CIVE 2334	4	CIVE 3464	4				
CIVE 2300 and CIVE 2301	4	ENCP 2000	1				
PHTH 2515	4	PHTH 2414	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3435	4	Vacation		Co-op	0
		GE 3300	4				
		PHTH 4540 (WI)	4				
		PHTH 4202	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 4534 (WI)	3	Vacation		Co-op	0
		CIVE 4535	1				
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		PHTH 4120 (IC, DD)	4				
		Environmental Tech. Elective	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, WI, CE)	5
		PHTH 5214 or CIVE 5255	3
		Science Elective (Earth)	4
		Environmental Tech. Elective	4
	0		**16**

Total Hours: 132

Environmental Engineering and Landscape Architecture, BSEnvE

Environmental engineering and landscape architecture are two important disciplines that deal with the complex interaction between the natural and the built environment. Both professions have critical functions that are essential in the development of society in terms of planning and designing more sustainable cities. The combination of these two professions creates great synergy and seeks to expose engineering students to the conceptual and practical content of landscape planning. Successful graduates from this degree are prepared to imagine and create projects that can be translated into reality providing solutions to address the world's growing challenges by designing clean and sustainable environments and green infrastructure.

Students completing the combined major Bachelor of Science in Environmental Engineering and Landscape Architecture receive a rigorous engineering training education, enabling a high level of engineering knowledge as well as exposure to a broad range of landscape architectural topics and design experiences.

Students will also have the opportunity to undertake a co-op experience consistent with the policies and opportunities offered within the College of Engineering.

Visit the department website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program outcomes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Senior Design Project		
CIVE 4765	Senior Design Project—Environmental	5
Environmental Engineering Technical Elective [1]		
Complete 7-9 semester hours from the following:		7-9
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4575	Construction Management	

CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5670	Global Biogeochemistry	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
3 semester hours from the following course count toward the engineering requirement:		3
CIVE 3430	Engineering Microbiology and Ecology	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Landscape Architecture Requirements

Code	Title	Hours
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310 and ARCH 1311	Buildings and Cities, A Global History and Recitation for ARCH 1310	4
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	4
LARC 2230	Introduction to Sustainable Site Planning and Design	4
LARC 2240	Sustainable Site Construction and Detailing	4
LARC 2430	Plants, People, and Landscape Change	4
LARC 2440	Planting Design	4
LARC 5420	Professional Practice in Landscape Architecture	4
or LARC 2340	Cities, Landscape, and Contemporary Culture	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	

Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1120	Oceans and Coasts	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
CIVE 3430	Engineering Microbiology and Ecology	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [2]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [2]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [2]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4765	Senior Design Project—Environmental	

Engineering GPA Requirement

Minimum 2.000 GPA required in all CIVE coursework

Landscape Architecture GPA Requirement

Minimum 2.500 GPA required in all major courses

Program Requirement

134 total semester hours required

1 Students can substitute one Environmental Tech. Elective for Sustainable Urban Site Design (LARC 2130) in approved situations.

2 Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, 1 CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (EI, ND)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						
MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2334	4	ARCH 1310 (IC, DD)	4	CIVE 2221	4	Co-op	0
LARC 2230 (ND)	4	ARCH 1311	0	CIVE 2222	0		
LARC 2430 (ND)	4	CIVE 3430	4	GE 3300	4		
MATH 2341	4	CIVE 2300 and CIVE 2301	4				
		CIVE 3464	4				
		ENCP 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ARCH 2340 (IC, SI, WI)	4	Vacation		Vacation	
		ARCH 2341	0				
		CIVE 2331	4				
		LARC 2240	4				
		LARC 2440	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CIVE 3435	4	CIVE 4765 (EI, CE, WI)	5
CIVE 4534 (WI)	3	LARC 5420 or 2340 (IC, SI, WI)	4
CIVE 4535	1	Science Elective (Earth)	4
ENCP 3000	1	Environmental Tech. Elective	4
ENGW 3302 or 3314 (WD)	4		
Environmental Tech. Elective	3		
	16		**17**

Total Hours: 134

FIVE YEARS, 3 CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ARCH 1110 (EI)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	ARCH 1120 (EI, ND)	6	PHYS 1151 (ND)	3		
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1152 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1153	1		
GE 1501	4						

MATH 1341 (FQ)	4						
	17		**18**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2334	4	ARCH 1310 (IC, DD)	4	CIVE 2221	4	Co-op	0
LARC 2230 (ND)	4	ARCH 1311	0	CIVE 2222	0		
LARC 2430 (ND)	4	CIVE 3430	4	GE 3300	4		
MATH 2341	4	CIVE 3464	4				
		CIVE 2300 and CIVE 2301	4				
		ENCP 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 2331	4	Vacation		Co-op	0
		CIVE 3435	4				
		LARC 2440	4				
		Science Elective (Earth)	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ARCH 2340 (IC, SI, WI)	4	Vacation		Co-op	0
		ARCH 2341	0				
		CIVE 4534 (WI)	3				
		CIVE 4535	1				
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		LARC 2240	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, CE, WI)	5
		LARC 5420 or 2340 (IC, SI, WI)	4
		Environmental Tech. Elective	3
		Environmental Tech. Elective	4
	0		**16**

Total Hours: 134

Architectural Engineering, Minor

Architectural engineering is a field of engineering that encompasses elements of civil engineering, mechanical engineering, architecture, and related fields to plan, design, and create buildings within the urban environment. It includes the architectural and structural design, mechanical systems design, computational controls and sensing, and sustainable engineering strategies.

The Department of Civil and Environmental Engineering recognizes the importance of interdisciplinary work and of exposing students to the great richness in a classroom of diverse students from multiple majors bringing their own perspectives. The prospect of engineering students in architecture classes and vice versa stands to benefit all the students, whether or not they are enrolled in the minor.

The minor in architectural engineering opens opportunities for students across the university who are interested in a unique and multidisciplinary approach to the built environment. For engineering students, this minor offers an opportunity to work in the built environment and to better understand architecture, while for architecture students this is an opportunity to acquire the technical knowledge of a course of study in an engineering minor.

A total of 20 semester hours (SH) are required to complete this minor. Students will be required to complete 8 SH of required courses and 12 SH of approved elective courses from several colleges and departments at the university. Students interested in this minor must contact the civil engineering academic advisor in order to declare the minor.

This minor in architectural engineering is designed for any major and is open to any undergraduate student at the university.

Students may double count no more than two courses with any major or graduate degree requirement, other than general electives.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs and recitations courses where specified.

Required Courses

Code	Title	Hours
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
ARCH 3210 and ARCH 3211	Environmental Systems and Recitation for ARCH 3210	4

Electives

ARCHITECTURE ELECTIVES

Code	Title	Hours
Complete one of the following:		4
ARCH 2240	Architectonic Systems	
ARCH 2330 and ARCH 2331	Architecture and the City in the Nineteenth Century and Recitation for ARCH 2330	
ARCH 2340 and ARCH 2341	Modern Architecture and Recitation for ARCH 2340	
ARCH 5220	Integrated Building Systems	
LARC 2230	Introduction to Sustainable Site Planning and Design	
LARC 2240	Sustainable Site Construction and Detailing	

ENGINEERING ELECTIVES

Code	Title	Hours
Complete one or two of the following:		8
CIVE 2320 and CIVE 2321	Structural Analysis and Recitation for CIVE 2320	
CIVE 2324	Concrete Structure Design	
CIVE 3425	Steel Structure Design	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5520	Structural Systems	
CIVE 5522	Structural Systems Modeling	
CIVE 5699	Special Topics in Civil Engineering (Vibration-based Structural Health Monitoring)	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	
SBSY 5250	Building Performance Simulation	

SBSY 5300	Information Systems for Integrated Project Delivery
If only one course was taken above, complete one course from the following:	
GE 3300	Energy Systems: Science, Technology, and Sustainability
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340
CIVE 4542	Foundation Engineering and Design
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure

GPA Requirement

2.000 GPA required in the minor

Civil Engineering, Minor

The minor in civil engineering opens opportunities for students across the university who are interested in gaining knowledge in urban engineering through the core disciplines within the Department of Civil and Environmental Engineering.

A total of 16 semester hours are required to complete this minor. Students interested in this minor must contact the civil and environmental engineering academic advisor in order to declare the minor. This minor is not open to civil engineering or environmental engineering majors.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs and recitations courses where specified.

Required Courses

Code	Title	Hours
Choose four courses from the following list:		16
CIVE 2221	Statics and Solid Mechanics	
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2320	Structural Analysis	
CIVE 2324	Concrete Structure Design	
CIVE 2331	Fluid Mechanics and Hydraulics	
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	
CIVE 2335	Environmental Engineering Chemistry	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3425	Steel Structure Design	
CIVE 3430	Engineering Microbiology and Ecology	
CIVE 3435	Environmental Pollution: Fate and Transport	
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
CIVE 4534	Water Treatment Systems Design	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4542	Foundation Engineering and Design	
CIVE 4554	Highway Design	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4575	Construction Management	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 4780	Timber and Masonry Structures: Technology and Design Abroad	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5221 and CIVE 5231	Construction Project Control and Organization and Alternative Project Delivery Systems in Construction	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5373	Transportation Systems: Analysis and Planning	
CIVE 5376	Traffic Engineering and Sustainable Urban Street Design	
CIVE 5520	Structural Systems	
CIVE 5522	Structural Systems Modeling	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5699	Special Topics in Civil Engineering (Vibration-based Structural Health Monitoring)	
SBSY 5100	Sustainable Design and Technologies in Construction	
SBSY 5200	Sustainable Engineering Systems for Buildings	

SBSY 5250	Building Performance Simulation
SBSY 5300	Information Systems for Integrated Project Delivery

GPA Requirement

2.000 GPA required in the minor

Environmental Chemistry, Minor

The minor in environmental chemistry offers an opportunity for students of any background interested in environmental sciences to better understand the chemistry of the environment. Students completing the minor in environmental chemistry have an opportunity to learn about the chemical processes of natural systems and environmental pollutants, while earning a credential that highlights their interest and expertise. This can be a useful course of study whether their primary degree and career will be in one of the traditional chemical, environmental, or engineering programs, or another allied field. No more than two courses (totaling 8 SH to 10 SH) may double count with any major degree requirements.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than two courses (totaling 8 SH to 10 SH) may double count with any major degree requirements.

Required Courses

Code	Title	Hours
Environmental Chemistry Core		
Complete one of the following:		4
CIVE 2335	Environmental Engineering Chemistry	
ENVR 3410	Environmental Geochemistry	
Chemistry Core		
Complete one of the following:		5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
Research Experience		
Complete one of the following:		4
CHEM 4750	Senior Research	
CHEM 4901	Undergraduate Research	
CHEM 4992	Directed Study	
CIVE 4991	Research	
CIVE 4992	Directed Study	
ENVR 4900	Earth and Environmental Science Capstone	
or ENVR 4997	Senior Thesis	
ENVR 4992	Directed Study	

Electives

Code	Title	Hours
Complete two of the following:		8-9
CIVE 2335	Environmental Engineering Chemistry (If not used to satisfy Environmental Chemistry Core)	
CIVE 3435	Environmental Pollution: Fate and Transport	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
ENVR 3125	Global Oceanic Change	
ENVR 3410	Environmental Geochemistry (If not used to satisfy Environmental Chemistry Core)	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 4504	Environmental Pollution	
ENVR 4505	Wetlands	
ENVR 5190	Soil Science	

GPA Requirement

Minimum 2.000 GPA required in all major courses

Credit Requirement

Minimum of 21 hours required

Environmental Engineering, Minor

Overview

The minor in environmental engineering opens opportunities for students across the university who are interested in gaining knowledge in issues related to the environment and associated engineering solutions as presented through courses from the Department of Civil and Environmental Engineering.

A total of 16 semester hours is required to complete this minor. Students interested in this minor must contact the civil and environmental engineering academic advisor in order to declare the minor. This minor is open to engineering and nonengineering students, except for civil engineering or environmental engineering majors.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs and recitations courses where specified.

Required Course

Code	Title	Hours
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4

Electives

Code	Title	Hours
Complete 12 semester hours from the following:		12
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	
CIVE 2331	Fluid Mechanics and Hydraulics	
CIVE 2335	Environmental Engineering Chemistry	
CIVE 3430	Engineering Microbiology and Ecology	
CIVE 3435	Environmental Pollution: Fate and Transport	
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	
CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
GE 3300	Energy Systems: Science, Technology, and Sustainability	

GPA Requirement

2.000 GPA required in CIVE and GE courses

Electrical and Computer Engineering

Website (http://www.ece.neu.edu)

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Electrical and computer engineering is a discipline that prepares graduates to solve problems across a diverse array of industries. Coursework is drawn from a curriculum that includes cutting-edge ECE technologies: embedded systems and Internet of Things, robotics and cyber-human systems, networking (mobile/wireless as well as the internet of the future), and Big Data analytics and machine learning. Northeastern University's historical strengths in ECE include communications and digital signal processing, power and control systems, power electronics, RF/microwave magnetic materials, device technologies, computer engineering, networking, and robotics. The Department of Electrical and Computer Engineering is deeply committed to training and educating the next generation of electrical and computer engineers through Northeastern's experiential learning model and comprehensive pedagogy. BS, MS, and PhD degrees are offered in both electrical and computer engineering.

Overview of Programs Offered

Please see the programs tab (p. 1063) for a list of the department's academic programs.

Successful engineers need to organize and adapt information to solve problems. They also must work effectively in teams and communicate well. Therefore, the goal of the electrical engineering and computer engineering programs is to help students develop these skills and provide the appropriate technical background for a successful career.

The curricula are continuously assessed to ensure that graduates can achieve these goals and go on to succeed as professional electrical or computer engineers. The Bachelor of Science programs allow students sufficient flexibility within the standard eight academic semesters to earn a minor in nearly any department in the university. Typical minors might include physics, math, computer science, or business, but students might also organize their course of study to earn a minor in economics, English, or music.

The academic program is supported by extensive laboratory facilities for study and experimentation in computing, circuit analysis, electronics, digital systems, microwaves, control systems, semiconductor processing, very large-scale integration (VLSI) design, and digital signal processing. Students have access to state-of-the-art computing facilities, including numerous Linux and Windows-based workstations. Several introductory electrical and computer engineering courses meet in integrated lab-classrooms where students and professors, assisted by undergraduate and graduate teaching assistants, work together on both theoretical and practical aspects of a wide range of signal processing and computing systems.

Mission of the Department

The primary educational missions of the Department of Electrical and Computer Engineering are to educate undergraduate students so they have the opportunity to obtain successful careers in electrical and computer engineering and related disciplines and pursue advanced study, such as graduate study in engineering or related disciplines, and to educate graduate students so they can make meaningful contributions to the research and industrial communities.

Other Programmatic Features

More than 90% of department undergraduates take advantage of the cooperative education program. During the cooperative education phase of the program, the students' responsibilities grow as they gain theoretical and technical knowledge through applicable work experience. A second-year student might begin cooperative education experience in engineering from various entry points and progress by the senior year to a position with responsibilities similar to those of entry to midlevel engineers.

The department also offers significant research opportunities throughout all fields of electrical and computer engineering, including participating in research centers based in our department and college.

A senior-year design course caps the education by drawing on everything learned previously. Teams of students propose, design, and build a functioning electrical or computer engineering system—just as they might in actual practice.

Programs

Bachelor of Science in Computer Engineering (BSCmpE)

- Computer Engineering (p. 1065)
- Computer Engineering and Computer Science (p. 743)
- Computer Engineering and Physics (p. 1071)

Bachelor of Science in Electrical Engineering (BSEE)

- Electrical Engineering (p. 1084)
- Electrical Engineering and Music with Concentration in Music Technology (p. 485)
- Electrical Engineering and Physics (p. 1090)

Combined Major (BSEE or BSCmpE)

- Electrical and Computer Engineering (p. 1101)

Minors

- Biomedical Engineering (p. 1106)
- Computational Data Analytics (p. 1109)
- Computer Engineering (p. 1108)
- Electrical Engineering (p. 1110)
- Robotics (p. 1111)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Computer Engineering, BSCmpE

The use of computer technology is exploding, driven by applications in wireless communications, multimedia, portable devices, and internet computing. At the core of these technological advances are computer engineers who research, design, and develop hardware and software. With a degree in computer engineering you might develop a full-featured multimedia phone, design the next-generation microprocessor, program computer-guided cameras to inspect nanomanufacturing facilities, or start your own software company.

The computer engineering major acquires a strong foundation in engineering principles and the physical sciences in addition to a powerful mix of theory and practice in hardware and software design. The core of the computer engineering curriculum comprises courses in computer organization and architecture, computer networks, computer-aided design, programming languages, optimization theory, and software design.

The BSCmpE degree requires a sequence of core courses, technical electives, general electives, and electives in the arts and humanities and social sciences.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for program educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Computer Engineering Fundamentals		
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
EECE 2540	Fundamentals of Networks	4
EECE 2560	Fundamentals of Engineering Algorithms	4
Electrical Engineering Fundamentals		
If more than one electrical engineering fundamentals course is taken, it can count as a technical elective.		
Complete one of the following:		4-5
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	
EECE 2520	Fundamentals of Linear Systems	
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	
Computer Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
EECE Technical Electives		

Students can register for EECE 4991/EECE 4992/EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most, one of these courses (4 semester hours) can be taken in a semester.

Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete four of the following:		16
EECE 2412 to EECE 2530		
EECE 2750	Enabling Engineering	
EECE 3324 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
Two CS/CY/IS courses from the following approved list may be taken toward the EECE technical elective requirement:		
CS 3200	Database Design	
CS 3500	Object-Oriented Design	
CS 3540 to CS 3800		
CS 4100 to CS 4770		
CS 4850	Building Game Engines	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CY 2550	Foundations of Cybersecurity	
IS 4200 to IS 4700		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Supporting Courses: Mathematics/Science Requirement

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of academic, nonremedial, nonrepetitive courses.		28

Major GPA Requirement

2.000 minimum GPA required in EECE courses

Program Requirement

133 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	General elective	4	General elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	General elective	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[1]	4	CS 1800 (FQ)	4	MATH 3081 (AD)	4	Co-op	0
EECE 2160	4	CS 1802	1	General elective	4		
MATH 2341	4	EECE 2150 (AD)	5				
PHYS 1155 (ND)	3	ENCP 2000	1				
PHYS 1156 (AD)	1	CE fundamentals	4				
PHYS 1157	1	CE fundamentals	5				
	17		**20**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	EECE 4791 (EI, CE, WI)[2]	1	Co-op	0
		CE fundamentals	4	ENGW 3302 or 3315 (WD)	4		
		EE fundamentals	4	EECE technical elective	4		
		EECE technical elective	4				
		General elective	4				
	0		**17**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, CE, WI)[2]	4
		EECE technical elective	4
		EECE technical elective	4
		General elective	4
	0		**16**

Total Hours: 133

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	General elective	4	General elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	General elective	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[1]	4	Co-op	0	Co-op	0	MATH 3081 (AD)	4
EECE 2160	4					General elective	4
ENCP 2000	1						
MATH 2341	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	EECE 4791 (EI, CE, WI)[2]	1
CS 1802	1					ENGW 3302 or 3315 (WD)	4
EECE 2150 (AD)	5					EECE technical elective	4
ENCP 3000	1						
CE fundamentals	4						
General elective	4						
	19		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 4792 (EI, CE, WI)[2]	4	EECE technical elective	4
CE fundamentals	4	EECE technical elective	4
CE fundamentals	5	EECE technical elective	4

EE fundamentals	4	General elective	4				
	17		**16**				

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[1]	4	CS 1800 (FQ)	4	Vacation		Co-op	0
EECE 2160	4	CS 1802	1				
MATH 2341	4	EECE 2150 (AD)	5				
PHYS 1155 (ND)	3	ENCP 2000	1				
PHYS 1156 (AD)	1	CE fundamentals	4				
PHYS 1157	1	General elective	4				
	17		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CE fundamentals	5	ENGW 3302 or 3315 (WD)	4	Co-op	0
		CE fundamentals	4	General elective	4		
		EE fundamentals	4				
		General elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	EECE 4791 (EI, WI, CE)[2]	1	Co-op	0
		MATH 3081 (AD)	4	EECE technical elective	4		
		EECE technical elective	4				
		EECE technical elective	4				
		General elective	4				
	0		**17**		**5**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, WI, CE)[2]	4
		EECE technical elective	4
		General elective	4
		General elective	4
	0		**16**

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				

ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[1]	4	Co-op	0	Co-op	0	Vacation	
EECE 2160	4						
ENCP 2000	1						
MATH 2341	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
CS 1802	1					General elective	4
EECE 2150 (AD)	5						
CE fundamentals	4						
General elective	4						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op	0	Co-op	0	EECE 4791 (EI, WI, CE)[2]	1
CE fundamentals	4					EECE technical elective	4
CE fundamentals	5						
EE fundamentals	4						
General elective	4						
	18		**0**		**0**		**5**

Year 5

Fall	Hours	Spring	Hours
EECE 4792 (EI, WI, CE)[2]	4	EECE technical elective	4
MATH 3081 (AD)	4	EECE technical elective	4
EECE technical elective	4	General elective	4
General elective	4	General elective	4
	16		**16**

Total Hours: 133

1 Computing Fundamentals for Engineers (EECE 2140) can be taken in year 1 spring instead of a general elective by students who are interested in the course in preparation for co-ops involving programming and computing hardware.

2 The capstone design courses are taken as follows: Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring or Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall.

Computer Engineering and Physics, BSCmpE

This intercollege combined major serves students who would like to explore their interest in physics while earning the benefit of an accredited Bachelor of Science in Computer Engineering degree. The combined major integrates study within the College of Engineering's Department of Electrical and Computer Engineering with study within the College of Science's Department of Physics.

Because of the large body of shared knowledge between computer engineering and physics, an integrated combined major between these two disciplines is a logical course of study and can be accomplished within either a four-year plan of study or a five-year plan of study (including three co-op placements in the latter), without requiring course overloads in any semester. A student graduating from this program will have studied both physics fundamentals and computer systems.

Students interested in this program should contact the Department of Electrical and Computer Engineering or the Department of Physics as early as possible, preferably prior to registering for first-year courses.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Computer Engineering Fundamentals		
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
EECE 2540	Fundamentals of Networks	4
EECE 2560	Fundamentals of Engineering Algorithms	4
Electrical Engineering Fundamentals		
If more than one electrical engineering fundamentals course is taken, it can count as a technical elective.		
Complete one of the following:		4
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	
EECE 2520	Fundamentals of Linear Systems	
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	
Computer Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
Technical Electives		

Students can register for EECE 4991/EECE 4992/EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most, one of these courses (4 semester hours) can be taken in a semester.

Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following:		8
EECE 2412 to EECE 2530		
EECE 2750	Enabling Engineering	
EECE 3324 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
One CS/CY/IS course from the following approved list may be taken toward the EECE technical elective requirement:		
CS 3200	Database Design	
CS 3500	Object-Oriented Design	
CS 3540 to CS 3800		
CS 4100 to CS 4770		
CS 4850	Building Game Engines	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CY 2550	Foundations of Cybersecurity	
IS 4200 to IS 4700		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Complete one of the following:		5

PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	
PHYS 2303	Modern Physics	4
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Advanced Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 3600 to PHYS 7999		
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
GE 1000	First-Year Seminar	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitve courses.		8

Integrative Requirement

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
EECE 4791	Electrical and Computer Engineering Capstone 1	1

Major GPA Requirement

A 2.000 minimum GPA is required in EECE courses.

Program Requirement

133 total semester hours required

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	MATH 2341	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 or 1155 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 or 1156 (AD)	1				
PHYS 1161 or 1151 (ND)	4	PHYS 1167 or 1157	0				
PHYS 1162 or 1152 (AD)	1						
PHYS 1163 or 1153	0						
	18		**17**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	CS 1800 (FQ)	4	Vacation		Vacation	
EECE 2160	4	CS 1802	1				
ENCP 2000	1	EECE 2150 (AD)	5				
MATH 2321 (FQ)	4	PHYS 4305 (ND)	4				
PHYS 2303 (ND)	4	CE fundamentals	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 3602 (ND)	4	Co-op		Co-op		EECE 4791 (EI, WI, CE)[2]	1
CE fundamentals	5					ENGW 3302 or 3315 (WD)	4
CE fundamentals	4					PHYS 3600 (ND, AD, WI)	4
General elective	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 4792 (EI, WI, CE)[2]	4	EE fundamentals	4
ENCP 3000	1	EECE technical elective	4
MATH 3081 (AD)	4	General elective	4
PHYS 4115 (ND, FQ)	4	PHYS advanced elective	4
EECE technical elective	4		
	17		**16**

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 or 1155 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 or 1156 (AD)	1				
PHYS 1161 or 1151 (ND)	4	PHYS 1167 or 1157	0				
PHYS 1162 or 1152 (AD)	1						
PHYS 1163 or 1153	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	CS 1800 (FQ)	4	Vacation		Co-op	0
MATH 2321 (FQ)	4	CS 1802	1				
MATH 2341	4	EECE 2150 (AD)	5				
PHYS 2303 (ND)	4	EECE 2160	4				
		ENCP 2000	1				
		PHYS 3602 (ND)	4				
	16		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHYS 4115 (ND, FQ)	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
		CE fundamentals	5				
		CE fundamentals	4				
		CE fundamentals	4				
	0		**17**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	EECE 4791 (EI, WI, CE)[2]	1	Co-op	0
		MATH 3081 (AD)	4	ENGW 3302 or 3315 (WD)	4		
		PHYS 4305 (ND)	4	EECE technical elective	4		
		EE fundamentals	4				
		General elective	4				
	0		**17**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, WI, CE)[2]	4
		EECE technical elective	4
		General elective	4
		PHYS advanced elective	4
	0		**16**

Total Hours: 133

[2] The capstone design courses are taken as follows:
- Electrical and Computer Engineering Capstone 1 (EECE 4791) in summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in spring OR
- Electrical and Computer Engineering Capstone 1 (EECE 4791) in summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in fall

Physics courses are offered on the following schedule:

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring
- PHYS 4305 offered spring and summer 2 (even years)

- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Computer Engineering and Computer Science, BSCmpE

This intercollege dual major serves students who are interested in both computer hardware and software, combining an accredited Bachelor of Science degree in engineering with the added benefits of depth in software principles found in a Bachelor of Science degree in computer science. This program provides a well-rounded computing education that includes engineering design principles, computational thinking, proper program design, and a solid background in mathematics and science. The degree is fully accredited as a Bachelor of Science in Computer Engineering and adds the computer science depth.

Because of the large body of shared knowledge between computer engineering and computer science, an integrated dual major between these two disciplines is a logical course of study and can be accomplished within a student's usual five-year program (including three co-op placements) without requiring course overloading in any semester. A student graduating from this program will have a solid foundation in both computer hardware and software principles, and should be prepared for a wide range of career paths in the computing field or any related field that relies on the application of engineering or computing principles.

Students interested in this program should contact the Department of Electrical and Computer Engineering or the Department of Computer and Information Science as early as possible, preferably prior to registering for first-year courses.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Computer Engineering Fundamentals		
CS 3000	Algorithms and Data	4
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
EECE 2540	Fundamentals of Networks	4
Electrical Engineering Fundamentals		
Complete one of the following:		4
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	
EECE 2520	Fundamentals of Linear Systems	
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	
Computer Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
EECE Technical Electives		

Students can register for EECE 4991 / EECE 4992 / EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most one of these courses (4 semester hours) can be taken in a semester.		
Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following:		8
EECE 2412 to EECE 2530		
EECE 2750	Enabling Engineering	
EECE 3324 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Computer Science Requirements

Code	Title	Hours
Computer Science Introductory Courses		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Upper-Level Courses		
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

MATH 3081	Probability and Statistics	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 SH of academic, nonremedial, nonrepetitive courses.		8

Integrative Courses

Code	Title	Hours
The following courses are already required above and also fulfill the integrative requirement.		
CS 1800	Discrete Structures	
EECE 4791	Electrical and Computer Engineering Capstone 1	
EECE 4792	Electrical and Computer Engineering Capstone 2	
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342	Calculus 2 for Science and Engineering	
MATH 3081	Probability and Statistics	
PHYS 1151 and PHYS 1152	Physics for Engineering 1 and Lab for PHYS 1151	

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum GPA in EECE courses

2.000 minimum GPA required in all CS, CY, DS, and IS courses

Program Requirement

140 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CS 2500 (ND, FQ)	4	MATH 2341	4	General Elective	4
CHEM 1153	0	CS 2501	1	PHYS 1155 (ND)	3	General Elective	4
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1156 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1157	1		
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	CS 2800	4	CS 3000	4	Co-op	0
CS 1802	1	EECE 2160	4	Khoury Elective	4		
CS 2510 (ND, AD)	4	EECE 2540	4				
CS 2511	1	ENCP 2000	1				
EECE 2140	4	MATH 3081 (AD)	4				
EECE 2150 (AD)	5						
	19		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 3650	4	CS 3500 and CS 3501 (ND, AD)	5	Co-op	0
		EECE 2322	4	EECE 4791 (EI, WI, CE)[2]	1		
		EECE 2323	1	EECE Technical Elective	4		
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		EE Fundamentals	4				
	0		**18**		**10**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		EECE 4792 (EI, WI, CE)[2]	4
		EECE Technical Elective	4
		Khoury Elective	4
	0		**16**

Total Hours: 140

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CS 2500 (ND, FQ)	4	MATH 2341	4	General Elective	4
CHEM 1153	0	CS 2501	1	PHYS 1155 (ND)	3	General Elective	4
ENGW 1111 (WF)	4	GE 1502 (ER)	4	PHYS 1156 (AD)	1		
GE 1000	1	MATH 1342 (FQ)	4	PHYS 1157	1		
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	CS 3000	4
CS 1802	1					Khoury Elective	4
CS 2510 (ND, AD)	4						
CS 2511	1						
EECE 2140	4						
EECE 2150 (AD)	5						
ENCP 2000	1						
	20		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2800	4	Co-op	0	Co-op	0	EECE 4791 (EI, WI, CE)[2]	1
EECE 2160	4					EECE Technical Elective	4
EECE 2540	4					Khoury Elective	4
ENCP 3000	1						
MATH 3081 (AD)	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
CS 3500 and CS 3501	5	CS 3650	4
EECE 2322	4	CS 4530	4
EECE 2323	1	ENGW 3302 or 3315 (WD)	4
EECE 4792 (EI, WI, CE)[2]	4	EECE Technical Elective	4
EE Fundamentals	4		
	18		**16**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	CS 2510 (ND, AD)	4	Vacation	0	Co-op	0
CS 1802	1	CS 2511	1				
CS 2500 (ND, FQ)	4	CS 2800	4				
CS 2501	1	EECE 2160	4				
EECE 2140	4	ENCP 2000	1				
MATH 2341	4	PHYS 1155 (ND)	3				
		PHYS 1156 (AD)	1				
		PHYS 1157	1				
	18		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CS 3650	4	CS 3500 and CS 3501 (ND, AD)	5	Co-op	0
		EECE 2150 (AD)	5	ENGW 3302 or 3315 (WD)	4		
		EECE 2322	4				
		EECE 2323	1				
		EECE 2540	4				
	0		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	CS 3000	4	Co-op	0
		MATH 3081 (AD)	4	EECE 4791 (EI, WI, CE)[2]	1		
		EE Fundamentals	4	General Elective	4		
		Khoury Elective	4				
		Khoury Elective	4				
	0		**17**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		EECE 4792 (EI, WI, CE)[2]	4
		EECE Technical Elective	4
		EECE Technical Elective	4
	0		**16**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	Vacation	0
CS 1802	1						
CS 2500 (ND, FQ)	4						
CS 2501	1						
EECE 2140	4						
ENCP 2000	1						
MATH 2341	4						
	19		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2510 (ND, AD)	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
CS 2511	1					MATH 3081 (AD)	4
CS 2800	4						
EECE 2160	4						

PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501 (ND, AD)	5	Co-op	0	Co-op	0	CS 3000	4
CS 3650	4					EECE 4791 (EI, WI, CE)[2]	1
EECE 2150 (AD)	5					EECE Technical Elective	4
EECE 2540	4						
ENCP 3000	1						
	19		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
EECE 2322	4	CS 4530	4
EECE 2323	1	EE Fundamentals	4
EECE 4792 (EI, WI, CE)[2]	4	EECE Technical Elective	4
Khoury Elective	4	General Elective	4
Khoury Elective	4		
	17		**16**

Total Hours: 140

[2] The capstone design courses are taken as follows:

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring, or...
- ... Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall.

Electrical Engineering, BSEE

The components of the Information Age—global communication systems; computers and computer chips, and the software that runs them; as well as pacemakers, magnetic resonance imaging, and interplanetary space missions—are possible because of the efforts of electrical engineers. Today, electrical engineers are developing concepts and working to translate these ideas into the next generation of products, from computers and safe, energy-efficient vehicles, to radar that can detect unexploded land mines from the air, to microrobots that diagnose disease from inside the body.

Many electrical engineers work in the traditional areas of communications, computation, and control and components required to realize such systems. They are involved in design and product development, testing and quality control, sales and marketing, and manufacturing. Others use their problem-solving skills in diverse areas such as bioengineering, healthcare, electronic music, meteorology, and experimental psychology. Some graduates draw on their electrical engineering backgrounds to launch successful careers as physicians, financial analysts, attorneys, and entrepreneurs.

The BSEE degree requires a sequence of core courses and advanced study in one or more technical elective areas: electronic circuits and devices; signals and systems; fields, waves, and optics; power engineering; or computer engineering. General electives and electives in the arts and humanities and social sciences are also required.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for educational program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Electrical Engineering Fundamentals		
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	5
EECE 2520	Fundamentals of Linear Systems	4
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	5
Computer Engineering Fundamentals		
If more than one computer engineering fundamentals course is taken, it can count as a technical elective.		
Complete one of the following:		4-5
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2560	Fundamentals of Engineering Algorithms	
Electrical Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
Electrical Engineering Technical Electives		

Students can register for EECE 4991/EECE 4992/EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most one of these courses (4 semester hours) can be taken in a semester.

Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.

Complete four of the following:		16
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540 to EECE 2750		
EECE 3324 to EECE 3410		
EECE 4512 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
EECE 3468	Noise and Stochastic Processes	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
2 semester hours from the following course count toward the mathematics/science requirement:		2
EECE 3468	Noise and Stochastic Processes	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of academic, nonremedial, nonrepetitive courses.		28

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

Minimum 2.000 GPA required in EECE courses

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	General Elective	4	General Elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	General Elective	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**8**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[2]	4	EECE 2160	4	General Elective	4	Co-op	0
EECE 2150 (AD)	5	ENCP 2000	1	General Elective	4		
MATH 2341	4	MATH 2321 (FQ)	4				
PHYS 1155 (ND)	3	EE Fundamentals	5				
PHYS 1156 (AD)	1	EE Fundamentals	4				
PHYS 1157	1						
	18		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EECE 3468	4	EECE 4791 (EI, CE, WI)[3]	1	Co-op	0
		ENCP 3000	1	ENGW 3302 or 3315 (WD)	4		
		CE Fundamentals	4	EECE Technical Elective	4		
		EE Fundamentals	5				
		EECE Technical Elective	4				
	0		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, CE, WI)[3]	4

	EECE Technical Elective	4	
	EECE Technical Elective	4	
	General Elective	4	
0		**16**	

Total Hours: 133

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	General Elective	4	General Elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	General Elective	4		
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
17		**17**		**8**		**4**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[2]	4	Co-op	0	Co-op	0	General Elective	4
EECE 2150 (AD)	5					General Elective	4
ENCP 2000	1						
MATH 2341	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
19		**0**		**0**		**8**	

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2160	4	Co-op	0	Co-op	0	EECE 4791 (EI, CE, WI)[3]	1
ENCP 3000	1					ENGW 3302 or 3315 (WD)	4
MATH 2321 (FQ)	4					EECE Technical Elective	4
EE Fundamentals	4						
EE Fundamentals	5						
18		**0**		**0**		**9**	

Year 4

Fall	Hours	Spring	Hours
EECE 3468	4	EECE Technical Elective	4
CE Fundamentals	4	EECE Technical Elective	4
EE Fundamentals	5	General Elective	4
EECE 4792[3]	4	EECE Technical Elective	4
17		**16**	

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				

MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2160	4	Vacation		Co-op	0
EECE 2150 (AD)	5	ENCP 2000	1				
MATH 2341	4	MATH 2321 (FQ)	4				
PHYS 1155 (ND)	3	EE Fundamentals	4				
PHYS 1156 (AD)	1	General Elective	4				
PHYS 1157	1						
	18		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CE Fundamentals	4	ENGW 3302 or 3315 (WD)	4	Co-op	0
		EE Fundamentals	5	General Elective	4		
		EE Fundamentals	5				
		General Elective	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EECE 3468	4	EECE 4791 (EI, WI, CE)	1	Co-op	0
		ENCP 3000	1	EECE Technical Elective	4		
		EECE Technical Elective	4				
		General Elective	4				
		General Elective	4				
	0		**17**		**5**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, WI, CE)	4
		EECE Technical Elective	4
		EECE Technical Elective	4
		General Elective	4
	0		**16**

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General Elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[2]	4	Co-op	0	Co-op	0	Vacation	0
EECE 2150 (AD)	5						
ENCP 2000	1						
MATH 2341	4						
PHYS 1155 (ND)	3						

PHYS 1156 (AD)	1						
PHYS 1157	1						
	19		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2160	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
MATH 2321 (FQ)	4					General Elective	4
EE Fundamentals	4						
General Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op	0	Co-op	0	EECE 4791 (EI, WI, CE)[3]	1
CE Fundamentals	4					EECE Technical Elective	4
EE Fundamentals	5						
EE Fundamentals	5						
General Elective	4						
	19		**0**		**0**		**5**

Year 5

Fall	Hours	Spring	Hours
EECE 3468	4	EECE Technical Elective	4
EECE 4792 (EI, WI, CE)[3]	4	EECE Technical Elective	4
EECE Technical Elective	4	General Elective	4
General Elective	4	General Elective	4
	16		**16**

Total Hours: 133

[2] Computing Fundamentals for Engineers (EECE 2140) can be taken in Year 1 Spring instead of a General Elective by students who are interested in the course in preparation for co-ops involving programming and computing hardware.

[3] The capstone design courses are taken as follows:

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring, or...
- ... Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall.

Electrical Engineering and Physics, BSEE

This intercollege combined major serves students who would like to explore their interest in physics while earning the benefit of an accredited Bachelor of Science degree in engineering. The major combines a major in physics from the Department of Physics in the College of Science with the Bachelor of Science in Electrical Engineering degree from the Department of Electrical and Computer Engineering.

Because of the large body of shared knowledge between electrical engineering and physics, a combined major between these two disciplines is a logical course of study and can be accomplished within a student's usual five-year program (including three co-op placements) without requiring course overloading in any semester. A student graduating from this program will have studied both the physical fundamentals and the applications of electronic devices and systems. The program is a particularly appropriate course of study for students who wish to pursue a career in solid-state devices, microelectromechanical systems, or nanotechnology.

Students interested in this program should contact the Department of Electrical and Computer Engineering or the Department of Physics as early as possible, preferably prior to registering for freshman courses.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for educational program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Electrical Engineering Fundamentals		
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	5
EECE 2520	Fundamentals of Linear Systems	4
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	5
Computer Engineering Fundamentals		
If more than one computer engineering fundamentals course is taken, it can count as a technical elective.		
Complete one of the following:		4-5
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2560	Fundamentals of Engineering Algorithms	
Electrical Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
EECE Technical Electives		
Students can register for EECE 4991/EECE 4992/EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most, one of these courses (4 semester hours) can be taken in a semester.		

Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following:		8-9
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540 to EECE 2750		
EECE 3324 to EECE 3410		
EECE 4512 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
EECE 3468	Noise and Stochastic Processes	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Complete one of the following:		5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	
PHYS 2303	Modern Physics	4
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Advanced Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 3600 to PHYS 7999		
Supplemental Credit		
2 semester hours from the following course count toward the mathematics/science requirement:		2

EECE 3468	Noise and Stochastic Processes	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 12 semester hours of academic, nonremedial, nonrepetitive courses.		12

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum GPA required in EECE courses

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	MATH 2341	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 or 1155 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 or 1156 (AD)	1				
PHYS 1161 or 1151 (ND)	4	PHYS 1167 or 1157	0				
PHYS 1162 or 1152 (AD)	1						
PHYS 1163 or 1153	0						
	18		**17**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2160	4	Vacation		Vacation	
EECE 2150 (AD)	5	PHYS 4305 (ND)	4				
MATH 2321 (FQ)	4	EE fundamentals	5				

PHYS 2303 (ND)	4	EE fundamentals	5				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op		Co-op		EECE 4791 (EI, WI, CE)[2]	1
ENGW 3302 or 3315 (WD)	4					PHYS 3600 (ND, AD, WI)	4
PHYS 3602 (ND)	4					General elective	4
EE fundamentals	4						
CE fundamentals	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 3468	4	EECE technical elective	4
EECE 4792 (EI, WI, CE)[2]	4	EECE technical elective	4
ENCP 3000	1	General elective	4
PHYS 4115 (ND, FQ)	4	PHYS advanced elective	4
General elective	4		
	17		**16**

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111 (WF)	4	CHEM 1151 (ND)	4	Vacation	0	Vacation	0
GE 1000	1	CHEM 1153	0				
GE 1501	4	GE 1502 (ER)	4				
MATH 1341 (FQ)	4	MATH 1342 (FQ)	4				
PHYS 1161 or 1151 (ND)	4	PHYS 1165 or 1155 (ND)	4				
PHYS 1162 or 1152 (AD)	1	PHYS 1166 or 1156 (AD)	1				
PHYS 1163 or 1153	0	PHYS 1167 or 1157	0				
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2150 (AD)	5	Vacation	0	Co-op	0
MATH 2321 (FQ)	4	EECE 2160	4				
MATH 2341	4	ENCP 2000	1				
PHYS 2303 (ND)	4	PHYS 3602 (ND)	4				
		General elective	4				
	16		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
		PHYS 4115 (ND, FQ)	4	General elective	4		
		EE fundamentals	4				
		EE fundamentals	5				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EECE 3468	4	EECE 4791 (EI, WI, CE)[2]	1	Co-op	0
		ENCP 3000	1	EECE technical elective	4		
		PHYS 4305 (ND)	4	General elective	4		
		CE fundamentals	4				

		EE fundamentals	5		
	0		**18**	**9**	**0**

Year 5

Fall	**Hours**	**Spring**	**Hours**
Co-op	0	EECE 4792 (EI, WI, CE)[2]	4
		EECE technical elective	4
		PHYS advanced elective	4
	0		**12**

Total Hours: 133

[2] Note:
The capstone design courses are taken as follows:
- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring, or...
- ... Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall

Physics courses are offered on the following schedule:

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring
- PHYS 4305 offered every spring and summer 2 (even years)
- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Electrical Engineering and Music with Concentration in Music Technology, BSEE

This intercollege combined major is designed for students who would like to explore their interest in music technology while earning the benefit of a Bachelor of Science degree in electrical engineering. The music industry relies heavily on electronic technology in the production (e.g., studio and recording technology); performance (e.g., musical instruments, stage technology); and distribution (e.g., audio file formats, encoding) of music. The program is designed to give students a firm foundation in digital and analog audio electronics and to learn the breadth and depth of the convergence between electrical engineering and music technology.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Societies and Institutions (SI) and Differences and Diversity (DD) are not explicitly satisfied by required engineering courses. Students are responsible for satisfying these requirements with general electives.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Electrical Engineering Fundamentals		
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	5
EECE 2520	Fundamentals of Linear Systems	4
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	5
Computer Engineering Fundamentals		
Complete one of the following. If more than one computer engineering fundamentals course is taken, it may count as a technical elective:		4-5
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2560	Fundamentals of Engineering Algorithms	
Electrical Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
Technical Electives		
Students can register for EECE 4991 / EECE 4992 / EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most one of these courses (4 semester hours) can be taken in a semester.		
Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following. If EECE 5697 is taken, students are required to complete a music elective.		8
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2750	Enabling Engineering	
EECE 3324	Computer Architecture and Organization	
EECE 3410	Electronic Design	

EECE 4512	Healthcare Technologies: Sensors, Systems, and Analysis	
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
EECE 3468	Noise and Stochastic Processes	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Music Requirements

Code	Title	Hours
Music Theory		
Complete one of the following pairs:		8
MUSC 1119 and MUSC 1201	Fundamentals of Western Music Theory and Music Theory 1	
MUSC 1201 and MUSC 1202	Music Theory 1 and Music Theory 2	
MUSC 1202 and MUSC 3541	Music Theory 2 and Music Analysis Seminar	
Required Context Course		
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Music in Context		
Complete one of the following:		4
INAM 6360	Ethnographic Methods and the Arts	
MUSC 2101	Black Popular Music	
MUSC 2105	Songs That Made History	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2312	Topics in Western Art Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2331	Topics in Musical Communities	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSC 3360	Ethnography and the Arts	
MUSI 3351	Music and Social Justice	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Acoustics or Music Elective		

Complete one of the following. If EECE 5697 is taken, students are required to complete a music elective.		4
MUSC 2350	Acoustics and Psychoacoustics of Music	
MUSC 2000 to MUSC 5999		
Music Technology		
MUST 1220	Introduction to Music Technology	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete two of the following. Other appropriate MUST courses will be considered by petition to fulfill this category.		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
2 semester hours from the following course count toward this requirement:		2
EECE 3468	Noise and Stochastic Processes	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses.		4

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

Minimum 2.000 GPA required in EECE courses

Music Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

137 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2341	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MUST 1220 (AD)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2160	4	Vacation	0	Co-op	0
EECE 2150 (AD)	5	ENCP 2000	1				
MATH 2321 (FQ)	4	Select from the following:	4				
MUST 2431 (FQ, AD)	4	MUSC 1001					
		MUSC 1002 and MUSC 1003					
		EE fundamentals	4				
		EE fundamentals	5				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	Vacation	0	EECE 3468	4
		ENGW 3302 or 3315 (WD)	4			EECE 4791 (EI, WI, CE)	1
		CE fundamentals	4			General elective	4
		EE fundamentals	5				
		EECE technical elective	4				
	0		**18**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 4792 (EI, WI, CE)	4	EECE technical elective	4
Music technology elective	4	Music in context	4
Music technology elective	4	Music elective	4

Music theory course	4	Music theory course	4
	16		**16**

Total Hours: 137

FIVE YEARS, THREE CO-OPS IN SPRING / SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	MUST 1220 (AD)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	Co-op		Co-op		Vacation	
ENCP 2000	1						
MATH 2341	4						
MUST 2431 (FQ, AD)	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2150 (AD)	5	Co-op		Co-op		ENGW 3302 or 3315 (WD)	4
EECE 2160	4					General elective	4
MATH 2321 (FQ)	4						
MUSC 1002 and MUSC 1003	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op		Co-op		EECE 3468	4
CE fundamentals	4					EECE 4791 (EI, CE, WI)	1
EE fundamentals	4					ECE technical elective	4
EE fundamentals	5						
Music theory course	4						
	18		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
EECE 4792 (EI, CE, WI)	4	ECE technical elective	4
EE fundamentals	5	Music in context	4
Music technology elective	4	Music elective	4
Music technology elective	4	Music theory course	4
	17		**16**

Total Hours: 137

Notes:

The capstone design courses are taken as follows:

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring

  ... or...

- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall.

Electrical and Computer Engineering, BSEE or BSCmpE

Students may choose to major in both electrical and computer engineering by following the combined major program leading to a Bachelor of Science in Electrical Engineering or Bachelor of Science in Computer Engineering. Students take the required courses for both majors along with technical electives distributed among the areas of computer engineering; fields, waves, and optics; signals and systems; power engineering; and electronic circuits and devices. Additional NUpath requirements must be fulfilled using general electives.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for educational program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Electrical Engineering Fundamentals		
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	5
EECE 2520	Fundamentals of Linear Systems	4
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	5
Computer Engineering Fundamentals		
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
EECE 2540	Fundamentals of Networks	4
EECE 2560	Fundamentals of Engineering Algorithms	4
Electrical and Computer Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
EECE Technical Electives		
Students can register for EECE 4991 / EECE 4992 / EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most one of these courses (4 semester hours) can be taken in a semester.		
Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete four of the following:		16
EECE 2750	Enabling Engineering	
EECE 3324 to EECE 3410		
EECE 4512 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	

EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Two CS/CY/IS courses from the following approved list may be taken toward the EECE technical elective requirement:		
CS 3200	Database Design	
CS 3500	Object-Oriented Design	
CS 3540 to CS 3800		
CS 4100 to CS 4770		
CS 4850	Building Game Engines	
CY 2550	Foundations of Cybersecurity	
IS 4200 to IS 4700		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
EECE 3468	Noise and Stochastic Processes	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
2 semester hours from the following course count toward the mathematics/science requirement:		2
EECE 3468	Noise and Stochastic Processes	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of academic, nonremedial, nonrepetitive courses.		16

Major GPA Requirement

A 2.000 minimum GPA is required in EECE coursework.

Program Requirement

135 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2341	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[2]	4	CS 1800 (FQ)	4	Vacation		Co-op	0
EECE 2150 or 2160 (AD)	5	CS 1802	1				
MATH 2321 (FQ)	4	EECE 2160 or 2150	4				
PHYS 1155 (ND)	3	ENCP 2000	1				
PHYS 1156 (AD)	1	EE or CE fundamentals	4				
PHYS 1157	1	General elective	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	EECE 4791 (EI, WI, CE)[3]	1	Vacation	
		EE or CE fundamentals	5	ENGW 3302 or 3315 (WD)	4		
		EE or CE fundamentals	5	EECE technical elective	4		
		EE or CE fundamentals	5				
		General elective	4				
	0		**20**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
EECE 3468	4	EECE 4792 (EI, WI, CE)[3]	4
EE or CE fundamentals	4	EECE technical elective	4
EE or CE fundamentals	4	EECE technical elective	4

EECE technical elective	4	General elective	4
	16		**16**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[2]	4	CS 1800 (FQ)	4	Vacation		Co-op	0
EECE 2150 or 2160 (AD)	5	CS 1802	1				
MATH 2341	4	EECE 2160 or 2150	4				
PHYS 1155 (ND)	3	ENCP 2000	1				
PHYS 1156 (AD)	1	MATH 2321 (FQ)	4				
PHYS 1157	1	EE or CE fundamentals	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EE or CE fundamentals	4	ENGW 3302 or 3315 (WD)	4	Co-op	0
		EE or CE fundamentals	4	General elective	4		
		EE or CE fundamentals	5				
		EE or CE fundamentals	5				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EECE 3468	4	EECE 4791 (EI, CE, WI)[3]	1	Co-op	0
		ENCP 3000	1	EECE technical elective	4		
		EE or CE fundamentals	5				
		EECE technical elective	4				
		EECE technical elective	4				
	0		**18**		**5**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, WI, CE)[3]	4
		EECE technical elective	4
		General elective	4
		General elective	4
	0		**16**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				

ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140[2]	4	Co-op	0	Co-op	0	Vacation	
EECE 2150 or 2160 (AD)	5						
ENCP 2000	1						
MATH 2341	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	19		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1800 (FQ)	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
CS 1802	1					General elective	4
EECE 2160 or 2150	4						
MATH 2321 (FQ)	4						
EE or CE fundamentals	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op	0	Co-op	0	EECE 4791 (EI, CE, WI)[3]	1
EE or CE fundamentals	4					EECE technical elective	4
EE or CE fundamentals	4						
EE or CE fundamentals	5						
EE or CE fundamentals	5						
	19		**0**		**0**		**5**

Year 5

Fall	Hours	Spring	Hours
EECE 3468	4	EECE technical elective	4
EECE 4792 (EI, CE, WI)[3]	4	EECE technical elective	4
EE or CE fundamentals	5	General elective	4
EECE technical elective	4	General elective	4
	17		**16**

Total Hours: 135

2 Computing Fundamentals for Engineers (EECE 2140) can be taken in year 1 spring instead of a general elective by students who are interested in the course in preparation for co-ops involving programming and computing hardware.

3 The capstone design courses are taken as follows: Electrical and Computer Engineering Capstone 1 (EECE 4791) in summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in spring **or** Electrical and Computer Engineering Capstone 1 (EECE 4791) in summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in fall.

Biomedical Engineering, Minor

Medical imaging and biomedical electronics are important areas of biomedical engineering that are within the province of electrical engineering. The minor in biomedical engineering is open to all students in the university with the prerequisite calculus and physics background. The minor is particularly designed for majors in electrical or computer engineering, biology, health science fields, or other engineering departments who would like a background in relevant aspects of biology and electrical engineering, with the opportunity to complete an interdisciplinary biomedical engineering capstone design project. Coursework in anatomy and physiology and other health science topics is combined with technical engineering courses related to biomedical imaging and instrumentation.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Biology

Code	Title	Hours
BIOL 1115 and BIOL 1116	General Biology 1 for Engineers and Lab for BIOL 1115	5
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5

Required Engineering

The course you select may also count toward your major.

Code	Title	Hours
Complete one of the following:		4
EECE 4512	Healthcare Technologies: Sensors, Systems, and Analysis	
EECE 4993	Independent Study (must have a biomedical-engineering focus)	
EECE 5698	Special Topics in Electrical and Computer Engineering	

Required Capstone Design Courses

Complete the following two courses on a biologically oriented project:

Code	Title	Hours
EECE 4790	Electrical and Computer Engineering Capstone 1	4
EECE 4792	Electrical and Computer Engineering Capstone 2	4

Elective Courses

One course must be outside your home department. Neither course can be used toward your major.

Code	Title	Hours
Complete two of the following:		8-10
Biology		
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	
BIOL 2299	Inquiries in Biological Sciences	
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	
BIOL 3405	Neurobiology	
BIOL 5581	Biological Imaging	
Chemical Engineering		
CHME 5630	Biochemical Engineering	
CHME 5699	Special Topics in Chemical Engineering	
Civil/Industrial Engineering		
CIVE 7251	Environmental Biological Processes	
Electrical/Computer Engineering		

EECE 4512	Healthcare Technologies: Sensors, Systems, and Analysis
EECE 4993	Independent Study
EECE 5698	Special Topics in Electrical and Computer Engineering
Mechanical/Industrial Engineering	
IE 4522	Human-Machine Systems
ME 5665	Musculoskeletal Biomechanics
Physics	
PHYS 4621	Biological Physics 1
PHYS 4623	Medical Physics
PHYS 4651	Medical Physics Seminar 1
PHYS 4652	Medical Physics Seminar 2
Psychology	
PSYC 3452	Sensation and Perception
PSYC 3458	Biological Psychology

GPA Requirement

2.000 GPA required in the minor

Computer Engineering, Minor

A minor in computer engineering is particularly designed for the student who would like a coherent background in the theory and laboratory practice of computer engineering. This minor is not open to students in the Department of Electrical and Computer Engineering.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

This minor is not open to students in the Department of Electrical and Computer Engineering.

Complete a total of four courses for the minor.

Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Core Courses

Code	Title	Hours
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2160	Embedded Design: Enabling Robotics	4

Required Fundamental Courses

Code	Title	Hours
Complete one of the following:		4-5
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2560	Fundamentals of Engineering Algorithms	

Computer Engineering Technical Elective

Fundamentals not taken to satisfy the above requirement may be used as a technical elective.

Code	Title	Hours
Complete one of the following:		4-5
EECE 4993	Independent Study	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 2322 to EECE2750		
EECE3324 to EECE 4698		
EECE 5576 to EECE 5698		

GPA Requirement

2.000 GPA required in the minor

Computational Data Analytics, Minor

This minor, offered by the Department of Electrical and Computer Engineering in the College of Engineering, seeks to provide a coherent technical foundation in the fundamentals and application of data analytics. The minor addresses the growing demand in industry to be able to apply background in probability/statistics, calculus, engineering problem solving, computing, and analytical principles/tools to identify patterns and trends, find clusters and outliers, and characterize/summarize the mountain of data being generated in our world. This program leverages faculty expertise in electrical and computer engineering and includes courses from across the College of Engineering, College of Science, and the Khoury College of Computer Sciences

Students need to complete the program requirements with at least three courses that are not part of their major required course work.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Courses

Code	Title	Hours
EECE 5642	Data Visualization	4
EECE 5644	Introduction to Machine Learning and Pattern Recognition	4
Complete one of the following:		4
CS 2510	Fundamentals of Computer Science 2	
EECE 2140	Computing Fundamentals for Engineers	

Probability and Statistics

Code	Title	Hours
Complete one of the following:		4
BIOE 2365	Bioengineering Measurement, Experimentation, and Statistics	
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
EECE 3468	Noise and Stochastic Processes	
IE 3412	Engineering Probability and Statistics	
MATH 2280	Statistics and Software	
MATH 3081	Probability and Statistics	

Elective

Code	Title	Hours
Complete one of the following:		4
CS 3000	Algorithms and Data	
CS 3200	Database Design	
CS 5200	Database Management Systems	
EECE 2520	Fundamentals of Linear Systems	
EECE 2560	Fundamentals of Engineering Algorithms	
EECE 4694	Numerical Methods and Computer Applications	
EECE 5639	Computer Vision	
IE 4515	Operations Research	
IE 5640	Data Mining for Engineering Applications	
IS 4200	Information Retrieval	
MATH 4525	Applied Analysis	

GPA Requirement

2.000 GPA required in the minor

Electrical Engineering, Minor

A minor in electrical engineering is particularly designed for majors in math, science, computer science, or other engineering departments who would like a coherent background in the theory and laboratory practice of electrical engineering. This minor is not open to students in the Department of Electrical and Computer Engineering.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

This minor is not open to students in the Department of Electrical and Computer Engineering because of overlap with the majors.

Complete a total of four courses for the minor.

Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Core Course

Code	Title	Hours
Complete one of the following:		5
EECE 2150	Circuits and Signals: Biomedical Applications	
EECE 2210 and EECE 2211	Electrical Engineering and Lab for EECE 2210	

Fundamental Core Courses

Code	Title	Hours
Complete two of the following:		9-10
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	
EECE 2520	Fundamentals of Linear Systems	
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	

Electrical Engineering Technical Electives

Code	Title	Hours
Fundamentals not taken to satisfy the above requirement may be used as a technical elective.		
Complete one of the following:		4
EECE 2322 to EECE 2750		
EECE 3324 to EECE 4698		
EECE 4993	Independent Study	
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
EECE 5576 to EECE 5698		

GPA Requirement

2.000 GPA required in the minor

Robotics, Minor

The minor in robotics is open to all students in the university. The minor is designed for the student who would like a coherent background in the theory and practice of robotics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Courses

Code	Title	Hours
ME 3460	Robot Dynamics and Control	4
Complete one of the following:		4
EECE 2140	Computing Fundamentals for Engineers	
EECE 2160	Embedded Design: Enabling Robotics	
EECE 2210 and EECE 2211	Electrical Engineering and Lab for EECE 2210	

Electives

Code	Title	Hours
Complete three of the following:		12
CS 4100	Artificial Intelligence	
CS 4610	Robotic Science and Systems	
EECE 4630	Robotics	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5639	Computer Vision	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5580	Classical Control Systems	
IE 4522	Human-Machine Systems	
ME 5245	Mechatronic Systems	
ME 5250	Robot Mechanics and Control	

GPA Requirement

2.000 GPA required in the minor

Mechanical and Industrial Engineering

Website (http://www.mie.neu.edu)

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The Department of Mechanical and Industrial Engineering offers comprehensive undergraduate programs in both mechanical engineering and industrial engineering, equipping students with the fundamentals in science, mathematics, and engineering. The programs are optimally blended with theory, computation, and laboratory-level practice, as well as with real-world experience through cooperative education programs aligned with Northeastern University's mission in experiential learning. Graduates are positioned to excel in careers in broad areas of engineering as well as in academia.

Mission of the Department

The mission of the Department of Mechanical and Industrial Engineering is to educate students for professional and technical excellence; to perform research to advance the science and practice of engineering; to engage in service activities that advance the department, the university, and the profession; and to instill in ourselves and our students habits and attitudes that promote ethical behavior, professional responsibility, and careers that advance the well-being of society.

Mechanical Engineering

Mechanical engineers design, develop, and support the manufacture of machinery and devices to transmit power or to convert energy from thermal to mechanical form in order to power the modern world and its machines. Traditionally, mechanical engineers have designed and tested devices, such as heating and air-conditioning systems, machine tools, internal-combustion engines, and steam power plants. Today they also play primary roles in the development of new technologies in a variety of fields—energy conversion, solar energy utilization, environmental control, robotics, prosthetics, transportation, manufacturing, and new-materials development.

Mechanical engineers use computers to formulate preliminary and final designs of systems or devices, to perform calculations that predict the behavior of the design, and to collect and analyze performance data from system testing or operation. Mechanical engineering has been heavily influenced by recent advances in computer hardware and software.

The curriculum in mechanical engineering focuses on four areas: applied mechanics, thermofluids engineering, materials science, and mechatronics. Applied mechanics is the study of the motion and deformation of structural elements acted on by forces in devices that range from rotating industrial dynamos to dentists' drills. Thermofluids engineering deals with the motion of fluids and the transfer of energy, as in the cooling of electronic components or the design of gas turbine engines. Materials science is concerned with the relationship between the structure and properties of materials and with the control of structure, through processing, to achieve desired properties. Practical applications are in the development of composite materials, metallurgical process industries, and advanced functional materials. Mechatronics is critical to any engineered system in which sensors and actuators of several types communicate and function in order to impart desired behavior from these systems.

Courses in each area form the foundation for advanced analytical and creative design courses that culminate in a two-semester capstone design project. Faculty encourage students throughout the curriculum to use computer-aided design tools and high-performance computer workstations.

Industrial Engineering

Industrial engineers design and analyze systems that include people, equipment, products, programs, and materials and their interactions and performance in the workplace and beyond. An industrial engineer collects this information and uses data to evaluate alternatives to make decisions that best advance the goals of the enterprise, system, or interaction. Industrial engineers work in manufacturing firms, hospitals, banks, public utilities, transportation, government agencies, product R&D, insurance companies, community partnerships, consulting and financial firms, construction companies, and virtual enterprises, to name a few. Among the projects they undertake are: design and implementation of a computer-integrated supply chain or manufacturing system, facilities planning for a variety of industries, design of a robotics system in a manufacturing or automated environment, long-range corporate planning, development and implementation of a quality-control system, simulation analyses to improve processes and make operational decisions, system audits for safety and performance, design of healthcare operations to enhance patient well-being and to improve efficiency and productivity, and development of computer-based systems for information and operational control.

The program in industrial engineering offers students a base of traditional engineering courses, such as work design, probability, statistics, and engineering economy, while emphasizing such contemporary areas as simulation modeling, engineering database systems, quality assurance, logistics and supply chain management, operations research, facilities planning, advanced manufacturing technologies/Industry 4.0, and human-machine systems. Students integrate the knowledge acquired in these courses in a two-semester capstone design experience. In capstone, students further expand their knowledge base beyond the major to complete an advanced open-ended project.

Other Programmatic Features

More than 90% of the department's undergraduate students take advantage of the cooperative education program. Cooperative education assignments increase in responsibility and technical challenge as students progress through the program. Entry-level co-op positions in mechanical engineering may be in manufacturing; quality assurance and testing; or involve 3D CAD modeling, robotics, and biomedical devices; while more advanced-level positions will allow students to gain experience in the design process, including advanced 3D modeling, design for manufacturability, prototyping, and systems engineering. Students in the industrial engineering discipline may utilize co-op to concentrate on one industry segment and build an increasingly technical skill set with each experience or explore the breadth of career opportunities over the course of several co-op rotations such as healthcare process improvement, supply chain logistics, business and data analytics, consulting and/or finance, manufacturing operations, product design, and more.

The department also offers significant research opportunities throughout all fields of mechanical and industrial engineering, including participating in research centers based in our department and college.

Our students have an opportunity to obtain a broad knowledge base in science, engineering, and general studies that allows them flexibility in career development and graduate education. At the same time, our graduates should be responsible and scientifically educated citizens, prepared to contribute personally as well as professionally to an educated, democratic society.

Programs

Bachelor of Science in Industrial Engineering (BSIE)

- Industrial Engineering (p. 1114)

Bachelor of Science in Mechanical Engineering (BSME)

- Mechanical Engineering (p. 1120)
- Mechanical Engineering and Bioengineering (p. 972)
- Mechanical Engineering and Design (p. 255)
- Mechanical Engineering and History (p. 1139)
- Mechanical Engineering and Physics (p. 1144)

Minors

- Aerospace (p. 1149)
- Biomechanical Engineering (p. 1150)
- Healthcare System Operation (p. 1151)s (p. 1151)
- Industrial Engineering (p. 1152)
- Mechanical Engineering (p. 1153)
- Robotics (p. 1111)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Industrial Engineering, BSIE

Industrial engineering involves the design and analysis of systems that include people, equipment, and materials and their interactions and performance in the workplace. An industrial engineer collects this information and evaluates alternatives to make decisions that best advance the goals of the enterprise.

The program in industrial engineering offers students a base of traditional engineering courses, such as work design, human-machine systems, probability, statistics, and engineering economy, while emphasizing such contemporary areas as simulation modeling, engineering database systems, quality assurance, logistics and supply chain management, operations research, and facilities planning. Students integrate the knowledge acquired in these courses in a two-semester capstone design project.

Industrial engineers work in manufacturing firms, hospitals, banks, public utilities, transportation, government agencies, insurance companies, and construction firms. Among the projects they undertake are design and implementation of a computer-integrated supply chain or manufacturing system; facilities planning for a variety of industries; design of a robotics system in a manufacturing environment; long-range corporate planning; development and implementation of a quality-control system; simulation analyses to improve processes and make operational decisions; design of healthcare operations to enhance patient safety; and improve efficiency, productivity, and development of computer systems for information control.

More than 90% of department undergraduate students take advantage of the cooperative education program. Cooperative education assignments generally increase in level of responsibility as students gain theoretical and technical knowledge through their academic work. A sophomore might begin as a computer/data analyst evaluating the performance of a manufacturing system and progress to designing manufacturing engineering workstations by the senior year.

Visit the department website (https://mie.northeastern.edu/academics/undergraduate-studies/mie-accreditation/) for program educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
IE 2310 and IE 2311	Introduction to Industrial Engineering and Recitation for IE 2310	4
IE 3425 and IE 3426	Engineering Database Systems and Recitation for IE 3425	4
IE 4510	Simulation Modeling and Analysis	4
IE 4516	Quality Assurance	4
IE 4522 and IE 4523	Human-Machine Systems and Lab for IE 4522	5
IE 4525	Logistics and Supply Chain Management	4
IE 4530 and IE 4531	Manufacturing Systems and Techniques and Lab for IE 4530	5
Industrial Engineering Capstone		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Engineering Electives		
Complete 8 semester hours of technical electives in the following subject areas:		8

BIOE, CHME, CIVE, EECE, EMGT, ENSY, IE, ME, and MEIE		
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
IE 3412	Engineering Probability and Statistics	
or MATH 3081	Probability and Statistics	
3 semester hours from the following course count toward the engineering requirement:		3
IE 4512	Engineering Economy	
2 semester hours from the following course count toward the engineering requirement:		2
IE 4515	Operations Research	
2 semester hours from the following course count toward the engineering requirement:		2
IE 4520	Stochastic Modeling	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective		
Complete one of the following:		5
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
IE 3412	Engineering Probability and Statistics	
or MATH 3081	Probability and Statistics	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
IE 4512	Engineering Economy	
2 semester hours from the following course count toward the mathematics/science requirement:		2
IE 4515	Operations Research	
2 semester hours from the following course count toward the mathematics/science requirement:		2
IE 4520	Stochastic Modeling	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
Writing		
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of academic, nonremedial, nonrepetitive courses.		28

Program Requirement

137 total semester hours required

Major GPA Requirement

A 2.000 minimum GPA is required in ME/MEIE/EECE/ENCP coursework.

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	General elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	General elective	4	General elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
IE 2310 (WI)	4	ENCP 2000	1	General elective	4	Co-op	0
IE 2311	0	ENGW 3302 or 3315 (WD)	4	General elective	4		
IE 3425	4	IE 3412 or MATH 3081 (AD)	4				
IE 3426	0	IE 4512	4				
MATH 2341	4	Technical elective	4				
Science elective	5						
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	IE 4510	4	MEIE 4701 (EI, WI, CE)	1	Co-op	0
		IE 4515	4	General elective	4		
		IE 4516	4	Technical elective	4		
		IE 4530	4				
		IE 4531	1				
	0		**17**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		IE 4520	4
		IE 4522	4
		IE 4523	1
		IE 4525	4
		MEIE 4702 (EI, WI, CE)	5
	0		**19**

Total Hours: 137

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	General elective	4
CHEM 1153	0	MATH 1342 (FQ)	4	General elective	4	General elective	4
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op	0	Co-op	0	MATH 3081 (AD)	4
IE 2310 (WI)	4					General elective	4
IE 2311	0						
IE 3425	4						
IE 3426	0						
MATH 2341	4						
Science elective	5						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315 (WD)	4	Co-op	0	Co-op	0	General elective	4
IE 4510	4					General elective	4
IE 4515	4						
IE 4530	4						
IE 4531	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENCP 3000	1	IE 4520	4
IE 4512	4	IE 4522	4
IE 4516	4	IE 4523	1

IE 4525	4	MEIE 4702 (EI, WI, CE)	5
MEIE 4701 (EI, WI, CE)	1	Technical elective	4
Technical elective	4		
	18		**18**

Total Hours: 137

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
IE 2310 (WI)	4	ENCP 2000	1	Vacation		Co-op	0
IE 2311	0	IE 3412 or MATH 3081 (AD)	4				
IE 3425	4	IE 4512	4				
IE 3426	0	MATH 2341	4				
MATH 2321 (FQ)	4	General elective	4				
Science elective	5						
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	General elective	4	Co-op	0
		IE 4510	4	General elective	4		
		IE 4515	4				
		IE 4516	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	MEIE 4701 (EI, CE, WI)	1	Co-op	0
		IE 4520	4	General elective	4		
		IE 4525	4	General elective	4		
		IE 4530	4				
		IE 4531	1				
		Technical elective	4				
	0		**18**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	IE 4522	4
		IE 4523	1
		MEIE 4702 (EI, WI, CE)	5
		General elective	4
		Technical elective	4
	0		**18**

Total Hours: 137

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op	0	Co-op	0	Vacation	
IE 2310 (WI)	4						
IE 2311	0						
IE 3425	4						
IE 3426	0						
MATH 2321 (FQ)	4						
Science elective	5						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315 (WD)	4	Co-op	0	Co-op	0	General elective	4
IE 3412 or MATH 3081 (AD)	4					General elective	4
IE 4512	4						
MATH 2341	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op	0	Co-op	0	General elective	4
IE 4510	4					General elective	4
IE 4515	4						
IE 4516	4						
IE 4530	4						
IE 4531	1						
	18		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
IE 4520	4	IE 4522	4
IE 4525	4	IE 4523	1
MEIE 4701 (EI, WI, CE)	1	MEIE 4702 (EI, WI, CE)	5
General elective	4	General elective	4
Technical elective	4	Technical elective	4
	17		**18**

Total Hours: 137

Mechanical Engineering, BSME

Mechanical engineering involves the design, development, and manufacture of machinery and devices to transmit power or to convert energy from thermal to mechanical form in order to power the modern world and its machines. Its current practice has been heavily influenced by recent advances in computer hardware and software.

Mechanical engineers use computers to formulate preliminary and final designs of systems or devices, to perform calculations that predict the behavior of the design, and to collect and analyze performance data from system testing or operation.

Traditionally, mechanical engineers have designed and tested devices, such as heating and air-conditioning systems, machine tools, internal-combustion engines, and steam power plants. Today they also play primary roles in the development of new technologies in a variety of fields—energy conversion, solar energy utilization, environmental control, robotics, prosthetics, transportation, manufacturing, and new-materials development.

The curriculum in mechanical engineering focuses on four areas: applied mechanics, thermofluids engineering, materials science, and controls. Applied mechanics is the study of the motion and deformation of structural elements acted on by forces in devices that range from rotating industrial dynamos to dentists' drills. Thermofluids engineering deals with the motion of fluids and the transfer of energy, as in the cooling of electronic components or the design of gas turbine engines. Materials science is concerned with the relationship between the structure and properties of materials and with the control of structure, through processing, to achieve desired properties. Practical applications are in the development of composite materials, metallurgical process industries, and advanced functional materials. Controls are critical to any engineered system in which sensors and actuators of several types communicate and function in order to impart desired behavior from these systems.

Courses in each area form the foundation for advanced analytical and creative design courses that culminate in a two-semester capstone design project. Faculty encourage students throughout the curriculum to use computer-aided design tools and high-performance computer workstations.

More than 90 percent of department undergraduate students take advantage of the cooperative education program. Cooperative education assignments increase in responsibility and technical challenge as students progress through the program. Initial positions may involve computer-intensive CAD/CAM assignments or programming tasks, while more advanced jobs will place students in design, quality-control systems, robotics, biomedical devices, and performance testing of equipment.

Visit the department website (https://mie.northeastern.edu/academics/undergraduate-studies/mie-accreditation/) for program educational objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
EECE 2210 and EECE 2211	Electrical Engineering and Lab for EECE 2210	5
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5

ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
ME 4508	Mechanical Engineering Computation and Design	4
or ME 4565	Introduction to Computational Fluid Dynamics	
ME 4550	Mechanical Engineering Design	4
ME 4555	System Analysis and Control	4
ME 4570	Thermal Systems Analysis and Design	4
Mechanical Engineering Capstone		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Mechanical and Industrial Engineering Technical Elective		
Complete one technical elective in one of the following subject areas:		4
EMGT, ENGR, ENSY, IE, ME, or MEIE		
Supplemental Credit		
2 semester hours from the following course counts toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course counts toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Science/Math Elective		
Complete one of the following:		4-5
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	
MATH 3081	Probability and Statistics	
PHYS 2303	Modern Physics	
PHYS 3601	Classical Dynamics	
PHYS 3602	Electricity and Magnetism 1	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 SH of academic, nonremedial, nonrepetitive courses.		24

Program Requirement

140 total semester hours required

Major GPA Requirement

2.000 minimum GPA required in ME/MEIE/EECE/ENCP coursework

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	General elective	4
CHEM 1153	0	PHYS 1151 (ND)	3	ME 2350	4	General elective	4
ENGW 1111 (WF)	4	PHYS 1152 (AD)	1				
GE 1000	1	PHYS 1153	1				
GE 1501	4	MATH 1342 (FQ)	4				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315 (WD)	4	ENCP 2000	1	ME 3475 or 3480	4	Co-op	0
MATH 2341	4	ME 2340 (WI)	4	General elective	4		
ME 2355	4	ME 2341	1				
ME 2356	1	ME 2380	4				
PHYS 1155 (ND)	3	ME 2381	0				
PHYS 1156 (AD)	1	ME 3455	4				
PHYS 1157	1	ME 3456	1				

		General elective	4				
	18		**19**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EECE 2210	4	ME 4550	4	Co-op	0
		EECE 2211	1	MEIE 4701 (EI, WI, CE)	1		
		ENCP 3000	1	General elective	4		
		ME 4505 (AD)	4				
		ME 4506	1				
		ME 4555	4				
		ME 4570	4				
	0		**19**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ME 4508	4
		MEIE 4702 (EI, WI, CE)	5
		MIE technical elective	4
		Science/math elective	4
	0		**17**

Total Hours: 140

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	ME 2350	4	General elective	4
CHEM 1153	0	PHYS 1151 (ND)	3	MATH 2321 (FQ)	4	General elective	4
ENGW 1111 (WF)	4	PHYS 1152 (AD)	1				
GE 1000	1	PHYS 1153	1				
GE 1501	4	MATH 1342 (FQ)	4				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op	0	Co-op	0	ME 3475 or 3480	4
MATH 2341	4					General elective	4
ME 2355	4						
ME 2356	1						
ME 2380	4						
ME 2381	0						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
	19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315 (WF)	4	Co-op	0	Co-op	0	ME 4550	4
ME 3455	4					MEIE 4701 (EI, WI, CE)	1
ME 3456	1					General elective	4
ME 4505 (AD)	4						
ME 4506	1						
ME 4570	4						
	18		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 2210	4	ME 2340 (WI)	4
EECE 2211	1	ME 2341	1
ENCP 3000	1	ME 4508	4
ME 4555	4	MIE technical elective	4
MEIE 4702 (EI, WI, CE)	5	Science/math elective	4
General elective	4		
	19		**17**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321 (FQ)	4	ENCP 2000	1	Vacation		Co-op	0
ME 2350	4	MATH 2341	4				
PHYS 1155 (ND)	3	ME 2355	4				
PHYS 1156 (AD)	1	ME 2356	1				
PHYS 1157	1	ME 2380	4				
General elective	4	ME 2381	0				
		General elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	ME 3475 or 3480	4	Co-op	0
		ME 2340 (WI)	4	General elective	4		
		ME 2341	1				
		ME 3455	4				
		ME 3456	1				
		ME 4508	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	ME 4550	4	Co-op	0
		ME 4505 (AD)	4	MEIE 4701 (EI, WI, CE)	1		
		ME 4506	1	General elective	4		
		ME 4555	4				
		ME 4570	4				
		Math/science elective	4				
	0		**18**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	EECE 2210	4

	EECE 2211	1	
	MEIE 4702 (EI, WI, CE)	5	
	General elective	4	
	MIE technical elective	4	
0		**18**	

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation		Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1000	1	PHYS 1152 (AD)	1				
GE 1501	4	PHYS 1153	1				
MATH 1341 (FQ)	4	General elective	4				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op	0	Co-op	0	Vacation	
MATH 2321 (FQ)	4						
ME 2350	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
General elective	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2341	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
ME 2340 (WI)	4					ME 3475 or 3480	4
ME 2341	1						
ME 2355	4						
ME 2356	1						
ME 2380	4						
ME 2381	0						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ME 3455	4	Co-op	0	Co-op	0	ME 4550	4
ME 3456	1					MEIE 4701 (EI, WI, CE)	1
ME 4505 (AD)	4					General elective	4
ME 4506	1						
ME 4508	4						
ME 4570	4						
	18		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
EECE 2210	4	General elective	4
EECE 2211	1	General elective	4
ENCP 3000	1	Math/science elective	4
ME 4555	4	MIE technical elective	4

MEIE 4702 (EI, WI, CE)	5	
General elective	4	
	19	**16**

Total Hours: 140

Mechanical Engineering and Bioengineering, BSME

Overview

This combined major from the Department of Mechanical and Industrial Engineering and Department of Bioengineering provides a rigorous curriculum for students willing to learn and integrate the foundations of mechanical engineering and bioengineering toward solving multidisciplinary problems arising at the intersection of these two engineering disciplines. The combined major weaves mechanics, materials, and thermofluids courses of mechanical engineering with a set of core and elective bioengineering courses from biomechanics, biostatistics, signals, and systems, to biomaterials, biomedical imaging, and design of biomedical devices and implants.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Mechanical Engineering Requirements

Code	Title	Hours
Required Mechanical Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4550	Mechanical Engineering Design	4
ME 4570	Thermal Systems Analysis and Design	4
Senior Capstone Design Project		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2	

Bioengineering

Code	Title	Hours
Required Bioengineering Courses		
BIOE 2355	Quantitative Physiology for Bioengineers	4
BIOE 2365 and BIOE 2366	Bioengineering Measurement, Experimentation, and Statistics and Lab for BIOE 2365	5
BIOE 3210	Bioelectricity	4

BIOE 3380	Biomolecular Dynamics and Control	4
BIOE 5640	Computational Biomechanics	4
Bioengineering Electives		
Complete 16 semester hours from the course list below:		16
BIOE 5115	Dynamical Systems in Biological Engineering	
BIOE 5235	Biomedical Imaging	
BIOE 5250	Regulatory and Quality Aspects of Medical Device Design	
BIOE 5410	Molecular Bioengineering	
BIOE 5420	Cellular Engineering	
BIOE 5430	Principles and Applications of Tissue Engineering	
BIOE 5440	The Cell as a Machine	
BIOE 5630	Physiological Fluid Mechanics	
BIOE 5650	Multiscale Biomechanics	
BIOE 5800	Systems, Signals, and Controls for Bioengineers	
BIOE 5810	Design of Biomedical Instrumentation	
BIOE 5820	Biomaterials	
BIOE 5850	Design of Implants	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1	

Professional Development

Code	Title	Hours
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4

ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Courses

Code	Title	Hours
These courses are already required above and also fulfill the integrative requirement.		
MEIE 4701	Capstone Design 1	
MEIE 4702	Capstone Design 2	

Major GPA Requirement

2.000 minimum GPA required in ME, IE, and MEIE courses

2.000 minimum GPA required in BIOE courses

Program Requirement

140 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	BIOL 1112	1	ME 2350	4		
ENGW 1111 (WF)	4	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	BIOE 2355	4	Vacation		Vacation	
BIOE 2366	1	ME 2340 (WI)	4				
MATH 2341	4	ME 2341	1				
ME 2355	4	ME 2380	4				
ME 2356	1	ME 2381	0				
PHYS 1155 (ND)	3	General elective	4				
PHYS 1156 (AD)	1						
PHYS 1157	1						
	19		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 3210	4	BIOE 3380	4	ME 4550	4	Co-op	0
ME 3475 or 3480	4	BIOE 5640	4	MEIE 4701 (EI, WI, CE)	1		
BIOE elective	4	ENCP 2000	1	General elective	4		
BIOE elective	4	ME 3455	4				
		ME 3456	1				
		ME 4570	4				
	16		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		ENGW 3302 or 3315 (WD)	4
		MEIE 4702 (EI, WI, CE)	5
		BIOE elective	4
		BIOE elective	4
	0		**18**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	BIOL 1111	4	Vacation		Vacation	
CHEM 1153	0	BIOL 1112	1				
ENGW 1111 (WF)	4	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOE 2365 (AD, WI)	4	ENCP 2000	1	Vacation		Co-op	0
BIOE 2366	1	ME 2355	4				
MATH 2321 (FQ)	4	ME 2356	1				
ME 2350	4	ME 2380	4				
PHYS 1155 (ND)	3	ME 2381	0				
PHYS 1156 (AD)	1	MATH 2341	4				
PHYS 1157	1	General elective	4				
	18		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 2355	4	ME 3475 or 3480	4	Co-op	0
		BIOE 3210	4	General elective	4		
		ME 2340 (WI)	4				
		ME 2341	1				
		ME 3455	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOE 3380	4	ENGW 3302 or 3315 (WD)	4	Co-op	0
		BIOE 5640	4	MEIE 4701 (EI, WI, CE)	1		
		ME 3456	1	ME 4550	4		
		ME 4570	4				
		BIOE elective	4				
	0		**17**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		MEIE 4702 (EI, WI, CE)	5
		BIOE elective	4

	BIOE elective	4
	BIOE elective	4
0		**18**

Total Hours: 140

Mechanical Engineering and Design, BSME

The combined major in mechanical engineering and design is designed to educate students in topics of both disciplines and the interface between them. Mechanical engineering involves the design, development, and manufacture of machinery and devices to transmit power or to convert energy from thermal to mechanical form in order to power the modern world and its machines. Its current practice has been heavily influenced by recent advances in computer hardware and software. Today, engineers also play a primary role in the development of new technologies in a variety of fields —energy conversion, solar energy utilization, environmental control, prosthetics, transportation, manufacturing, and new-materials development. Design is the discipline that shapes human experiences in specific situations to improve quality. Designers pose important questions about—and provide significant answers to—how we live. Designers are needed when we don't know what is needed as well as when we think we do. Students in this program will combine the disciplines in order to address complex problems with human-centered solutions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience may fulfill the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
Senior Capstone Design Project		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Technical Electives		
Complete two of the following (at least one must be ME 4550 or ME 4570):		8
ME 4508	Mechanical Engineering Computation and Design	
or ME 4565	Introduction to Computational Fluid Dynamics	
ME 4550	Mechanical Engineering Design	
ME 4555	System Analysis and Control	
ME 4570	Thermal Systems Analysis and Design	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	

3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Design Requirements

Code	Title	Hours
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art and Design Fundamentals Elective		
Complete one of the following:		5
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Requirements		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2262 and ARTG 2263	Prototyping with Code and Lab for ARTG 2262 (or ARTG Design elective)	4
Art and Design History Elective		**4**
Complete any one ARTH course.		
Art and Design Elective		**4**
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		

Design Options

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		
ARTG 2400 and ARTG 2401	Interaction Design Principles and Interaction Design Principles Tools	
ARTG 3700	Interaction Design 2: Mobile	

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4

MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
or ARTF 1000	Art and Design at Northeastern	
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses. Recommend selecting a course to fulfill NUpath DD.		4

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
MEIE 4702	Capstone Design 2	

Major GPA Requirement

2.000 minimum GPA required in IE, ME, and MEIE courses

Program Requirement

141 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation		Vacation	

CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and 1270	4	ME 3475 or 3480	4	Vacation	
MATH 2321 (FQ)	4	ENCP 2000	1	Art and design fundamentals elective	5		
ME 2350	4	MATH 2341	4				
PHYS 1155 (ND)	3	ME 2355	4				
PHYS 1156 (AD)	1	ME 2356	1				
PHYS 1157	1	ME 2380	4				
		ME 2381	0				
	17		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1290 and ARTG 1291	4	ME 3455	4	MEIE 4701 (EI, WI, CE)	1	Co-op	0
ENGW 3302 or 3314 (WD)	4	ME 3456	1	Art and design elective	4		
ME 2340 (WI)	4	ME 4505 (AD)	4	Engineering tech elective	4		
ME 2341	1	ME 4506	1				
Design Option course 1	4	Design Option course 2	4				
		Engineering tech elective	4				
	17		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ARTG 2262 and ARTG 2263	4
		ENCP 3000	1
		MEIE 4702 (EI, WI, CE)	5
		Art and design history elective	4
		General elective (NUPath DD)	4
	0		**18**

Total Hours: 140

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation	0	Vacation	0
CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	MATH 2341	4	Vacation	0	ARTF 1122 (EI)	4
ENCP 2000	1	ME 2340 (WI)	4			ME 3475 or 3480	4
MATH 2321 (FQ)	4	ME 2341	1				
ME 2350	4	ME 2355	4				
PHYS 1155 (ND)	3	ME 2356	1				
PHYS 1156 (AD)	1	ME 2380	4				
PHYS 1157	1	ME 2381	0				
	18		**18**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1290 and ARTG 1291	4	Co-op	0	Co-op	0	ENGW 3302 or 3315 (WD)	4
ME 3455	4					MEIE 4701 (EI, WI, CE)	1
ME 3456	1					Engineering tech elective	4
ME 4505 (AD)	4						
ME 4506	1						
Design Option course 1	4						
	18		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
ENCP 3000	1	ARTG 2262 and ARTG 2263	4
MEIE 4702 (EI, WI, CE)	5	Art and Design elective	4
Art and design history elective	4	Art and design fundamentals elective	5
Design Option course 2	4	Engineering tech elective	4
General elective (NUPath DD)	4		
	18		**17**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation		Vacation	
CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	ARTF 1122 (EI)	4	Vacation		Co-op	0
MATH 2321 (FQ)	4	ENCP 2000	1				
ME 2350	4	MATH 2341	4				
PHYS 1155 (ND)	3	ME 2340 (WI)	4				
PHYS 1156 (AD)	1	ME 2341	1				
PHYS 1157	1	ME 2380	4				

		ME 2381	0				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	ARTG 1290 and ARTG 1291	4	Co-op	0
		ME 2355	4	ME 3475 or 3480	4		
		ME 2356	1				
		Art and design fundamentals elective	5				
		Design Option course 1	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	MEIE 4701 (EI, WI, CE)	1	Co-op	0
		ME 3455	4	Art and design elective	4		
		ME 3456	1	Engineering tech elective	4		
		ME 4505 (AD)	4				
		ME 4506	1				
		Art and design history elective	4				
		Design Option course 2	4				
	0		**19**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ARTG 2262 and ARTG 2263	4
		MEIE 4702 (EI, WI, CE)	5
		Engineering tech elective	4
		General elective (NUPath DD)	4
	0		**17**

Total Hours: 140

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1000 or GE 1000	1	ARTG 1001 and ARTG 1002	4	Vacation		Vacation	
CHEM 1151 (ND)	4	GE 1502 (ER)	4				
CHEM 1153	0	MATH 1342 (FQ)	4				
ENGW 1111 (WF)	4	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	Co-op	0	Co-op	0	ARTF 1122 (EI)	4
ENCP 2000	1					ME 3475 or 3480	4
MATH 2321 (FQ)	4						
ME 2350	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						

PHYS 1157	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2341	4	Co-op	0	Co-op	0	Vacation	
ME 2355	4						
ME 2356	1						
ME 2380	4						
ME 2381	0						
Art and Design fundamentals elective	5						
	18		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op	0	Co-op	0	ARTG 1290 and ARTG 1291	4
ME 2340 (WI)	4					MEIE 4701 (EI, WI, CE)	1
ME 2341	1					General elective (NUPath DD)	4
ME 3455	4						
ME 3456	1						
ME 4505 (AD)	4						
ME 4506	1						
Design Option course 1	4						
	20		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
MEIE 4702 (EI, WI, CE)	5	ARTG 2262 and ARTG 2263	4
Art and Design history elective	4	ENGW 3302 or 3315 (WD)	4
Design Option course 2	4	Art and Design elective	4
Engineering tech elective	4	Engineering tech elective	4
	17		**16**

Total Hours: 140

Mechanical Engineering and History, BSME

The combined mechanical engineering and history major is designed to help students develop skills across different intellectual domains. A solid grounding in history helps students better understand the political, cultural, and economic context in which technologies are developed and deployed. Indeed, history offers a myriad of case studies that highlight both the transformative potential and the unintended consequences of new technologies and technological processes. By studying different phases of the past and different societies in the past, students will gain a broad perspective that gives them the range and flexibility required in many work situations. History also provides a terrain for moral contemplation. Greater sensitivity to historical context also helps students see beyond commonly accepted narratives valorizing individual entrepreneurs and appreciate the different ways in which innovation, disruption, official support, and even contingency give rise to new technologies. Finally, by writing effective papers and engaging in productive discussions at the heart of history courses, students also cultivate skills in critical analysis and persuasive communication that could be employed in any future careers.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirement Interpreting Culture (IC) is not explicitly satisfied by required courses. Students are responsible for satisfying this requirement with electives.

Engineering Requirements

Code	Title	Hours
Required Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
Senior Capstone Design Project		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Technical Electives		
Complete two of the following:		8
ME 4508	Mechanical Engineering Computation and Design	
ME 4550	Mechanical Engineering Design	
ME 4555	System Analysis and Control	
ME 4570	Thermal Systems Analysis and Design	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

History Requirements

Code	Title	Hours
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
HIST 2220	History of Technology	4
Research Methods		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Introductory History		
Complete one course from HIST 1001 to HIST 1999 (excluding HIST 1200 and HIST 1201).		4
History Elective		
Complete two HIST courses at any level in any field.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2000	Native American Resistance: Past and Present	
HIST 2311	Colonialism/Imperialism	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Intermediate History		
Complete minimum of one HIST course numbered 2000 to 2999 (Excluding HIST 2301 and HIST 2302).		4
Advanced History		
Complete minimum one HIST course numbered 3000 to 4999 (Excluding HIST 4701).		4

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		

1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
HIST 2220	History of Technology	

Required General Elective

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses.		4

Major GPA Requirement

Minimum 2.000 GPA required in ME courses

Minimum 2.000 GPA required in all HIST courses

Program Requirement

141 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	HIST 1200	1				
ENGW 1111 (WF)	4	HIST 1201	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	HIST 2301	4	Vacation	0	ME 3475 or 3480	4
MATH 2321 (FQ)	4	HIST 2302 (WD)	1			Introductory history course	4
ME 2340 (WI)	4	MATH 2341	4				
ME 2341	1	ME 2355	4				
ME 2350	4	ME 2380	4				
PHYS 1155 (ND)	3	ME 2381	0				
PHYS 1156 (AD)	1	ME 2356	1				
PHYS 1157	1						
	19		**18**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2220 (SI, DD)	4	Co-op		Co-op		MEIE 4701 (EI, CE, WI)	1
ME 3455	4					ME technical elective	4
ME 3456	1					Intermediate history course	4
ME 4505 (AD)	4						
ME 4506	1						
Pre-1800 history elective	4						
	18		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
ENCP 3000	1	Advanced history course	4
ENGW 3302 or 3315 (WD)	4	General elective	4
MEIE 4702 (EI, CE, WI)	5	Intermediate history course	4
Intermediate history course	4	ME technical elective	4
Intermediate history course	4		
	18		**16**

Total Hours: 141

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	HIST 1200	1				
ENGW 1111 (WF)	4	HIST 1201	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op	0	Co-op	0	Vacation	0
MATH 2321 (FQ)	4						
ME 2350	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
HIST 2301	4						
HIST 2302 (WD)	1						
	19		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2341	4	Co-op		Co-op		ME 2380	4
ME 2340 (WI)	4					ME 2381	0
ME 2341	1					Intermediate history course	4
ME 2355	4						
ME 2356	1						
Introductory history course	4						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op		Co-op		ME 3475 or 3480	4
HIST 2220 (SI, DD)	4					MEIE 4701 (EI, CE, WI)	1
ME 3455	4					General elective	4
ME 3456	1						
ME 4505 (AD)	4						
ME 4506	1						
Pre-1800 history elective	4						
	19		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
ENGW 3302 or 3315 (WD)	4	Advanced history course	4
MEIE 4702 (EI, CE, WI)	5	Intermediate history course	4
Intermediate history course	4	ME technical elective	4
Intermediate history course	4	ME technical elective	4
	17		**16**

Total Hours: 141

Mechanical Engineering and Physics, BSME

This undergraduate program takes advantage of the physical similarities between mechanical engineering and physics, providing students with the opportunity to pursue studies that explore both topics. The program culminates with mechanical engineering capstone design.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirement

Code	Title	Hours
Required Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
ME 4508	Mechanical Engineering Computation and Design	4
or ME 4565	Introduction to Computational Fluid Dynamics	
ME 4550	Mechanical Engineering Design	4
ME 4555	System Analysis and Control	4
ME 4570	Thermal Systems Analysis and Design	4
Mechanical Engineering Capstone		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Supplemental Credit		
2 semester hours from the following course counts toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course counts toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science Requirement

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4

MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	5
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	5
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 5318	Principles of Experimental Physics	4
Advanced Physics Elective		
Complete one 4-semester-hour course from the following:		4
PHYS 4606	Mathematical and Computational Methods for Physics	
PHYS 4621	Biological Physics 1	
PHYS 4623	Medical Physics	
PHYS 4651	Medical Physics Seminar 1	
PHYS 4652	Medical Physics Seminar 2	
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5117	Advanced Astrophysics Topics	
PHYS 5118	General Relativity and Cosmology	
PHYS 5125	Advanced Quantum Mechanics	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
Writing		
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Requirement

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
PHYS 5318	Principles of Experimental Physics	

Major GPA Requirement

2.000 minimum GPA required in IE, ME, and MEIE courses

Program Requirement

139 total semester hours required

[1] Students may substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 (AD)	1				
PHYS 1161 (ND)	4	PHYS 1167	0				
PHYS 1162 (AD)	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321 (FQ)	4	ENCP 2000	1	ME 3475 or 3480	4	Vacation	
ME 2340 (WI)	4	MATH 2341	4	PHYS 3600 (ND, AD, WI)	4		
ME 2341	1	ME 2355	4				
ME 2350	4	ME 2356	1				
PHYS 2303 (ND)	4	ME 2380	4				
		ME 2381	0				
		PHYS 3601 (ND)	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315 (WD)	4	ME 3455	4	ME 4550	4	Co-op	0
ME 4505 (AD)	4	ME 3456	1	MEIE 4701 (EI, CE, WI)	1		
ME 4506	1	ME 4508	4	General elective	4		
PHYS 2371 (ND)	3	ME 4570	4				
PHYS 2372 (EI)	1	PHYS 3602 (ND)	4				
General elective	4						
	17		**17**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		ME 4555	4

	MEIE 4702 (EI, CE, WI)	5	
	PHYS 5318 (ND, AD, WI, CE)	4	
	Advanced physics elective	4	
0		**18**	

Total Hours: 139

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 (AD)	1				
PHYS 1161 (ND)	4						
PHYS 1162 (AD)	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321 (FQ)	4	ENCP 2000	1	Vacation		Co-op	0
MATH 2341	4	ME 2340 (WI)	4				
ME 2350	4	ME 2341	1				
PHYS 2371 (ND)	3	ME 2355	4				
PHYS 2372 (EI)	1	ME 2356	1				
		ME 2380	4				
		ME 2381	0				
		PHYS 2303 (ND)	4				
	16		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	ME 3475 or 3480	4	Co-op	0
		ME 3455	4	PHYS 3600 (ND, AD, WI)	4		
		ME 3456	1				
		ME 4508	4				
		PHYS 3602 (ND)	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	ME 4550	4	Co-op	0
		ME 4505 (AD)	4	MEIE 4701 (EI, WI, CE)	1		
		ME 4506	1	General elective	4		
		ME 4555	4				
		ME 4570	4				
		PHYS 3601 (ND)	4				
	0		**18**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	MEIE 4702 (EI, WI, CE)	5
		PHYS 5318 (ND, AD, CE, WI)	4
		Advanced physics elective	4

	General elective	4
	0	**17**

Total Hours: 139

Notes:

Physics courses are offered on the following schedule:

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2.
- Electronics (PHYS 2371) and Lab for PHYS 2371 (PHYS 2372) offered every fall.
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2.
- Classical Dynamics (PHYS 3601) is offered fall and spring semesters of even years only. Please meet with your COS academic advisor to discuss scheduling options for year 4 of odd years.
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring.
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years).
- Quantum Mechanics (PHYS 4115) offered every fall and spring.
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years).
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years).
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years).
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years).
- Medical Physics Seminar 2 (PHYS 4652) offered every spring.
- Principles of Experimental Physics (PHYS 5318) offered every spring.

Aerospace, Minor

This aerospace minor provides an opportunity for students to gain fundamental knowledge in science and technology of navigation in the air. These fundamentals are covered by a total of five courses, with courses on flight and propulsion, as well as in mechanics/structures, thermofluids, and guidance and navigation.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Core Courses		
ME 3465	Introduction to Flight	4
ME 3470	Aeronautical Propulsion	4
Guidance and Navigation Course		
ME 5554	Robotics Sensing and Navigation	4
Structures Course		
Complete one of the following:		4
ME 4520	Mechanical Vibration	
ME 5655	Dynamics and Mechanical Vibration	
Combustion and Aerodynamics Course		
Complete one of the following:		4
ME 4565	Introduction to Computational Fluid Dynamics	
ME 5690	Gas Turbine Combustion	
ME 5695	Aerodynamics	

GPA Requirement

Minimum 2.000 GPA required in the minor

Credit Requirement

20 semester hours required

Biomechanical Engineering, Minor

This minor provides an opportunity for students to explore the interaction between mechanical engineering and health. Recommended for students interested in aspects of engineering related to human kinematics, including biomedical devices, joint injury, prosthetic development, human-machine systems, and/or prosthetics.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Biology

Code	Title	Hours
Biology 1		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
Anatomy and Physiology		
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5

Required Mechanical Engineering

Code	Title	Hours
ME 5665	Musculoskeletal Biomechanics	4
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5

Technical Elective

Additional electives may be approved by your academic advisor.

Code	Title	Hours
Complete one of the following:		4-5
IE 4520	Stochastic Modeling	
IE 4522 and IE 4523	Human-Machine Systems and Lab for IE 4522	
ME 4640	Mechanical Behavior and Processing of Materials	
ME 5650	Advanced Mechanics of Materials	
ME 5655	Dynamics and Mechanical Vibration	
PHYS 4621	Biological Physics 1	

GPA Requirement

2.000 GPA required in the minor

Healthcare System Operations, Minor

The objective of the minor in healthcare system operations is to prepare students to apply industrial and systems engineering methods in healthcare applications. Distinct from other service industries, healthcare systems are characterized by extensive complexities driven by communication between and interdependencies among multiple actors, and the need to simultaneously address multiple competing objectives pertaining to economic, quality-driven, individual-driven, and population-driven goals. This minor will benefit students by highlighting the unique features of this industry and methods for addressing its unique challenges to engineer improvements to the design, operation, and management of healthcare systems.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

At most, one course from the minor may be counted toward major requirements.

Code	Title	Hours
Required Courses		
IE 5617	Lean Concepts and Applications	4
IE 5400	Healthcare Systems Modeling and Analysis	4
or IE 3500	Introduction to Healthcare Systems Engineering	
PHTH 1260	The American Healthcare System	4
Electives		
Complete one of the following:		4
IE 5374	Special Topics in Industrial Engineering (System Dynamics in Healthcare)	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
NRSG 5121	Epidemiology and Population Health	
PHTH 4511	Healthcare Management	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5232	Evaluating Healthcare Quality	
SCHM 3315	Managing Healthcare Operations and Supply Chain	

GPA Requirement

2.000 GPA required in the minor

Industrial Engineering, Minor

This minor provides an opportunity for students to explore core aspects of industrial engineering, including mathematical foundations, along with a technical focus into one of the many industrial engineering subdisciplines. This minor is not open to students majoring in Industrial Engineering.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
IE 2310	Introduction to Industrial Engineering	4
IE 4515	Operations Research	4
IE 3412	Engineering Probability and Statistics (or equivalent)	4

Technical Elective

Consult mechanical and industrial engineering academic advisor for additional electives.

Code	Title	Hours
Complete one of the following:		4
IE 3425	Engineering Database Systems	
IE 4510	Simulation Modeling and Analysis	
IE 4512	Engineering Economy	
IE 4516	Quality Assurance	
IE 4520	Stochastic Modeling	
IE 4522 and IE 4523	Human-Machine Systems and Lab for IE 4522	
IE 4525	Logistics and Supply Chain Management	
IE 4530	Manufacturing Systems and Techniques	

GPA Requirement

2.000 GPA required in the minor

Mechanical Engineering, Minor

This minor provides an opportunity for students to explore core aspects of mechanical engineering, including mechanical and thermofluid foundations, along with a technical focus into one of the mechanical engineering disciplines (mechanics, thermofluids, materials, and/or controls). This minor is not open to students majoring in Mechanical Engineering.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
ME 2350	Statics	4
ME 2380	Thermodynamics	4

Mechanical Engineering Technical Electives

Code	Title	Hours
Complete two of the following:		8
ME 2340	Introduction to Material Science	
ME 2355	Mechanics of Materials	
ME 3455	Dynamics	
ME 3475	Fluid Mechanics	
or ME 3480	International Applications of Fluid Mechanics	
ME 4508	Mechanical Engineering Computation and Design	
or ME 4565	Introduction to Computational Fluid Dynamics	
ME 4550	Mechanical Engineering Design	
ME 4555	System Analysis and Control	
ME 4570	Thermal Systems Analysis and Design	

GPA Requirement

2.000 GPA required in the minor

Robotics, Minor

The minor in robotics is open to all students in the university. The minor is designed for the student who would like a coherent background in the theory and practice of robotics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students need to complete the program requirements with at least three courses that are not part of their major required coursework.

Required Courses

Code	Title	Hours
ME 3460	Robot Dynamics and Control	4
Complete one of the following:		4
EECE 2140	Computing Fundamentals for Engineers	
EECE 2160	Embedded Design: Enabling Robotics	
EECE 2210 and EECE 2211	Electrical Engineering and Lab for EECE 2210	

Electives

Code	Title	Hours
Complete three of the following:		12
CS 4100	Artificial Intelligence	
CS 4610	Robotic Science and Systems	
EECE 4630	Robotics	
EECE 5550	Mobile Robotics	
EECE 5552	Assistive Robotics	
EECE 5554	Robotics Sensing and Navigation	
EECE 5639	Computer Vision	
EECE 5644	Introduction to Machine Learning and Pattern Recognition	
EECE 5580	Classical Control Systems	
IE 4522	Human-Machine Systems	
ME 5245	Mechatronic Systems	
ME 5250	Robot Mechanics and Control	

GPA Requirement

2.000 GPA required in the minor

Accelerated Bachelor/Graduate Degree Programs

The College of Engineering offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

Bouvé College of Health Sciences

Website (https://bouve.northeastern.edu/)

Carmen C. Sceppa, MD, PhD, FGSA, Dean

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The Bouvé College of Health Sciences strongly supports the mission of Northeastern University as a practice-oriented, student-centered, experiential research institution. The college is committed to the goals of the university, which include excellence in education, research, scholarship, clinical practice, experiential learning, access to educational opportunities, and a strong professional orientation.

Bouvé offers students an education in health, health profession fields, and public health that features a curriculum of highly relevant, closely integrated, basic and applied courses in the physical, biological, behavioral, social, environmental, and health systems sciences. Students engage in interprofessional patient care, interdisciplinary translational research, and experiential learning opportunities through the university's signature cooperative education program, as well as through service-learning, research, and global experiences.

Bouvé leverages interdisciplinary and interprofessional collaboration to tackle the world's most pressing health challenges. The college seeks to prepare students to become clinicians, researchers, and leaders in healthcare and in the promotion of health of individuals and populations.

Students are provided a broad range of services and programs to ensure their academic success and enhance their overall educational experience at Northeastern University, from their first year through graduation. Faculty are deeply committed to student success, as students interact with world-class healthcare and educational institutions nationally and globally, to advance health for all.

Academic Requirements

Students are responsible for following the program requirements for their respective major, pattern of attendance, and graduation year. Students are responsible for monitoring their own progress through the curriculum by registering for the courses stipulated by their curriculum plan, abiding by course prerequisites, regularly checking their degree audits, and knowing the consequences for unsatisfactory academic progress. Any exceptions to a student's curriculum plan will be determined by protocols established by the program, after consultation with the student's academic advisor.

The minimum passing grade for a course within a curriculum is stipulated in the program requirements published in this catalog. The minimum passing grade required for certain NUpath writing-intensive courses is established by the university and can be viewed here (p. 118). For a course where the minimum passing grade is not established in the program requirements published in this catalog, the university's minimum passing grade for the course will be accepted.

ACADEMIC PROGRESSION WITHIN BOUVÉ

- First-year students must complete the minimum semester hours outlined by the university Academic Progression Standards (p. 88) and meet all major/program prerequisite course requirements to progress to sophomore status.
- Students who incur an incomplete grade in a prerequisite course may not progress into the subsequent courses(s). Any exceptions will be determined by protocols established by the program, after consultation with the student's academic advisor. See Clearing an Academic Deficiency (p. 62) and Requesting and Clearing an Incomplete Grade (p. 75) in this catalog for more detail.
- Please see each major/program's requirements page in this catalog for progression requirements specific to that program.

GRADE-POINT AVERAGE

Bouvé College does not permit the use of a hand-calculated GPA under any circumstances. All GPA calculations will be performed by the university's standard process.

ACADEMIC DISMISSAL FROM MAJOR

Students in the Bouvé College of Health Sciences will be dismissed from their major/program effective the following academic semester for failure to earn the minimum required grade in the same course twice. Additional grounds for academic dismissal specific to each major can be found on the program requirements page of the major in this catalog.

Note: Students dismissed from their major/program but who are otherwise in good standing with the university are allowed to remain at Northeastern University for up to two semesters as a provisional Bouvé student, by the end of which, the student is expected to move into a new major. If not moved into a new major by the end of two semesters, the student will be blocked from further registration.

ACADEMIC DISMISSAL FROM THE UNIVERSITY

When a Bouvé College of Health Sciences student is dismissed from the university, they are not permitted to remain registered for courses in the immediate next academic term. If the university dismissal is successfully appealed, a student may register for classes in the following academic term.

UNDERGRADUATE STUDENT ACADEMIC PETITIONS

Students must submit petitions to relevant offices on campus to request any of the following:

- A leave of absence (https://registrar.northeastern.edu/article/leaves-of-absence/#_ga=2319824621360260476164666128O-1409848179160503450O).
- A waiver of policy (see department-specific web forms (https://bouve.northeastern.edu/student-services/webforms/)).
- A change in major (see Bouvé Change of Major form (https://forms.office.com/Pages/ResponsePage.aspx?id=gcLuqKOqrk2sm5o5i5IV53Z7F2qgmd5CtlWtwVVJ6U1UNzFFUTE4NzlaUjBHNUVCMU5ZQzNOUDVETCQlQCN0PWcu)).
- A declaration of a Bouvé minor (see Bouvé Minors Request form (https://forms.office.com/Pages/ResponsePage.aspx?id=gcLuqKOqrk2sm5o5i5IV53cVYcVHFMBAtH5dQoBPBm9UMjNCMlhWVVJWN0JETlhDUjVLOEhEWldKWi4u)).
- A Late Course Registration (https://registrar.northeastern.edu/article/late-course-registration/).
- A directed study request (see Individual Instruction Registration (https://registrar.northeastern.edu/article/individual-instruction-registration/)).
- A request to take two courses while on co-op (see Petition Registration form (https://registrar.northeastern.edu/wp-content/uploads/sites/9/form-pet-reg-14.pdf)). Please note: Taking one course while on co-op does not require this form. Taking any course(s) while on co-op requires "I Am Here" participation.
- Preapproval for a course to be taken for transfer credit (requires petition process with academic advisor).
- A different course of action regarding their academic standing, progression, probation, or dismissal. This is also known as an Academic Appeal, see below. This requires a formal petition to the unit's academic standing committee, see department-specific web forms (https://bouve.northeastern.edu/student-services/webforms/).

ACADEMIC PROBATION PROCEDURE

Academic standing is determined at the conclusion of every term, and students on academic probation are notified via email.

Students on probation are required to meet with their advisor#before the end of week 2 of their probationary semester to complete an Academic Probation Contract (https://bouve.northeastern.edu/student-services/webforms/).

Once the contract is completed and signed, students are required to submit it to both their program and their Student Services designee, no later than the end of week 3 of the probationary term. Failure to submit an Academic Probation Contract in a timely manner may result in dismissal from the college.

The program will review the student's contract and provide any additional feedback or recommendations for the student and return a signed copy to the student.

Advisors will meet with students on academic probation throughout the semester to benchmark progress and assess compliance with the contract during weeks 4, 10, and 12.

A review of the student's progress will occur at the end of the term.

- If a student returns to good standing, they will no longer be on academic probation.
- If a student does not return to good academic standing, their compliance with their contract will be reviewed:
    - If a student was compliant with the contract, they will be required to submit a second Academic Probation Contract to the unit.
    - If a student did not comply with the contract, they may be dismissed from Bouvé with an option to appeal.

UNDERGRADUATE STUDENT ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Details about the process for undergraduate students may be found in *Appeals Policies and Procedures* in the university Undergraduate Student Handbook (http://www.northeastern.edu/osccr/code-of-student-conduct/) supplemented by the college-specific policies and procedures below.

Step 1. For appeals concerning a course grade, students should discuss their concerns with the course instructor or unit head offering the course as outlined in the Undergraduate Student Handbook (http://www.northeastern.edu/osccr/code-of-student-conduct/). If the concern remains unresolved after these conversations, the student should prepare an appeal to the college level, see Step 5, below.

For all other academic appeals, including decisions concerning academic standing or progression or co-op, students should discuss their concerns with the academic advisor and prepare an appeal statement for submission to the unit level as shown in the step below. Bouvé undecided students should begin at Step 4, below. For appeals concerning a professionalism determination (when applicable to a student's program/major), the student should discuss their concerns with the program director.

The Disability Resource Center (http://www.northeastern.edu/drc/) provides an appeal process for students with disabilities who believe their accommodation requests were unduly denied. Appeals arising from allegations of discrimination or harassment on the basis of a protected category should be referred to the Office for University Equity and Compliance (https://www.northeastern.edu/ouec/). For appeals concerning student conduct, including academic integrity, please refer to the process outlined in the Code of Student Conduct.

Step 2. If the concern remains unresolved after informal discussions or if the concern pertains to an academic determination as outlined above, the student should prepare and submit an appeal statement. Students are encouraged to work with their advisor to complete the necessary forms.

Step 3: **BCHS Unit-Level Appeal** When appealing a decision to the unit level, students should submit a request to appeal and submit the appeal statement within 30 working days of the day when the student learns of the academic determination in question. The unit-level Academic Standing Committee must provide the student with a written report of the finding(s) and decision within 10 business days according to their established procedures.

Step 4: Department Chair- or School Dean-Level Appeal If the student believes they have been erroneously, capriciously, or otherwise unfairly treated with the unit-level committee's decision, they may pursue a secondary appeal to the next level as specified below:

School of Clinical and Rehabilitation Sciences: department chair of the unit offering the course or program

School of Community Health and Behavioral Sciences: department chair of the unit offering the course or program

School of Nursing: school dean

School of Pharmacy: school dean

Bouvé Undecided: BCHS associate dean of academic affairs

The student must request the appeal by contacting the specified office in writing via email within 10 business days of receiving the report from the previous step. After consideration, the department chair or school dean, or their representative, shall provide the student and involved faculty member with a written report of their finding(s) and decision within 10 business days of receiving the appeal request.

Step 5. College-Level Appeal If the student is not satisfied with the disposition of the matter at the previous step, they may proceed with the appeal through the BCHS Academic Affairs Committee. The BCHS AAC hears cases that have been unsatisfactorily resolved at the prior school and unit levels for "students who believe that they have been erroneously, capriciously, or otherwise unfairly treated" or may directly hear appeals concerning course grades or when a unit does not have a unit-level committee.

The student must request an appeal hearing in writing (via email) within 10 business days of receiving the report from the previous step or the grade in question. After consideration, the college dean or their representative, shall provide the student and involved faculty member with a written report of their finding(s) and decision within 10 business days of receiving the appeal request.

Processes for College-Level Appeals to the BCHS AAC:

- Students wishing to bring an appeal before the college AAC should first consult with their appointed academic advisor, or when the appeal involves the academic advisor, with the assistant dean of student services.
- The chair of the college AAC will convene the college appeals panel from among the regular members of the BCHS AAC. The appeals panel will include three voting members of the BCHS AAC that appropriately represent the breadth and depth of programs within the college. At minimum, two schools will be represented on the panel and at least one member who teaches within a similar degree-level program. Members of the panel shall have no known conflicts of interest with the student. The assistant dean of student services and the chair of the AAC will attend the appeal panel hearing as nonvoting members.
- A chair for the college appeal panel shall be selected from among the panel members and is responsible for producing a formal recommendation of the committee for communication to the college dean.
- The chair of the AAC will be responsible for scheduling the meeting, notifying the student and other participants in a timely manner so they may attend, and keeping and archiving records of the proceedings according to committee procedures.
- The chair of the college appeal panel will notify the college dean of the findings and recommended decision. The college dean will have the final decision.
- The college dean will notify the student and other relevant parties of the decision in writing no later than 10 business days after the decision.

Step 6. University-Level Appeal If the student is not satisfied with the college's disposition of the matter, or if the appeal is not resolved within 30 working days (six calendar weeks) after having been submitted to the college in the previous step, they may appeal the matter to the university level. The student shall submit a request in writing, within 10 working days (two calendar weeks) of the finding of the college in the previous step, to the vice provost for undergraduate programs and policies that the university convene an academic appeals resolution committee to review the issue. See the Undergraduate Student Handbook (http://www.northeastern.edu/osccr/code-of-student-conduct/) for more information.

OTHER POLICIES AND PROCEDURES

In addition to policies and procedures referenced here, the following policies and procedures published in Bouvé's graduate catalog also apply to Bouvé's undergraduate students:

- Health Certification (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/health-certification/)
- Requirements for Clinical, Internships, and Practicum Courses (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/practicum-internship-policies/)
- Background Checks (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/background-checks/)
- Liability Insurance (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/liability-insurance/)

Interdisciplinary Programs

Combined Majors

- Business Administration and Public Health, BS (p. 607)
- Communication Studies and Speech-Language Pathology and Audiology, BS (p. 368)
- Data Science and Health Science, BS (p. 907)
- Environmental Engineering and Health Science, BSEnvE (p. 1046)
- Health Humanities and Health Science, BS (p. 1178)
- Health Science and Business Administration, BS (p. 632)
- Health Science and Communication Studies, BS (p. 371)
- Health Science and Psychology, BS (p. 1190)
- Health Science and Sociology, BS (p. 1195)
- Linguistics and Speech-Language Pathology and Audiology, BS (p. 1199)
- Health Humanities and Public Health, BA (p. 1202)
- Public Health and Communication Studies, BA (p. 316)
- Public Health and Cultural Anthropology, BA (p. 1212)
- Public Health and Journalism, BA (p. 429)
- Public Health and Sociology, BA (p. 1221)

Minors

- Communication Sciences and Disorders (p. 1226)
- Early Intervention (p. 1227)
- Exercise Science (p. 1228)
- Global Health (p. 1329)
- Health Psychology (p. 1229)
- Health Sciences Entrepreneurship (p. 1230)
- Health, Humanities, and Society (p. 1231)
- Healthcare System Operations (p. 1151)
- Human Movement Science (p. 1254)
- Mindfulness Studies (p. 1234)
- Nutrition (p. 1235)
- Pharmaceutical Sciences (p. 1236)
- Public Health (p. 1237)
- Speech-Language Pathology and Audiology (p. 1239)
- Wellness Studies (p. 1240)

Business Administration and Public Health, BS

Overview

The combined Bachelor of Science in Business Administration and Public Health offers students an opportunity to study a curriculum that is synergistic with the growing field of healthcare and public health. This academic combination provides students with the knowledge and expertise needed to enter a multitude of careers upon graduation. The degree allows students the unique opportunity to better understand the business side of the healthcare industry and public health administration and prepares them to be leaders.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Administration Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
INTB 1203	International Business and Global Social Responsibility	4
ORGB 3201	Organizational Behavior	4
Business Electives		
Complete two of the following:		8
FINA 2201	Financial Management	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
SCHM 2301	Supply Chain and Operations Management	
Supporting Courses for Business		
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	4
MATH 1231	Calculus for Business and Economics	4

Business Concentration

Complete one of the following concentrations. Requirements for the concentrations are listed below.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665)(available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Public Health Requirements

Code	Title	Hours
Public Health Core Courses		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Core Courses		
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Course		
Complete one of the following courses:		3-4
Society and Behavior		
COMM 3201	Health Communication	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
ECON 3404	International Food Policy	
PHTH 5230	Global Health	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
PHTH 5214	Environmental Health	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
BUSN 1102	Personal Skill Development for Business	
HSCI 1000	College: An Introduction	
Statistics		
Complete one of the following:		4
MGSC 2301	Business Statistics	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
Professional Development		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing Requirements		
ENGW 1111	First-Year Writing	4
Complete one of the following:		4
ENGW 3304	Advanced Writing in the Business Administration Professions	
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Capstone Course		
Complete one of the following options:		4
DMSB Students		
STRT 4501	Strategy in Action	
Bouvé Students		
HSCI 4700	Health Science Capstone Introduction	
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
MGMT 3340	Healthcare Management, Innovation, and Design	
PHTH 4511	Healthcare Management	

Business GPA Requirement

A minimum 2.000 GPA is required in all business courses.

Business Cooperative Education Requirement

Complete one six-month co-op experience.

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirement

128 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Summer 2/Fall—DMSB Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ACCT 1201	4	ENGW 1111	4	ECON 1116 and ECON 1126	4
BUSN 1102	1	INTB 1203	4	Public health core course	4

MATH 1231	4	PHTH 1260	4				
PSYC 1101	4	Biology course	4				
Biology course	4						
	17		**16**		**8**		

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	BUSN 1103	1	Concentration course	4	Co-op	
MGSC 2301	4	FINA 2201	4	General elective	4		
Public health core course	4	Public health core course	4				
General elective	4	Business elective	4				
		Concentration course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MGMT 3340 or PHTH 4511	4	PHTH 4540	4	Co-op	
ENGW 3304	4	PHTH 4202	4	PHTH 4120	4		
		Business elective	4				
		Concentration course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		STRT 4501	4
General elective	4	Concentration course	4
		Social science course	4
		General elective	4
	4		**16**

Total Hours: 130

Four Years/ Two Co-ops in Spring/Summer 1— Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
ACCT 1201	4	INTB 1203	4	ECON 1116 and ECON 1126	4	
ENGW 1110	4	PHTH 1260	4	Public health core course	4	
HSCI 1000	1	PSYC 1101	4			
MATH 1231	4	Biology course	4			
Biology course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op		Co-op		Public health core course	4
FINA 2201	4	General elective	4			Concentration course	4
HSCI 2000	1						
PHTH 2210 and PHTH 2211	4						
General elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 4511 or MGMT 3340	4	Co-op		Co-op		HSCI 4700	0
Public health core course	4	ENGW 3306	4			PHTH 4120	4
Business elective	4					PHTH 4540	4

Concentration course		4					
		16		**4**		**0**	**8**

Year 4

Fall	**Hours**		**Spring**	**Hours**			
HSCI 4720, 4730, or 4740		4	Concentration course	4			
PHTH 4202		4	Social science course	4			
Concentration course		4	General electives	8			
Business elective		4					
		16		**16**			

Total Hours: 130

Communication Studies and Speech-Language Pathology and Audiology, BS

The combined Bachelor of Science in Communication Studies and Speech-Language Pathology and Audiology offers an interdisciplinary approach to human communication and its disorders. Coursework focuses on the scientific and theoretical frameworks of speech, language, and hearing. Students will also be introduced to the fundamentals of communication theory, and they have an opportunity to acquire the practical skills necessary to thrive in a complex and changing society. The curriculum is enhanced by experiential learning opportunities in a clinical setting that prepare the students for a variety of professional careers.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

First-Year Seminar

Code	Title	Hours
COMM 1000	Communication Studies at Northeastern	1
or SLPA 1000	College: An Introduction	

Communication Studies Requirements

Code	Title	Hours
No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.		
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following (COMM 3201 is strongly recommended):		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	

COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Speech-Language Pathology and Audiology Requirements

Code	Title	Hours
All courses in these sections must be completed with a C or better.		
SLPA Requirements		
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1200	Phonetics	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 2000	Introduction to Co-op	1
or EEAM 2000	Professional Development for Co-op	
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3

Supporting Courses

Code	Title	Hours
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
ENGW 1111	First-Year Writing	4
HLTH 2100	Interprofessional Ethics for Individual and Population Health	4
PHTH 2210	Foundations of Biostatistics	4
PHTH 2300	Communication Skills for the Health Professions	4
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
PSYC 1101	Foundations of Psychology	4

Integrative Course

Code	Title	Hours
Note: The selected integrative course counts toward the COMM writing-intensive (COMM 3201) or COMM elective (COMM 4102) as appropriate.		
COMM 3201	Health Communication (WI)	
or COMM 4102	Health Communication Campaigns	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirements

132 total semester hours required

Plan of Study

Sample 4 Years, 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	COMM 1112	4	Communication studies elective	4
COMM 1000 or SLPA 1000	1	SLPA 1101	4	Communication studies elective	4	General elective	4
COMM 1101	4	SLPA 1205	4				
ENGW 1111	4	Communication studies foundation course	4				
PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000 or SLPA 2000	1	Co-op	0	Co-op	0	Vacation	0
PHYS 1145 and PHYS 1146	5						
SLPA 1103	4						
SLPA 1203	4						
Communication studies cluster course	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 3409 or ENGW 3306	4	PHTH 2210	4	Vacation or optional co-op #2	0	Vacation or optional co-op #2	0
HLTH 2100 or PHIL 1165	4	SLPA 1102	4				
PHTH 2300	4	SLPA 1200	4				
Communication studies elective	4	Communication studies writing-intensive	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
SLPA 5107	4	COMM 3201	4
SLPA 5110	4	SLPA 4651	4
General elective	4	SLPA 6219	3
General elective	4	General elective	4
	16		**15**

Total Hours: 132

A general elective or a COMM elective (e.g., Principles of Argumentation (COMM 1120)) can be taken to fulfill the NUpath Formal/Quantitative Reasoning (FQ) requirement.

Data Science and Health Science, BS

The data science and health science combined major offers a solid academic and experiential foundation integrating studies in health administration, computer science, mathematics, and statistics. This program reflects the impact of data in modern healthcare and prepares students for success in careers in health administration, community-based health promotion, public health, and big data analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or HSCI 1000	College: An Introduction	
CS 1210	Professional Development for Khoury Co-op	1
or HSCI 2000	Professional Development for Bouvé Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Information Science Requirement		
IS 4300	Human Computer Interaction	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Supporting Courses for Data Science

Code	Title	Hours
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1241	Calculus 1	

Data Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4

Supporting Courses for Health Science

Code	Title	Hours
Research Methods		
Complete one of the following:		4
IS 4800	Empirical Research Methods	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
Statistics		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 2500	Biostatistics	
MATH 3081	Probability and Statistics	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
PSYC 2320	Statistics in Psychological Research	
Philosophy		
Complete one of the following:		4
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
Life Sciences Core		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Integrative Requirement

Code	Title	Hours
Upper-Division Elective		
Complete four semester hours from the following:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
HSCI 4000 or higher		
IS 2000 or higher, except IS 4900		
PHTH 4000 or higher		
Integrative Course		
DS 4420	Machine Learning and Data Mining 2	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Four Years, One Co-op Sample Plan of Study

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	DS 3000	4	Vacation	
CS 1200	1	DS 2500 and DS 2501	5	PHTH 2350	4		
CS 1800 and CS 1802	5	PHTH 1260	4				
DS 2000 and DS 2001	4	PSYC 1101	4				
ENGW 1111	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CS 1210	1	General Elective	4	Vacation	
CS 3200	4	DS 3500	4	General Elective	4		
MATH 1341 or 1241	4	DS 4200	4				
Statistics Course	4	PHTH 2300	4				
		PHTH 2515	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315	4	CS 1210	1	Vacation		Co-op	
IS 4300	4	DS 4300	4				
PHIL 1145 or 1165	4	DS 4400	4				
Upper Division Elective	4	PHTH 4202 or IS 4800	4				
		PHTH 4540	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		PHTH 4120	4
		General Elective	4
		General Elective	4
	0		**16**

Total Hours: 136

Environmental Engineering and Health Science, BSEnvE

This intercollege combined major is designed for students who would like to explore their interest in the health sciences while earning the benefit of a Bachelor of Science degree in environmental engineering. The combined major reflects the respective departmental thrusts in environmental health and sustainable resource engineering to create awareness about the complex relationship between the environment and human health, prepare professionals in this growing area capable of providing engineering solutions to current and emerging topics related to environmental engineering and health sciences, and maintain healthy environmental systems by applying and developing techniques to reduce exposure to health hazards. This program combines the content of two majors to allow students to learn the breadth and depth of of the convergence between public health and environmental engineering.

Our BS Environmental Engineering and Health Sciences program is ABET accredited. Visit the department website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
CIVE 4765	Senior Design Project—Environmental	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Technical Electives		
Complete 8-9 semester hours from the following:		8-9
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5255	Tools and Techniques of Environmental Health	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	

CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5670	Global Biogeochemistry	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
3 semester hours from the following course count toward the engineering requirement:		3
CIVE 3430	Engineering Microbiology and Ecology	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Health Sciences Major Requirements

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2414	Environmental Health	4
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
PHTH 5214	Environmental Health	3-4
or CIVE 5255	Tools and Techniques of Environmental Health	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.[2]

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1120	Oceans and Coasts	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	

ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
CIVE 3430	Engineering Microbiology and Ecology	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Course

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4765	Senior Design Project—Environmental	

Engineering GPA Requirement

A minimum 2.000 GPA is required in CIVE coursework

Health Sciences Major Requirement

A minimum grade of C or higher is required for all HLTH and PHTH courses[2]

Program Requirement

132 total semester hours required

1 Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

2 Mathematics/Science Requirement: CHEM 1151, MATH 1341, and PHYS 1151 require a grade of C- or higher.

Plan of Study

Sample Plans of Study

FOUR YEARS, 1 CO-OP SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHTH 1260 (SI)	4		
ENGW 1111 (WF)	4	PHTH 2210 and PHTH 2211 (FQ, AD)	4				

GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	MATH 2341	4	Co-op	0
CIVE 2222	0	CIVE 3430	4	PHTH 2350 (SI)	4		
CIVE 2334	4	ENCP 2000	1				
CIVE 2300 and CIVE 2301	4	PHTH 2414	4				
PHTH 2515	4	CIVE 3464	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3435	4	Vacation		Vacation	
		GE 3300	4				
		PHTH 4120 (IC, DD)	4				
		PHTH 4202	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CIVE 4534 (WI)	3	CIVE 4765 (EI, WI, CE)	5
CIVE 4535	1	PHTH 5214 or CIVE 5255	3
ENCP 3000	1	Science Elective (Earth)	4
ENGW 3302 or 3315 (WD)	4	Environmental Tech. Elective	4
PHTH 4540 (WI)	4		
Environmental Tech. Elective	4		
	17		**16**

Total Hours: 132

FIVE YEARS, 3 CO-OPS SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHTH 1260 (SI)	4		
ENGW 1111 (WF)	4	PHTH 2210 and PHTH 2211 (FQ, AD)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	MATH 2341	4	Co-op	0
CIVE 2222	0	CIVE 3430	4	PHTH 2350 (SI)	4		
CIVE 2334	4	CIVE 3464	4				
CIVE 2300 and CIVE 2301	4	ENCP 2000	1				
PHTH 2515	4	PHTH 2414	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3435	4	Vacation		Co-op	0
		GE 3300	4				
		PHTH 4540 (WI)	4				
		PHTH 4202	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 4534 (WI)	3	Vacation		Co-op	0
		CIVE 4535	1				
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		PHTH 4120 (IC, DD)	4				
		Environmental Tech. Elective	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, WI, CE)	5
		PHTH 5214 or CIVE 5255	3
		Science Elective (Earth)	4
		Environmental Tech. Elective	4
	0		**16**

Total Hours: 132

Health Humanities and Health Science, BS

Overview

The combined Bachelor of Science in Health Humanities and Health Science is designed for students who would like to learn how to think about health using humanities, social sciences, and science skills. The humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of healthcare is quickly changing, and this training is designed to equip students both for the diverse forms of healthcare professions that exist today and for the varieties of professions in the future. This combined major will appeal to students who want to pursue graduate study and research in public health, medicine, and other clinical professions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Humanities Requirements

Code	Title	Hours
Required Courses		
INSH 1300	Introduction to Health and Humanities	4
INSH 2300	Culture, Technology, and the Future of Health	4
Core Humanities Electives		
Complete two of the following not used to satsify another requirement:		8-9
AFAM 1101	Introduction to African American and Africana Studies	
ASNS 2245	Introduction to Asian American Studies	
ENGL 1400	Introduction to Literary Studies	
HIST 1200 and HIST 1201	Historical Research and Writing and First-Year Seminar	
PHIL 1101	Introduction to Philosophy	
PHIL 1110	Introduction to Religious Studies	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 1105	Introduction to Trans Studies	
Core Health Humanities Electives		
Complete three of the following not used to satisfy another requirement:		12
ENGL 2770	Writing to Heal	
ENGL 3700	Narrative Medicine	
HIST 1219	History of Global Pandemics	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
Core Digital Health Humanities Electives		
Complete two of the following not used to satisfy another requirement:		8
ARCH 5312	Mapping and Building Health	
ENGL 3460	The Archives of Public Health	
HIST 3344	The History of Western Public Health	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1261	Comparative Healthcare Systems	4
or PHTH 1260	The American Healthcare System	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Life Sciences Supporting Courses		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Other Requirements

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or HIST 1000	History at Northeastern	
or ENGL 1000	English at Northeastern	
or PHIL 1000	Philosophy at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EESH 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing Course		
Courses listed below are preferred but other advanced writing courses will be accepted:		
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Capstone		
HSCI 4700	Health Science Capstone Introduction	0
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	
HSCI 4740	Health Science Capstone Seminar	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

129 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Spring/Summer 1—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Public health core course	4	Vacation	
ENGL 1000, HIST 1000, or PHIL 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4		
MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	INSH 1300	4				
PSYC 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		ENGW 3315	4
PHTH 2210 and PHTH 2211	4	General elective	4			Public health core course	4
Core humanities course	4						
Public health core course	4						
General elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 2300	4	Co-op		Co-op		HSCI 4700	0
PHTH 4202	4					PHTH 4120	4
Core humanities course	4					PHTH 4540	4
General elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Core digital health humanities course	4
Core digital health humanities course	4	Core health humanities course	4
Core health humanities course	4	Core health humanities course	4
General elective	4	General elective	4
	16		**16**

Total Hours: 129

Four Years/ Two Co-ops in Summer 2/Fall—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Public health core course	4	Vacation	
ENGW 1111	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4		
HSCI 1000	1	INSH 1300	4				
MATH 1241	4	PSYC 1101	4				

PHTH 1260	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Core humanities course	4	HSCI 2000	1	Public health core course	4	Co-op	
Core humanities course	4	PHTH 2210 and PHTH 2211	4	General elective	4		
General elective	8	Public health core course	4				
General elective		General elective	8				
		General elective					
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INSH 2300	4	PHTH 4120	4	Co-op	
ENGW 3306	4	PHTH 4202	4	PHTH 4540	4		
		Core digital health humanities course	4				
		Core health humanities course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		HSCI 4720, 4730, or 4740	4
HSCI 4700	0	Core digital health humanities course	4
		Core health humanities course	4
		Core health humanities course	4
	0		**16**

Total Hours: 129

Health Science and Business Administration, BS

The combined major in health science and business administration provides students at Northeastern University with an opportunity to study a curriculum that is synergetic with the growing field of healthcare. This academic combination offers students the knowledge and expertise needed to enter a multitude of careers upon graduation. The degree allows students the unique opportunity to better understand the business side of the healthcare industry. The field is compatible with all the undergraduate concentrations in the School of Business and prepares students to enter the workforce after graduation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
Life Sciences Core		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Business Administration Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INTB 1203	International Business and Global Social Responsibility	4
Business Electives		
Complete two of the following:		8
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
ORGB 3201	Organizational Behavior	
SCHM 2301	Supply Chain and Operations Management	
Supporting Course for Business		

Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
or ECON 1116	Principles of Microeconomics	

Business Concentration

Complete one of the following concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Courses

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or BUSN 1102	Personal Skill Development for Business	
Calculus		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
Statistics		
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
or MGSC 2301	Business Statistics	
Co-op Preparation		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3304	Advanced Writing in the Business Administration Professions	
Capstone		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service (Prerequisite course HSCI 4700)	
HSCI 4730	Health Science Capstone—Research (Prerequisite course HSCI 4700)	
STRT 4501	Strategy in Action	

Integrative Requirement

Code	Title	Hours
MGMT 3340	Healthcare Management, Innovation, and Design	4

Required General Electives

Code	Title	Hours
Complete at least 16 semester hours of general electives.		16

Business GPA Requirement

A minimum 2.000 GPA is required in all business courses.

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

BOUVÉ: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	BIOL 1113 and BIOL 1114	5	ECON selective	4	ACCT 2301	4
BIOL 1111 and BIOL 1112	5	ENGW 1111	4	PHTH core course	4	Elective	4
HSCI 1000	1	PHTH 1260	4				
MATH 1241	4	Concentration course	4				
PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	HSCI 2000	1	PHTH core course	4	Co-op	0
FINA 2201	4	MGMT 3340	4	Elective	4		
INTB 1203	4	PHTH 2210 and PHTH 2211	4				
PHTH core course	4	Business elective	4				
		PHTH core course	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Concentration course	4	ENGW 3306	4	Co-op	0
		Concentration course	4	PHTH core course	4		
		PHTH core course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Business elective	4
HSCI 4700	0	Capstone course	4
		Concentration course	4
		Elective	4
	0		**16**

Total Hours: 133

SAMPLE PLAN OF STUDY: FIVE YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Vacation		Vacation	
HSCI 1000 or BUSN 1102	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260	4	ENGW 1111	4				
PSYC 1101	4	Concentration course	4				
MATH 1241 or 1231	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	FINA 2201	4	Vacation		Co-op	0
INTB 1203	4	HSCI 2000 or BUSN 1103	1				
ECON selective	4	PHTH 2210 and PHTH 2211	4				
PHTH core course	4	PHTH core course	8				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ACCT 2301	4	Vacation		Vacation	
		Business elective	4				
		Concentration course	4				
		PHTH core course	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306 or 3304	4	Co-op	0	Co-op	0	Vacation	
MGMT 3340	4						
Business elective	4						
PHTH core course	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
HSCI 4700	0	Capstone course	4
Concentration course	4	Concentration course	4
PHTH core course	4	Electives	8
Electives	8		
	16		**16**

Total Hours: 133

Health Science and Communication Studies, BS

The combined Bachelor of Science degree program in health science and communication studies offers an interdisciplinary approach to public health communication. Students combine courses from health sciences and communication studies to learn about health and illness and the important role of communication in shaping the public's understanding of health issues. The interdisciplinary curriculum is enhanced by experiential learning opportunities and is designed to prepare students for challenging careers that involve crafting messages about health, developing strategies for promoting healthcare services, and specific applications such as disease awareness and prevention.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Communication Studies Major Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Code	Title	Hours
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

Communication Studies Electives	
Complete three additional communication studies courses.	12

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Life Sciences		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Other Requirements

Code	Title	Hours
Intro to College		
HSCI 1000	College: An Introduction	1
or COMM 1000	Communication Studies at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EEAM 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions (or other Advanced Writing course)	4
Electives		
Complete 28 semester hours of electives.		28

Integrative Course

Code	Title	Hours
Capstone		
Complete one of the following courses:		4
COMM 4102	Health Communication Campaigns	
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Communication Studies Major Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, Two Co-ops Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Public health core	4	Vacation	0
BIOL 1112	1	BIOL 1114	1	Elective	4		
HSCI 1000 or COMM 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	Elective	4				
PSYC 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	Co-op		Co-op		ENGW 3306	4
COMM 1112 or 2301	4	Elective	4			Elective	4
HSCI 2000 or EEAM 2000	1						
PHTH 2210 and PHTH 2211	4						
COMM elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Cluster course	4	Co-op		Co-op		Public health core	4
Foundation course	4	Elective	4			Public health core	4
Public health core	4					HSCI 4700	0
Public health core	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
COMM WI course	4	COMM WI course	4
Public health core	4	COMM elective	4
COMM elective	4	Electives	8
HSCI 4720, 4730, or COMM 4102	4		
	16		**16**

Total Hours: 133

Five Years, Two Co-ops in Summer 2/Fall

This is a sample plan of study.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation	0	Vacation	0
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or COMM 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				

MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	Elective	4				
PSYC 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	HSCI 2000 or EEAM 2000	1	Vacation	0	Co-op	0
COMM 1112 or 2301	4	Cluster course	4				
Public health core	4	Foundation course	4				
Public health core	4	Elective	4				
		PHTH 2210 and PHTH 2211	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3306	4	Vacation	0	Vacation	0
		Public health core	4				
		COMM electives	8				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 4202	4	Co-op	0	Co-op	0	Vacation	0
PHTH 4540	4						
COMM WI course	4						
COMM elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
COMM WI course	4	Electives	12
Electives	8	HSCI 4720, 4730, or COMM 4102	4
HSCI 4700	0		
PHTH 4120	4		
	16		**16**

Total Hours: 133

Health Science and Psychology, BS

The combined Bachelor of Science degree program in health science and psychology is designed to provide an interdisciplinary approach to public health and psychology. Through interdisciplinary explorations, students have the opportunity to develop knowledge in health promotion and illness prevention by way of understanding people's behaviors, perceptions, and emotions within the contexts of relationships and culture. This highly flexible curriculum is enhanced by experiential learning opportunities and prepares students to practice in interdisciplinary settings and be successful in sustaining and promoting health across populations.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4
Supporting Courses for Health Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3458	Biological Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Personal/Social Bases of Behavior (Area A)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		

Complete one of the following:		4
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Electives		
Complete 12 semester hours from the following subject area:		12
PSYC		
Psychology Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4604	Laboratory in Learning and Motivation	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following		1
HSCI 1000	College: An Introduction	
INSC 1000	Science at Northeastern	
PSYC 1000	Psychology at Northeastern	
First-Year Writing		
ENGW 1111	First-Year Writing	4
Co-op Preparation		
Complete one of the following:		1
EESC 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Math		
MATH 1241	Calculus 1	4
Advanced Writing in the Discipline		
ENGW 3306	Advanced Writing in the Health Professions	4
Ethical Reasoning		
PHIL 1165	Moral and Social Problems in Healthcare	4

Open Electives	
Complete 28 semester hours of general electives.	28

Integrative Requirement

Code	Title	Hours
PSYC 3510	Brain, Behavior, and Immunity	4
or PSYC 4514	Clinical Neuroscience	
or CAEP 2012	Health Psychology: An Introduction	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Psychology GPA Requirement

A grade of C or higher is required for all PSYC courses.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation		Vacation	
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or PSYC 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
MATH 1241	4	ENGW 1111	4				
PHTH 1260 or 1261	4	Elective	4				
PSYC 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	Area A course	4	Area B course	4	Vacation	
PSYC 3458	4	Public health core	4	Psychology elective	4		
Area A course	4	Public health core	4				
Public health core	4	Psychology elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESC 2000	1	Co-op		Co-op		ENGW 3306	4
PHIL 1165	4					PHTH 4540	4
Psychology lab	4						
Open electives	8						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Public health core	4	PSYC 3510, 4514, or CAEP 2012	4
Psychology elective	4	Psychology seminar	4
Open electives	8	Open electives	8
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan (College: Bouvé)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	PSYC Area B selective	4	Open electives	8
BIOL 1112	1	BIOL 1114	1	Public health core	4		
MATH 1241	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260 or 1261	4	ENGW 1111	4				
PSYC 1000 or HSCI 1000	1	PSYC Area A selective	4				
PSYC 1101	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESC 2000	1	Co-op		Co-op		ENGW 3306	4
PSYC 2320	4					PHIL 1165	4
PSYC 3458	4						
Public health core	4						
Public health core	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC Area A selective	4	Co-op		Co-op		Open electives	8
Public health core	4						
PSYC elective	4						
Open elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PSYC lab	4	PSYC 3510, 4514, or CAEP 2012	4
Public health core	4	Psychology seminar	4
PSYCH elective	4	PSYC elective	4
Open elective	4	Open Elective	4
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan (College: Science)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	PSYC Area B selective	4	Open electives	8
BIOL 1112	1	BIOL 1114	1	Public health core	4		
MATH 1241	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260 or 1261	4	ENGW 1111	4				
PSYC 1000 or HSCI 1000	1	PSYC Area A selective	4				
PSYC 1101	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1165	4	EESC 2000 or HSCI 2000	1	PSYC elective	4	Co-op	
PSYC 2320	4	PSYC Area A selective	4	Open elective	4		

PSYC 3458	4	Public health core	4				
Public health core	4	Public health core	4				
		PSYC elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3306	4	Open electives	8	Co-op	
		PSYC 3510, 4514, or CAEP 2012	4				
		Public health core	4				
		PSYC lab	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Psychology seminar	4
		PSYC elective	4
		Open electives	8
	0		**16**

Total Hours: 133

Health Science and Sociology, BS

The combined Bachelor of Science in Health Science and Sociology integrates social scientific perspectives to the study of health, illness, and healthcare. Students explore basic sociological concepts relevant for the study of health and healthcare, such as social construction and medicalization. Students explore why, for instance, despite having the most expensive healthcare system, the United States ranks comparatively low in life expectancy and health and well-being outcomes. Provides students with an opportunity to explore the ways that societal factors such as race, class, and gender interplay with health, healthcare, and health disparities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Supporting Courses for Health Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Sociology Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
Social Change Selective		
Complete one of the following:		4
SOCL 1260	Sociology of Gender	
SOCL 3450	Class, Power, and Social Change	
SOCL 3468	Social Movements	

Social Inequality Selective		
Complete one of the following:		4
SOCL 1245	Sociology of Poverty	
SOCL 2225	Sociology of Disability	
Lower-Level Elective		
Complete one of the following:		4
SOCL 1000 to SOCL 3999		
Advanced Elective		
Complete one of the following:		4
SOCL 4000 to SOCL 4999		

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
SOCL 1000	Sociology at Northeastern	
Writing in the First Year		
ENGW 1111	First-Year Writing	4
Statistics		
Complete one of the following:		4
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
SOCL 2320	Statistical Analysis in Sociology	
Co-op Preparation (Based on Home College)		
Complete one of the following:		1
EESH 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Advanced Writing in the Discipline		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
NUPath: Ethical Reasoning		
PHIL 1165	Moral and Social Problems in Healthcare	4
Capstone (Based on Home College)		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service (Prerequisite course HSCI 4700))	
HSCI 4730	Health Science Capstone—Research (Prerequisite course HSCI 4700)	
SOCL 4600	Senior Seminar	
Open Electives		**24**

Integrative Requirement

Code	Title	Hours
Choose one of the courses below:		4
ANTH 3441	Medical Anthropology	
SOCL 3441	Sociology of Health and Illness	

Health Sciences GPA Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation		Vacation	
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or SOCL 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260	4	ENGW 1111	4				
PSYC 1101	4	Elective	4				
SOCL 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	SOCL 2321	4	PHIL 1165	4	Vacation	
PHTH 2210 and PHTH 2211	4	SOCL 3300	4	Public health core	4		
Lower-level sociology elective	4	Public health core	4				
Public health core	4	Social change or social inequality selective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		ENGW 3306 or 3308	4
HSCI 2000 or EESH 2000	1					PHTH 4540	4
Public health core	4					HSCI 4700	0
Social inequality and social change selective	4						
Open electives	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
SOCL 3441	4	Open electives	12
Advanced sociology elective	4	PHTH 4120	4
Open Elective	4		
Capstone Course	4		
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	ANTH 1101	4	PHTH 2350	4	Vacation	
BIOL 1112	1	BIOL 1113	4	Open Elective	4		
HSCI 1000 or SOCL 1000	1	BIOL 1114	1				
PHTH 1260	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PSYC 1101	4	ENGW 1111	4				
SOCL 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESH 2000	1	Co-op		Co-op		ENGW 3306	4
SOCL 2320 or PHTH 2210 (and PHTH 2211)	4			Open elective	4	PHIL 1165	4
SOCL 2321	4						
SOCL 3300	4						
Public health core	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		PHTH 4540	4
SOCL 3441	4			Open elective	4	Public health core	4
Lower-level sociology elective	4					HSCI 4700	0
Public health core	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
Social change or social inequality selective	4	Public health core	4
Capstone Course	4	Social change or social inequality selective	4
Advanced sociology elective	4	Open electives	8
Open elective	4		
	16		**16**

Total Hours: 133

Linguistics and Speech-Language Pathology and Audiology, BS

Overview

The combined major in linguistics and speech-language pathology and audiology provides students with an extensive background in the formal structures of human language; the methods and applications of linguistic analyses of language data; the biology, neurology, and physics of the human vocal tract; and the nature of both normal and disordered human speech communication and language development. Students have an opportunity to develop critical thinking, information literacy, and strong oral and written communication skills. While on co-op, students gain clinical experience, including preprofessional training appropriate to pursue a graduate degree in SLPA, related clinical healthcare domains, or education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
LING 3420	Phonetics (Integrative course)	4
Complete three of the following:		12
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following:		12
DEAF 2700	ASL Linguistics	
LING 3000–LING 4999 [1]		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/course-descriptions/ling/) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Speech-Language Pathology and Audiology Requirements

Code	Title	Hours
All courses in these sections must be completed with a C or better.		
Speech-Language Pathology and Audiology		
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3
Biology and Physics Requirements		

BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
Psychology Requirements		
PSYC 1101	Foundations of Psychology	4
Statistics Requirements		
PHTH 2210	Foundations of Biostatistics	4

Integrative Requirement

Code	Title	Hours
The following course is taken in another area of the major:		
LING 3420	Phonetics	4

Supporting Courses

Code	Title	Hours
ENGW 3306	Advanced Writing in the Health Professions	4
HLTH 2100	Interprofessional Ethics for Individual and Population Health	4
or PHIL 1165	Moral and Social Problems in Healthcare	
PHTH 2300	Communication Skills for the Health Professions	4

Major Credit Requirement

Complete 107 hours in the major.

Program Requirements

132 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	Vacation		Vacation	
ENGW 1111	4	LING 2350	4				
LING 1150	4	SLPA 1101	4				
PSYC 1101	4	SLPA 1205	4				
SLPA 1000 or LING 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3420	4	Co-op		Co-op		Elective	4
PHYS 1145 and PHYS 1146	5					Elective	4
SLPA 1103	4						
SLPA 1203	4						
SLPA 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306	4	HLTH 2100 or PHIL 1165	4	Vacation		Elective	4
LING 3422 or 3450	4	LING 3422 or 3450	4			Elective	4
PHTH 2300	4	PHTH 2210	4				

Linguistics elective	4	SLPA 1102	4		
	16		**16**	**0**	**8**

Year 4

Fall	Hours	Spring	Hours
LING 3412	4	LING 3424 or 3452	4
SLPA 4500	4	SLPA 4651	4
SLPA 5107	4	SLPA 6219	3
Linguistics elective	4	Linguistics elective	4
	16		**15**

Total Hours: 132

Health Humanities and Public Health, BA

Overview

The combined Bachelor of Arts in Health Humanities and Public Health is designed for students who would like to learn how to think about health using humanities, social sciences, and science skills with a focus on public health. The humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of public health is quickly changing, and this training is designed to equip students both for the diverse forms of healthcare professions that exist today and for the varieties of professions in the future. This combined major will appeal to students who want to pursue graduate study and research in public health and health humanities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Humanities Requirements

Code	Title	Hours
Required Courses		
INSH 1300	Introduction to Health and Humanities	4
INSH 2300	Culture, Technology, and the Future of Health	4
Core Humanities Electives		
Complete two of the following not used to satsify another requirement:		8-9
AFAM 1101	Introduction to African American and Africana Studies	
ASNS 2245	Introduction to Asian American Studies	
ENGL 1400	Introduction to Literary Studies	
HIST 1200 and HIST 1201	Historical Research and Writing and First-Year Seminar	
PHIL 1101	Introduction to Philosophy	
PHIL 1110	Introduction to Religious Studies	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 1105	Introduction to Trans Studies	
Core Health Humanities Electives		
Complete three of the following not used to satisfy another requirement:		12
ENGL 2770	Writing to Heal	
ENGL 3700	Narrative Medicine	
HIST 1219	History of Global Pandemics	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
Core Digital Health Humanities Electives		

Complete two of the following not used to satisfy another requirement:		8
ARCH 5312	Mapping and Building Health	
ENGL 3460	The Archives of Public Health	
HIST 3344	The History of Western Public Health	

Public Health Requirements

Code	Title	Hours
Public Health Core Courses		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Core Courses		
PSYC 1101	Foundations of Psychology	4
Biology		*8-10*
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Selectives		**7-8**
Complete one introductory course from the following:		
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Complete one upper-level course from the following (categories provided for reference):		
Society and Behavior		
ANTH 3441	Medical Anthropology	
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	

SOCL 3241	Violence and Society
SOCL 3441	Sociology of Health and Illness
SOCL 4520	Race, Class, and Gender
Globalization and Global Health	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ECON 3404	International Food Policy
INTL 3200	Cities in a Global Context
or INTL 3201	Cities in a Global Context (Abroad)
INTL 3400	International Conflict and Negotiation
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Environmental Health and Climate Change	
ECON 3423	Environmental Economics
COMM 3500	Environmental Issues, Communication, and the Media
INTL 5100	Climate and Development
or PPUA 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5238	Climate Change and Global Urbanization
Law, Policy, and Human Rights	
ECON 3424	Law and Economics
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
POLS 3307	Public Policy and Administration
POLS 3900	Social Policy
PHTH 4515	Critical Issues in Health and Public-Health Policy
Healthcare Administration and Management	
ECON 3413	Health Economics and Healthcare Policy
ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Other Requirements

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or HIST 1000	History at Northeastern	
or ENGL 1000	English at Northeastern	
or PHIL 1000	Philosophy at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EESH 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing Course		
Courses listed below are preferred but other advanced writing courses will be accepted:		
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
Capstone		
HSCI 4700	Health Science Capstone Introduction	0
Complete one of the following:		4

HSCI 4720	Health Science Capstone—Service
HSCI 4730	Health Science Capstone—Research
HSCI 4740	Health Science Capstone Seminar

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirement

130 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 1300	4	ENGW 1111	4	Public health core course	4	Vacation	
PHTH 1260	4	Biology course	4	General elective	4		
PSYC 1101	4	Core humanities course	4				
Introduction to college	1	Introductory language course	4				
Biology course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		ENGW 3315	4
PHTH 2210 and PHTH 2211	4	General elective	4			Public health core course	4
Core humanities course	4						
Social science course	4						
Elementary language course	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 2300	4	Co-op		Co-op		HSCI 4700	0
PHTH 4202	4	General elective	4			PHTH 4540	4
Core humanities course	4					Public health core course	4
Intermediate language course	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Core digital health humanities elective	4
PHTH 4120	4	Core health humanities course	4
Core digital health humanities elective	4	Core health humanities course	4
Core health humanities course	4	Social science course	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC 1101	4	Public health core course	4	Vacation	
HSCI 1000	1	Biology course	4	General elective	4		
INSH 1300	4	Introductory language course	4				
PHTH 1260	4	General elective	4				
Biology course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Core humanities course	4	HSCI 2000	1	Public health core course	4	Co-op	
General elective	4	PHTH 2210 and PHTH 2211	4	Social science course	4		
Core humanities elective	4	Core health humanities course	4				
Elementary language course	4	Public health core course	4				
		Intermediate language course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INSH 2300	4	PHTH 4120	4	Co-op	
ENGW 3306	4	PHTH 4202	4	PHTH 4540	4	General elective	4
		Core digital health humanities course	4				
		Core health humanities course	4				
	4		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		HSCI 4720, 4730, or 4740	4
HSCI 4700	0	Core digital health humanities course	4
		Core health humanities course	4
		Social science course	4
	0		**16**

Total Hours: 130

Public Health and Communication Studies, BA

Overview

The combined Bachelor of Arts in Public Health and Communication Studies offers an interdisciplinary approach to public health communication. Students combine courses from public health, social sciences, and communication studies to study the important role of communication in shaping the public's understanding of health issues. The interdisciplinary curriculum is enhanced by experiential learning opportunities and is designed to prepare students for challenging careers that involve crafting messages about health, developing strategies for promoting access to healthcare services, and specific applications such as disease awareness and prevention.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE REQUIREMENTS

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Upper-Level Course		
Complete one of the following:		3-4
Society and Behavior		
ANTH 3441	Medical Anthropology	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
SOCL 3241	Violence and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4520	Race, Class, and Gender	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
INTL 5100	Climate and Development	
or PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	

ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Communication Studies Requirements

REQUIRED COURSES

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

FOUNDATION COURSE

Code	Title	Hours
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	

CLUSTER COURSE

Code	Title	Hours
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	

WRITING-INTENSIVE COURSES

Code	Title	Hours
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

COMMUNICATION STUDIES ELECTIVES

Code	Title	Hours
Complete three additional COMM courses.		12

Supporting Course Requirements

Code	Title	Hours
Introduction to College (based on home college)		**1**
HSCI 1000	College: An Introduction	
COMM 1000	Communication Studies at Northeastern	
Co-op Preparation (based on home college)		**1**

HSCI 2000	Professional Development for Bouvé Co-op	
EEAM 2000	Professional Development for Co-op	
Writing Courses		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		*4*
Complete one of the following:		
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
Capstone and Integrative Course		**4**
Complete one of the following:		
HSCI 4720	Health Science Capstone—Service (Prerequisite course#HSCI#4700)	
HSCI 4730	Health Science Capstone—Research (Prerequisite course#HSCI#4700)	
HSCI 4740	Health Science Capstone Seminar (Prerequisite course#HSCI#4700)	
COMM 4102	Health Communication Campaigns	

General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Communication Studies Grade Requirement

No more than two grades below a C in COMM courses may be used to fulfill degree requirements.

Public Health and Communication Studies Major Credit Requirement

Minimum of 91 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/Two Co-ops in Spring/Summer 1—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
HSCI 1000	1	ENGW 1111	4	PHTH 2350	4
PHTH 1260	4	BIOL course—see options	4	General elective	4
PSYC 1101	4	Elementary language course	4		
BIOL course—see options	4	General elective	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2300	4
PHTH 2210 and PHTH 2211	4			General elective	4	ENGW 3306	4
COMM 1101	4						
COMM 1112 or PHTH 2301	4						
COMM elective	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2515	4	Co-op		Co-op		PHTH 4120	4

Social science course	4			General elective	4	PHTH 4540	4
COMM foundation course	4					HSCI 4700	0
COMM elective	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
PHTH 4202	4	COMM elective	4
COMM cluster course	4	COMM writing-intensive course	4
HSCI 4720, 4730, or 4740	4	Social science course	4
COMM writing-intensive course	4	Intermediate language course	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CAMD Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
COMM 1000	1	PSYC 1101	4	PHTH 2515	4
PHTH 1260	4	BIOL course—see options	4	General elective	4
ENGW 1111	4	Elementary language course	4		
BIOL course—see options	4	General elective	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	EEAM 2000	1	PHTH 2300	4	Co-op	
COMM 1112 or 2301	4	PHTH 2210 and PHTH 2211	4	ENGW 3314	4		
COMM foundation course	4	PHTH 2350	4				
COMM elective	4	COMM cluster course	4				
		Social science course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHTH 4202	4	PHTH 4120	4	Co-op	
General elective	4	COMM writing-intensive course	4	PHTH 4540	4		
		COMM elective	4				
		Intermediate language course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		COMM 4102	4
General elective	4	COMM elective	4
		COMM writing-intensive course	4
		Social science course	4
	4		**16**

Total Hours: 130

Public Health and Cultural Anthropology, BA

Overview

The combined Bachelor of Arts in Public Health and Cultural Anthropology integrates concepts and theories from cultural anthropology with public health concepts to approach complex health inequities. Students have an opportunity to gain foundational anthropological knowledge and skills and apply theory to public health approaches for addressing poor health outcomes. Students explore how culture and social structures affect health promotion strategies and outcomes. This combined major will appeal to students who want to pursue graduate study and research in anthropology, public health, public policy and administration, and education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE COURSES

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
Upper-Level Course		
Complete one course (total) from any of the following groups:		3-4
Society and Behavior		
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
COMM 3500	Environmental Issues, Communication, and the Media	
INTL/PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	

PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Cultural Anthropology Requirements

REQUIRED CULTURAL ANTHROPOLOGY COURSES

Code	Title	Hours
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4

AREA COURSES

Code	Title	Hours
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	

CULTURAL ANTHROPOLOGY ELECTIVES

Code	Title	Hours
Complete three additional courses with the ANTH subject code.		12

Supporting Course Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
ANTH 1000	Anthropology at Northeastern	
Co-op Preparation		
Based on home college:		1
HSCI 2000	Professional Development for Bouvé Co-op	
EESH 2000	Professional Development for Co-op	
Writing Courses		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
Capstone		
Complete one of the following options:		4
Health Science Capstone		
Complete the following prerequisite:		
HSCI 4700	Health Science Capstone Introduction	
Complete one of the following:		
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	
Anthropology Senior Seminar		
ANTH 4600	Senior Seminar	

Integrative Course

Code	Title	Hours
ANTH 3441	Medical Anthropology	4

General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Public Health and Cultural Anthropology Major Credit Requirement

Minimum of 95 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Spring/Summer 1—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 1111	4	ANTH 1101	4	PHTH 2350	4
HSCI 1000	1	PSYC 1101	4	ANTH elective	4
PHTH 1260	4	BIOL course—see options	4		
BIOL course—see options	4	Elementary LANG course	4		
Elementary LANG course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		PHTH 2515	4
HSCI 2000	1			General elective	4	Social science course	4
PHTH 2210 and PHTH 2211	4						
PHTH 2300	4						
Intermediate LANG course	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3410	4	Co-op		Co-op		PHTH 4540	4
ANTH 3421	4			General elective	4	ENGW 3306	4
ANTH 3441	4					HSCI 4700	0
ANTH area course	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	PHTH 4120	4
PHTH 4202	4	ANTH elective	4
ANTH area course	4	Social science course	4
ANTH elective	4	General elective	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ANTH 1000	1	ANTH 1101	4	PHTH 2515	4
PHTH 1260	4	ENGW 1111	4	ANTH elective	4
PSYC 1101	4	BIOL course—see options	4		

BIOL course—see options	4	Elementary LANG course	4				
Elementary LANG course	4						
	17		**16**		**8**		

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2350	4	ANTH 2305	4	Social science course	4	Co-op	
ANTH elective	4	EESH 2000	1	General elective	4		
ANTH area course	4	PHTH 2210 and PHTH 2211	4				
Intermediate LANG course	4	PHTH 2300	4				
		ANTH elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH 3410	4	PHTH 4120	4	Co-op	
General elective	4	ANTH 3421	4	PHTH 4540	4		
		ANTH 3441	4				
		ENGW 3308	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600	4
General elective	4	PHTH 4202	4
		ANTH area course	4
		Social science course	4
	4		**16**

Total Hours: 130

Public Health and Journalism, BA

Overview

The combined major in public health and journalism addresses the vital interest in society for the ability to communicate scientific understanding to the broad public. This combined major provides a valuable and unique set of competencies, ranging from the statistical analysis and epidemiological best practices gained from the courses in the public health program to the cutting-edge communication skills taught within the university's School of Journalism. The combined major highlights the important role both journalism and public health will surely play in a complex and rapidly changing future.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Requirements		
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Requirements		
Introductory		
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	

ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Upper Level		
Complete one of the following:		3-4
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ANTH 3441	Medical Anthropology	
COMM 3201	Health Communication	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3404	International Food Policy	
ECON 3413	Health Economics and Healthcare Policy	
ECON 3420	Urban Economic Issues	
ECON 3423	Environmental Economics	
ECON 3424	Law and Economics	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
ORGB 3201	Organizational Behavior	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHTH 4511	Healthcare Management	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
POLS 3307	Public Policy and Administration	
POLS 3487	Politics of Developing Nations	
POLS 3900	Social Policy	
PPUA 5100	Climate and Development	
or INTL 5100	Climate and Development	
PPUA 5238	Climate Change and Global Urbanization	
PSYC 3402	Social Psychology	
PSYC 3450	Learning and Motivation	
SOCL 3241	Violence and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4520	Race, Class, and Gender	

Journalism Requirements

Code	Title	Hours
Journalism Foundation		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5

JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
Complete one of the following:		4
JRNL 3550	The First Amendment and the Media	
JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete any four JRNL electives (two must be at the 3000 level or above).		16

Other Requirements

Code	Title	Hours
Intro to College		
HSCI 1000	College: An Introduction	1
or JRNL 1000	Journalism at Northeastern	
Intro to Co-op		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EEAM 2000	Professional Development for Co-op	
Integrative Course		
Complete one of the following:		4
JRNL 3650	Science Writing	
JRNL 3700	Data Storytelling	
Capstone		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service	
HSCI 4740	Health Science Capstone Seminar	
Writing Requirement		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3303	Advanced Writing in the Environmental Professions	

Public Health Grade Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Academic Policies and Procedures

Please visit Bouvé College of Health Sciences Undergraduate page (p. 1156) for academic policies and procedures, including Academic Appeals. (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/)

Program Requirements

Minimum of 129 semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Introductory language course or elective	4	Elective courses*	8
JRNL 1000 or HSCI 1000	1	PSYC 1101	4	Elective	4		
JRNL 1150	4	PHTH core course	4				

PHTH 1260	4	Science course	4				
Science course	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	HSCI 2000 or EEAM 2000	1	ENGW 3306, 3314, or 3303	4	Co-op	
JRNL elective	4	PHTH 2210 and PHTH 2211	4	Social science course	4		
PHTH core course	4	JRNL elective	4				
Elementary-level language course	4	Intermediate-level language course	4				
		Visual storytelling course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHTH 4202	4	PHTH 4120	4	Co-op	
		JRNL elective	4	Elective	4		
		Integrative course	4				
		Law and ethics course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHTH 4540	4
HSCI 4700	0	Capstone course	4
		JRNL elective	4
		Social science course	4
	0		**16**

Total Hours: 131

* These two elective courses may also be taken one at a time while on co-op.

Public Health and Sociology, BA

Overview

The combined Bachelor of Arts in Public Health and Sociology integrates social science theory and perspectives with public health concepts to approach complex health inequities. Students gain foundational sociological knowledge and skills and apply theory to public health approaches for addressing poor health outcomes. Students explore the ways that societal constructs, such as race, class, and gender, intersect with health. This combined major will appeal to students who want to pursue graduate study and research in sociology, public health, public policy and administration, and education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE REQUIREMENTS

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
COMM 1225	Communication Theory	

ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
Upper-Level Course		
Complete one course (total) from any of the following groups:		3-4
Society and Behavior		
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
COMM 3500	Environmental Issues, Communication, and the Media	
ECON 3423	Environmental Economics	
INTL/PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 3300	Social Theory	4
Electives		
Complete two electives with courses beyond those taken in the requirements above.		8
SOCL 1102 to SOCL 2999		
Complete four additional SOCL courses in the following range:		16
SOCL 3000 to SOCL 5999		

Supporting Course Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
SOCL 1000	Sociology at Northeastern	
Co-op Preparation		
Complete one of the following:		1
EESH 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing Courses		
First-Year Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
Statistics and Research Methods		
Complete one of the following:		8
PHTH 2210 and PHTH 2211 and PHTH 4202	Foundations of Biostatistics and Recitation for PHTH 2210 and Principles of Epidemiology in Medicine and Public Health	
SOCL 2320 and SOCL 2321	Statistical Analysis in Sociology and Research Methods in Sociology	
Capstone		
Complete one of the following options:		4
Health Science Capstone		
Complete the following prerequisite:		
HSCI 4700	Health Science Capstone Introduction	
And complete one of the following:		
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	
Sociology Senior Seminar		
SOCL 4600	Senior Seminar	

Integrative Requirement

Code	Title	Hours
SOCL 3441	Sociology of Health and Illness	4

General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Public Health and Sociology Major Credit Requirement

Minimum of 87 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/Two Co-ops in Spring/Summer 1— Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 1111	4	PSYC 1101	4	PHTH 2350	4
HSCI 1000	1	SOCL 1101	4	SOCL elective (1000–2999)	4
PHTH 1260	4	BIOL course—see options	4		
BIOL course—see options	4	Elementary language course	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2515	4
PHTH 2300	4			General elective	4	Social science course	4
PHTH 2210 and PHTH 2211	4						
SOCL 3300	4						
Intermediate language course	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		HSCI 4700	0
ENGW 3306	4			General elective	4	PHTH 4540	4
SOCL 3441	4					PHTH 4120	4
SOCL elective (1000–2999)	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Social science course	4
PHTH 4202	4	SOCL electives (3000–5999)	8
SOCL electives (3000–5999)	8	General elective	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
PHTH 1260	4	ENGW 1111	4	PHTH 2515	4	
PSYC 1101	4	SOCL 1101	4	General elective	4	
SOCL 1000	1	BIOL course—see options	4			
BIOL course—see options	4	Elementary language course	4			
Elementary language course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2350	4	ANTH 2305	4	General elective	4	Co-op	
SOCL 3300	4	EESH 2000	1	SOCL elective (3000–5999)	4		
SOCL elective (1000–2999)	4	PHTH 2300	4				
Intermediate language course	4	SOCL 2320	4				
		Social science course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3308	4	PHTH 4120	4	Co-op	
General elective	4	SOCL 3441	4	PHTH 4540	4		
		Social science course	4				
		SOCL elective (3000–5999)	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 2321	4
General elective	4	SOCL 4600	4
		SOCL electives (3000–5999)	8
	4		**16**

Total Hours: 130

Communication Sciences and Disorders, Minor

The communication sciences and disorders minor consists of one required foundation course taken prior to any core or elective courses, then two core courses and one elective from either the remaining core courses in the list or from a specified set of elective courses that are taught by units other than the CSD department. Students may consult with an advisor in the CSD department concerning the current listing of eligible elective courses for the CSD minor. Students who may be interested in pursuing a graduate degree in speech-language pathology are encouraged to explore the Minor in Speech-Language Pathology and Audiology (p. 1239), which is a track that, if supplemented with certain elective choices within their major, would meet all admissions requirements for our department's own MS Speech-Language Pathology (https://catalog.northeastern.edu/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/) program.

Note: This minor is not open to students majoring in the Bachelor of Science in Speech-Language Pathology and Audiology, those pursuing a combined major with SLPA, or those pursuing a minor in Speech-Language Pathology and Audiology.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Foundation Course

Code	Title	Hours
Complete one of the following:		4
SLPA 1101	Introduction to Communication Disorders	
SLPA 1555	Communication Disorders in Movies	

Communication Sciences and Disorders Core

Code	Title	Hours
Complete two of the following:		8
SLPA 1102	Language Development	
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	
SLPA 1200	Phonetics	
SLPA 1203	Introduction to Audiology	
SLPA 1205	Speech and Hearing Science	
SLPA 4500	Language Disorders across the Life Span	
SLPA 4651	Speech Disorders across the Life Span	

Electives

Code	Title	Hours
Complete one of the following:		4
AMSL 1101	Elementary ASL 1	
CAEP 3480	Counseling Theories and Practice	
COMM 1112	Public Speaking	
COMM 2534	Group Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
HLTH 2100	Interprofessional Ethics for Individual and Population Health	
HLTH 5280	The (in)Visibility of (dis)Ability in Society (@ 4 SH)	
PHTH 1260	The American Healthcare System	
PHTH 2300	Communication Skills for the Health Professions	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	

Minor Credit Requirement

Minimum of 16 semester hours required in the minor

GPA Requirement

2.000 GPA required in the minor

Early Intervention, Minor

Overview

The interdisciplinary minor in early intervention (EI) is designed for students who enjoy working with very young children and their families. Through coursework and practicum experiences, students are prepared to work with infants and toddlers with known disabilities, or those who are at risk for developmental delay, and their families.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
CAEP 5153	Early Intervention: Assessment and Intervention	3
SLPA 5152	Early Intervention: Planning and Evaluating Services	3
SLPA 5154	Early Intervention Practicum 1	2
SLPA 5155	Early Intervention Practicum 2	2

GPA Requirement

2.000 GPA required in the minor

Exercise Science, Minor

The minor in exercise science is for undergraduate students from any discipline wishing to expand their understanding in this area. Exercise science is a discipline that examines the short- and long-term responses to exercise and benefits of exercise training for healthy persons, as well as persons with chronic diseases such as heart disease, pulmonary diseases, diabetes, and obesity. Through this minor, undergraduate students have an opportunity to broaden their understanding of exercise and physical activity in health promotion, disease prevention, and interventions. Students who elect a minor in exercise science may then apply to the Master of Science in Exercise Science upon graduation.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Exercise Science Requirements

A minimum grade of C is required in all courses taken toward the minor.

Required Courses

Code	Title	Hours
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
EXSC 4500 and EXSC 4501	Exercise Physiology 1 and Lab for EXSC 4500	5
EXSC 5200	Cardiopulmonary Physiology	3
EXSC 5220	Advanced Exercise Physiology	3

GPA Requirement

2.000 GPA required in the minor

Health Psychology, Minor

The objective of the minor in health psychology is to provide students with knowledge regarding the relationship between psychological and behavioral processes and health and illness. Distinct from other specialty areas in psychology, health psychology focuses on how biology, psychology, behavior, and social factors influence health and illness.

This minor seeks to benefit students by highlighting the unique features of this specialty area and help students understand how to apply this knowledge to the provision of health services and various career paths relevant to health psychology, should they choose to pursue careers in professional psychology focused on the promotion of health. The minor in health psychology is designed for undergraduate students from a variety of disciplines within Bouvé and across the university who wish to expand and to apply their understanding in key concepts of behavioral science and how they inform and intersect with public health, prevention science, clinical applications, and interdisciplinary and interprofessional care.

The minor is comprised of five courses. It requires two foundational courses, one that provides an introduction to the role of psychology in health, illness, and healthcare—Health Psychology: An Introduction (CAEP 2012)—and one that focuses on the application of principles of behavior analysis to address common health problems, such as obesity, addiction, and adherence to medical procedures—Behavioral Assessment and Treatment of Health Problems in the 21st Century (CAEP 2101).

These courses instruct students on basic, foundational principles of mental/behavioral health and the role of psychology in overall health and well-being in applied settings. Students may choose three other electives based on their specific interests.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CAEP 2012	Health Psychology: An Introduction	4
CAEP 2101	Behavioral Assessment and Treatment of Health Problems in the 21st Century	4

Elective Courses

Code	Title	Hours
Complete any three of the following:		12
CAEP 2105	College Student Mental Health	
CAEP 3899	Relationships in College	
CAEP 5150	Early Intervention: Family Systems	
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	
HLTH 5002	Mindfulness: Theory and Practice	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 3520	Child Intervention and Treatment	
PSYC 1101	Foundations of Psychology	
PSYC 3404	Developmental Psychology	

GPA Requirement

2.000 GPA required in the minor

Health Sciences Entrepreneurship, Minor

The health sciences entrepreneurship minor is for undergraduate students from any major, in any college at the university, who have an interest in developing skills in the creation and management of health sciences companies. The minor builds on currently offered courses within and outside of Bouvé College of Health Sciences. This minor allows students to apply the entrepreneurial mindset to develop marketable and applicable skills conversant in the unique regulatory, reimbursement, and promotion of products and services in the health sciences. Providing opportunities to develop these skills will benefit students pursuing positions within healthcare organizations and medical technology businesses, as well as students wishing to be entrepreneurs or innovators in the companies that employ them.

Minor Requirements

The minor consists of three required courses and one elective course. Up to *two courses* from other major and minor requirements may apply to this minor.

Required Courses

Code	Title	Hours
PHMD 2100	Entrepreneurship in Health Sciences	4
PHMD 2350	Healthcare Systems	3-4
or PHTH 1260	The American Healthcare System	
or PHTH 1261	Comparative Healthcare Systems	
PHMD 2550	Innovation, Entrepreneurship, and Drug and Medical Device Development	4

Elective Courses

Code	Title	Hours
Complete one of the following:		3-4
ENTR 2303	Marketing Strategies for Startups	
ENTR 3305	Business Model Design and Innovation	
ENTR 3330	Design Thinking for Startups	
ENTR 4505	Entrepreneurial Venture Growth Strategies	
INNO 2206	Global Social Enterprise	
INNO 2301	Innovation!	
INNO 2304	Industry Disruption and Corporate Transformation	
MKTG 2201	Introduction to Marketing	
PHTH 2350	Community and Public Health	
PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
PHTH 5234	Economic Perspectives on Health Policy	

GPA Requirement

Students are required to have an overall grade-point average of 2.000 or higher.

Credit Requirement

15 semester hours required

Health, Humanities, and Society, Minor

The health, humanities, and society minor is designed for students who would like to learn how to think capaciously and creatively about health using the rigorous, precise, and flexible skills trained by the social sciences and the humanities. The social sciences teach students to think about the social, economic, and political factors that structure health conditions and outcomes in particular societies, while the humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of healthcare is quickly changing, and this training will equip students well not only for the diverse forms of health work that exist today, but for as yet unimaginable varieties of health-related work in the future.

This minor is structured around the particular competencies that the social sciences and humanities train. Those competencies are narrative and historical perspective, critical attention and observation, ethics and judgment, performance and creativity, and social and structural proficiency. Rather than adopting the more traditional approach of connecting particular skills to particular disciplines (say, narrative to literature and observation to art history), this minor builds from discipline-specific health knowledge while training students to think across disciplines. Thus, it will not be unusual for students to find a single course addressing multiple competencies or to take courses in different disciplines that address the same competency from distinct but complementary perspectives.

This minor is housed in the Humanities Center of the College of Social Sciences and Humanities in partnership with the Bouvé College of Health Sciences.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

No more than two courses, in addition to the introductory course, may be taken under the 2000 level.

Code	Title	Hours
Introductory Course		
INSH 1300	Introduction to Health and Humanities	4
Humanities Requirement		
Complete two of the following:		8
ENGL 2770	Writing to Heal	
ENGL 3140	19th-Century Literatures	
ENGL 3700	Narrative Medicine	
ENGL 4710	Capstone Seminar	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
WMNS 1225	Gender, Race, and Medicine	
Social Sciences Requirement		
Complete two of the following:		8
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4580	Special Topics in Anthropology	
ECON 1230	Healthcare and Medical Economics	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 1270	Introduction to Global Health	
PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 4120	Global Perspectives on Discrimination and Health	
PHTH 5202	Introduction to Epidemiology	
PHTH 5234	Economic Perspectives on Health Policy	
SOCL 1295	Drugs and Society	
SOCL 2303	Gender and Reproductive Justice	
SOCL 3441	Sociology of Health and Illness	
Total Hours		**20**

GPA Requirement

2.000 GPA required in the minor

Healthcare System Operations, Minor

The objective of the minor in healthcare system operations is to prepare students to apply industrial and systems engineering methods in healthcare applications. Distinct from other service industries, healthcare systems are characterized by extensive complexities driven by communication between and interdependencies among multiple actors, and the need to simultaneously address multiple competing objectives pertaining to economic, quality-driven, individual-driven, and population-driven goals. This minor will benefit students by highlighting the unique features of this industry and methods for addressing its unique challenges to engineer improvements to the design, operation, and management of healthcare systems.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

At most, one course from the minor may be counted toward major requirements.

Code	Title	Hours
Required Courses		
IE 5617	Lean Concepts and Applications	4
IE 5400	Healthcare Systems Modeling and Analysis	4
or IE 3500	Introduction to Healthcare Systems Engineering	
PHTH 1260	The American Healthcare System	4
Electives		
Complete one of the following:		4
IE 5374	Special Topics in Industrial Engineering (System Dynamics in Healthcare)	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
NRSG 5121	Epidemiology and Population Health	
PHTH 4511	Healthcare Management	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5232	Evaluating Healthcare Quality	
SCHM 3315	Managing Healthcare Operations and Supply Chain	

GPA Requirement

2.000 GPA required in the minor

Mindfulness Studies, Minor

The minor in mindfulness studies is open to all majors at the university. The term “mindfulness” refers to maintaining an awareness of the present moment without judgment. Modern-day mindfulness has roots in Eastern spiritual traditions including Buddhism and Hinduism; after arriving in the West, mindfulness practice became a mostly secular practice used by many to promote health and wellbeing. The minor in mindfulness studies is designed for students who seek to enrich their understanding of mindfulness practice, including its benefits and potential applications. Pursuing a minor in mindfulness studies will complement students’ knowledge in the related fields of psychology, health sciences, philosophy, and religious studies. However, developing a mindfulness practice and an understanding of the potential benefits and applications of mindfulness may help enrich the lives of students in any major. Whether students are interested in health, education, or business, by pursuing the minor in mindfulness studies they have an opportunity to learn how to develop a mindfulness practice and explore how to apply mindfulness to their career.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CAEP 1280	Introduction to Mindfulness	4
PHIL 1133	Selling Spirituality	4
PHIL 1275	Hinduism, Buddhism, and Beyond	4
or PHIL 2395	Japanese Buddhism	

Electives

Code	Title	Hours
Complete one of the following:		
CAEP 1290	Personal Behavior Change	4
CAEP 2280	The Yoga Tradition in Nepal: Philosophy, Methods, and Practice	4
CAEP 2290	The Yoga Tradition: Philosophy, Methods, and Practice	4
CAEP 3899	Relationships in College	4
HLTH 5002	Mindfulness: Theory and Practice	3
HUSV 2340	Mindfulness in Mental Health	4
PHIL 1130	Comparative Ethics	4
PHIL 1290	Chinese Philosophy and Religion	4

GPA and Grade Requirement

Minimum 2.000 GPA required in the minor. All coursework must be completed with a minimum grade of C.

Credit Requirement

15 hours required

Nutrition, Minor

The minor in nutrition is designed for undergraduate students from a variety of disciplines across the university who wish to expand and apply their understanding in key concepts of nutrition and how they intersect with public health, clinical applications, food policy, behavioral counseling, or health communication.

The minor is comprised of five courses. It requires a foundational course in Human Nutrition (HSCI 1105) that instructs students in the basic principles of human nutrition. Students expand foundational concepts in additional required courses to apply knowledge of nutrition in clinical settings and to public health initiatives. Following the initial core courses, students complete two elective courses, at least one at 3000 level or higher, developing deeper knowledge and specific professional skills.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
HSCI 1105	Human Nutrition	4
HSCI 2350	Advanced Nutrition in Health and Disease	4
HSCI 2500	Public Health Nutrition in the Community	4

Supporting Courses

Code	Title	Hours
Complete two of the following. At least one elective must be at the 3000 level or above:		7-8
BIOL 3611	Biochemistry	
or PHSC 2320	Biochemistry	
CAEP 2012	Health Psychology: An Introduction	
CAEP 3480	Counseling Theories and Practice	
COMM 3201	Health Communication	
or PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
ECON 3404	International Food Policy	
EXSC 1120	Introduction to Exercise, Fitness, and Health	
HSCI 1106	Contemporary Issues in Nutrition	
PHSC 4340	Pharmacology for the Health Professions	
PHSC 4502	Pharmacology/Medicinal Chemistry 2	
PPUA 5270	Food Systems and Public Policy	

GPA Requirement

2.000 GPA required in the minor

Pharmaceutical Sciences, Minor

The minor in pharmaceutical sciences is open to all majors at the university with the exception of Bouvé PharmD and BS Pharmaceutical Sciences students. The minor is designed for undergraduate students from a variety of disciplines who wish to explore key aspects of the pharmaceutical sciences, including pharmacology, medicinal chemistry, and pharmaceutics. It is comprised of three required courses and one elective for a minimum of 15 hours. Students who believe that additional exposure to these topics will integrate effectively with their major (particularly students in biology and chemistry majors, as well as those in chemical and bioengineering programs and health sciences) are encouraged to pursue this minor.

Minor Requirements

Successful completion of the minor requires that all coursework be completed with a minimum grade of D and courses may not be taken as pass/fail. The minor consists of three required courses and one elective course. Up to *two courses* from other major and minor requirements may apply to this minor.

Required Courses

Code	Title	Hours
PHSC 3411	Pharmaceutics 1	4
PHSC 3801	Principles of Pharmacology and Medicinal Chemistry 1	4
PHSC 3802	Principles of Pharmacology and Medicinal Chemistry 2	4

Elective Courses

Code	Title	Hours
Complete one of the following:		3-4
PHSC 2301 and PHSC 2302	Human Physiology 1 and Human Anatomy Lab	
PHSC 2303 and PHSC 2304	Human Physiology 2 and Human Physiology Lab	
PHSC 2330	Immunology	
PHSC 3412	Pharmaceutics 2	
PHSC 3430	Pharmacokinetics and Biopharmaceutics	
PHSC 5400	Principles of Drug Design	
CHEM 5676	Bioorganic Chemistry	

GPA Requirement

Minimum 2.000 GPA required in the minor

Credit Requirement

15 hours required

Public Health, Minor

The minor in public health is designed for undergraduate students from a variety of disciplines who wish to explore key components of public health including the basic components of the U.S. healthcare system, core values and concepts of public health, public health analytic methods, and the social determinants of health. The minor is comprised of five courses for a minimum of 18 semester hours. The four required courses focus on the key components of public health and the remaining course is an elective from the provided list. Through the elective course, students can explore policy, healthcare management and delivery, research methods, health communication, nutrition and exercise, health disparities, and environmental health.

Minor Requirements

Note: This minor is not open to students majoring in the Bachelor of Science in Health Science or Bachelor of Arts in Public Health or those pursuing a combined major with those majors.

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2350	Community and Public Health	3-4
or PHTH 2351	Community and Public Health - Global	
or NRSG 4604	Public Health Community Nursing	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
Complete one of the following (PHTH 2210 is recommended):		3-4
ECON 2350	Statistics for Economists	
ENVR 2500	Biostatistics	
MATH 2280	Statistics and Software	
MATH 3081	Probability and Statistics	
MGSC 2301	Business Statistics	
NRSG 5120	Statistics for Health Science	
PHMD 3450	Research Methodology and Biostatistics	
PHTH 2210	Foundations of Biostatistics	
POLS 2400	Quantitative Techniques	
PSYC 2320	Statistics in Psychological Research	

Elective

Code	Title	Hours
Complete one course from the options below. Categories are provided to assist with selection.		**4**
Nutrition and Wellness		
EXSC 1120	Introduction to Exercise, Fitness, and Health	
HSCI 1105	Human Nutrition	
or HSCI 1106	Contemporary Issues in Nutrition	
PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 4540	Health Education and Program Planning	
Policy and Administration		
PHTH 2515	Healthcare Policy and Administration	
PHTH 4511	Healthcare Management	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Society and Health		
PHTH 1270	Introduction to Global Health	
or AFRS 1270	Introduction to Global Health	
PHTH 2414	Environmental Health	
PHTH 4120	Global Perspectives on Discrimination and Health	
Research Methods		
PHTH 3250	Fundamentals of Qualitative Research	

GPA Requirement

2.000 GPA required in the minor

Speech-Language Pathology and Audiology, Minor

The clinical SLPA minor seeks to prepare students for admission into a graduate program in speech-language pathology or audiology. In particular, students in this minor are on a track that, if supplemented with certain elective choices within their major, would meet all admissions requirements for our department's own MS Speech-Language Pathology (https://catalog.northeastern.edu/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/) program.

The clinical SLPA minor consists of five department-specific SLPA core courses.

Students pursuing this minor are advised to consult early and regularly with their academic advisors in order to ensure a timely completion of the combination of their major and the clinical SLPA minor requirements.

Students pursuing this minor who wish to go to graduate school at institutions other than Northeastern are advised to carefully check admissions requirements for those programs.

Note: This minor is not open to students majoring in the Bachelor of Science in Speech-Language Pathology and Audiology, those pursuing a combined major with Speech-Language Pathology and Audiology, or those pursuing a minor in Communication Sciences and Disorders.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Speech-Language Pathology and Audiology Core

Code	Title	Hours
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1200	Phonetics	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4

GPA Requirement

2.000 GPA required in the minor

Wellness Studies, Minor

The wellness studies minor provides a holistic approach to the study of the human wellness experience. Offering interdisciplinary enrollment, this minor includes foundational wellness courses, as well as a range of interdisciplinary electives that embrace evidence-based science and education vis-à-vis selected domains of wellness. A cross-cultural, life span approach to individual and population wellness and well-being is offered as an experiential learning initiative.

As Northeastern University guides students in the ways of self-managing (life-long learning), an understanding of the nature and practices of wellness may inform deliberative decision-making processes that lead to the attainment of wellness-informed lifestyle choices. Over time, these choices may inform the design and crafting of a life well lived.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
NRSG 1205	Wellness	4
or NRSG 1206	Wellness Abroad	
NRSG 5000	Advanced Perspectives in Wellness	4

Electives

Code	Title	Hours
Complete two of the following:		7-8
COMM 2135	Sex and Interpersonal Communication	
COMM 2555	Games for Change	
COMM 3230	Interpersonal Communication	
ENGL 2770	Writing to Heal	
EXSC 1120	Introduction to Exercise, Fitness, and Health	
HLTH 2302	Alternative Medicine	
HLTH 5002	Mindfulness: Theory and Practice	
HSCI 1105	Human Nutrition	
HSCI 2350	Advanced Nutrition in Health and Disease	
SOCL 1246	Environment and Society	
WMNS 2800	Sexual Orientation and Gender Expression	

GPA Requirement

Minimum 2.000 GPA required in all minor courses

Credit Requirement

A minimum of 15 hours is required.

School of Clinical and Rehabilitation Sciences

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The School of Clinical and Rehabilitation Sciences within the Bouvé College of Health Sciences at Northeastern University brings together the clinical fields of physical therapy (https://bouve.northeastern.edu/physical-therapy/), speech-language pathology and audiology (https://bouve.northeastern.edu/csd/), and physician assistant studies (https://bouve.northeastern.edu/physician-assistant/).#Students and fellows in the school are prepared for clinical and research excellence, training with interdisciplinary experts in habilitation and rehabilitation sciences, epidemiology, neuroscience, engineering, physiology, exercise science, clinical medicine, design, diagnostic and therapeutic imaging, and communication. Working at the intersection of rehabilitation, clinical practice, data, and engineering, students and fellows engage in transformative research and experiential learning that prepares them to improve the quality of life and self-care for patients and communities, while promoting and developing innovative approaches to the future of healthcare.

Communication Sciences and Disorders

The Department of Communication Sciences and Disorders offers a four-year undergraduate major (Bachelor of Science in Speech-Language Pathology and Audiology), two combined majors, and two undergraduate minors. Additionally, CSD offers a five-year PlusOne bachelor's/master's program that allows students to accelerate the attainment of the graduate degree. See additional information on accelerated bachelor/graduate degree programs. (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/)

Speech-language pathologists and audiologists are involved with the evaluation, treatment, counseling, and research of human communication and its disorders. They provide clinical services to a full range of individuals with communication delays/differences/disorders, from infants through geriatrics. Speech-language pathologists treat developmental language and articulation disorders/delays; voice and resonance problems; stuttering; dysarthria and apraxia; pediatric and adult swallowing disorders; and language and cognitive impairments due to stroke, head injury, and progressive neurological disease. Audiologists specialize in the prevention, identification, assessment, and rehabilitation of hearing disorders for individuals with congenital and acquired hearing impairments. Both speech-language pathologists and audiologists require graduate education to practice as certified and licensed clinicians.

BS in Speech-Language Pathology and Audiology

The degree program for the Bachelor of Science in Speech-Language Pathology and Audiology includes an experiential learning component, a broad-based academic core, and the scientific and clinical courses necessary for understanding normal and disordered communication. The degree offers preprofessional training for individuals who want to pursue graduate education. Alternatively, graduates may pursue certification and be hired as speech-language pathology or audiology assistants in a variety of clinical settings, or they may pursue other career paths in areas such as healthcare/administration, education, public health, human services, or media/public relations.

The SLPA curriculum is designed to facilitate critical thinking, information literacy, as well as oral and written communication skills. In addition to courses in the basic communication sciences, coursework in education, allied health, ethics, multicultural/diversity issues, and psychology is required. The curriculum provides a solid foundation in SLPA, and it is sufficiently flexible to provide students with the opportunity to minor in an area of related interest.

BS Combined Majors

Two combined majors are available for students to pursue: the Bachelor of Science in Communication Studies and Speech-Language Pathology and Audiology and the Bachelor of Science in Linguistics and Speech-Language Pathology and Audiology.

The combined Bachelor of Science in Communication Studies and Speech-Language Pathology and Audiology offers an interdisciplinary approach to human communication and its disorders. Coursework focuses on the scientific and theoretical frameworks of speech, language, and hearing. Students are introduced to the fundamentals of communication theory, and they have an opportunity to acquire the practical skills necessary to thrive in a complex, dynamic society. The curriculum is enhanced by experiential learning opportunities that prepare students for a variety of professional careers.

The combined Bachelor of Science in Linguistics and Speech-Language Pathology and Audiology provides students with extensive background in the formal structures of human language; the methods and applications of linguistic analyses of language data; the biology, neurology, and physics of the human vocal tract; and the nature of both normal and disordered human speech communication and language development.

Students have an opportunity to develop critical thinking, information literacy, as well as strong oral and written communication skills. The curriculum is enhanced by experiential learning opportunities that prepare students to pursue graduate degrees in speech-language pathology or audiology as well as careers in other related healthcare domains or education.

Minors

Two flexible minors are available for students to pursue. These minors allow students from various fields of study to enhance their academics with general courses related to the field of communication sciences, as well as specific courses covering topics such as audiology or speech-language disorders across the life span. Advisors assist students with accommodating their interests within their established major curriculum plans.

Note: The minors are not open to students majoring in the Bachelor of Science in Speech-Language Pathology and Audiology or those pursuing a combined major with this major. In addition, students are only eligible to declare one minor within the department (i.e., either the CSD or SLPA clinical minor).

COMMUNICATION SCIENCES AND DISORDERS MINOR

The Minor in Communication Sciences and Disorders includes courses that offer exposure to a variety of aspects of the field. While this minor does not, by itself, fully prepare students for admission to graduate programs in speech-language pathology or audiology, it facilitates progress toward these graduate programs, in addition to others in fields such as applied psychology, linguistics, neuroscience, and education. Coursework is designed to help students understand the scope of practice in both fields and develop basic competencies.

The CSD minor consists of four courses, which includes a required foundation course taken prior to any CSD core or elective courses, followed by two CSD core courses and one elective course. Students may consult with an advisor in the CSD department concerning the current listing of eligible elective courses for this minor.

SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY MINOR

The Minor in Speech-Language Pathology and Audiology seeks to prepare students for admission into graduate programs in speech-language pathology or audiology. Students in this minor are on a track that would meet course prerequisites requirements for admission to our department's own Master of Science in Speech-Language Pathology (https://catalog.northeastern.edu/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/) program.

The SLPA minor consists of one required foundation course taken prior to five department-specific SLPA core courses. Students pursuing this minor are advised to consult early and regularly with their academic advisors in order to ensure a timely completion of the combination of their major(s) and the SLPA minor requirements. Students pursuing this minor who plan to apply to graduate school at institutions other than Northeastern University are advised to carefully check admissions requirements for those programs.

Bachelor of Science (BS)

- Speech-Language Pathology and Audiology
- Communication Studies and Speech-Language Pathology and Audiology (p. 368)
- Linguistics and Speech-Language Pathology and Audiology (p. 1199)

Minors

- Communication Sciences and Disorders (p. 1226)
- Speech-Language Pathology and Audiology (p. 1239)

Physical Therapy, Movement, and Rehabilitation Sciences

The mission of the Department of Physical Therapy, Movement, and Rehabilitation Sciences is to impact the health and well-being of the global community by developing leaders in our fields through interprofessional experiential education, translational research, and excellence in clinical

practice. The programs within the department enhance and extend students' learning through experiential education, interdisciplinary collaborations, interprofessional education, and research opportunities, making impact across our global campus and beyond. Our faculty members are leaders in education, research, and practice. Students work with faculty to conduct ongoing research in one of the many diverse Department of Physical Therapy, Movement, and Rehabilitation Sciences' research groups and laboratories, including Neuromotor Systems Laboratory, Laboratory for Locomotion Research, ReGame-XR Laboratory, Movement Neuroscience Laboratory, Musculoskeletal Epidemiology and Biomechanics Laboratory, Neurophysiology Laboratory, Occupational Biomechanics and Ergonomics Laboratory, Teaching and Learning with Innovation Laboratory, the Programmable and Reconfigurable Soft Engineered Systems Lab, and the Center for Cognitive and Brain Health.

At the undergraduate level, the department's faculty work with students from across the university to optimize their bachelor's degree experience in preparation for our graduate doctoral program in physical therapy. Students may enter a range of degree programs at Northeastern included in the health sciences department within Bouvé and programs in the College of Science and the College of Engineering. A guaranteed priority admission pathway (https://forms.office.com/Pages/ResponsePage.aspx?id=gcLuqKOqrk2sm5o5i5IV56qaoIN-LopKpLOqV01nZHxUMUtHWlQzT1BHTDBCOTNFTDQySFo2TlFaNS4u) exists for those students who have met the prerequisite criteria.

The department offers a Minor in Human Movement Sciences. The minor enhances multiple degree programs at Northeastern with fundamental concepts in human movement and rehabilitation sciences—including anatomy and physiology, human kinesiology, and motor control—as well as sports medicine, functional neuroanatomy, and exercise physiology.

Minor

- Human Movement Science (p. 1254)

Speech-Language Pathology and Audiology, BS

The Bachelor of Science degree program in speech-language pathology and audiology includes an experiential learning component, a broad-based academic core, and the scientific and clinical course work necessary for understanding normal and disordered communication. The degree offers preprofessional training for individuals who want to pursue graduate education in speech-language pathology and audiology. Alternatively, graduates may be hired as speech-language pathology assistants in a variety of clinical settings or they may pursue other career paths in healthcare and education.

The speech-language pathology and audiology curriculum is designed to facilitate critical thinking, information literacy, and oral and written communication skills. In addition to courses in the basic communication sciences, courses in education, allied health, computer literacy, ethics, multicultural/diversity issues, and psychology are required. The curriculum provides a solid foundation in speech-language pathology and audiology and basic sciences, and it is sufficiently flexible to provide students with the opportunity to minor in an area of related interest.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Speech-Language Pathology and Audiology Major Courses

Code	Title	Hours
SLPA 1000	College: An Introduction	1
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1200	Phonetics	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 2000	Introduction to Co-op	1
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3

Supporting Courses

Code	Title	Hours
Biology Courses		
A grade of C or higher is required for all BIOL courses.		
BIOL 2217	Integrated Anatomy and Physiology 1	4
BIOL 2218	Lab for BIOL 2217	1
BIOL 2219	Integrated Anatomy and Physiology 2	4
BIOL 2220	Lab for BIOL 2219	1
Physics Courses		
A grade of C or higher is required for all PHYS courses.		
PHYS 1145	Physics for Life Sciences 1	4
PHYS 1146	Lab for PHYS 1145	1
Other Supporting Courses		
A grade of C or higher is required for all MATH courses, PHTH 2210, and ENGW 1111.		
MATH 1215	Mathematical Thinking	4

or MATH 1241	Calculus 1	
PHTH 2210	Foundations of Biostatistics	4
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
HLTH 5450	Healthcare Research	4
PHIL 1165	Moral and Social Problems in Healthcare	4
PHTH 2300	Communication Skills for the Health Professions	4
PSYC 1101	Foundations of Psychology	4
PSYC 3404	Developmental Psychology	4
PSYC 3466	Cognition	4
NUpath Interpreting Cultures (IC) Elective		4
Complete one PSYC course (1000-5999)		4
Complete one EDUC course (1000-5999)		4

Required General Electives

Code	Title	Hours
Complete general electives for a minimum of 24 credits		24

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World (ND)
- Exploring Creative Expression and Innovation (EI)
- Conducting Formal and Quantitative Reasoning (FQ)
- Analyzing and Using Data (AD)
- Employing Ethical Reasoning (ER)
- Understanding Societies and Institutions (SI)
- Engaging Difference and Diversity (DD)
- Writing in the First Year (WF)
- Advanced Writing in the Disciplines (WD)
- Writing-Intensive in the Major (WI, two required courses)
- Demonstrating Thought and Action in a Capstone (CE)
- Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Students are responsible for using the general electives in this program to complete NUpath requirements not satisfied by required courses in this program.

Speech-Language Pathology and Audiology Major Requirement

A grade of C or higher is required in all SLPA courses.

Program Requirement

132 total semester hours required.

Plan of Study

Sample Plan of Study: Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217	4	BIOL 2219	4	Vacation		Vacation	
BIOL 2218	1	BIOL 2220	1				
ENGW 1111 (WF)	4	SLPA 1101 (ND)	4				
MATH 1215 or 1241 (AD)	4	SLPA 1205	4				
PSYC 1101 (ND, SI)	4	NUpath Interpreting Cultures (IC) elective	4				
SLPA 1000 (College: An Introduction)	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1145	4	COOP 3945 (EX)	0	COOP 3945 (EX)	0	Elective	4
PHYS 1146	1					Elective	4
PSYC 3404	4						
SLPA 1103	4						
SLPA 1203	4						
SLPA 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306 (WD)	4	HLTH 5450 (FQ, WI, ND)	4	Vacation		Elective	4
PHTH 2210 (AD, FQ)	4	SLPA 1102	4			Elective	4
PHTH 2300 (DD, EI)	4	SLPA 1200	4				
PSYC 3466	4	Elective	4				
	16		**16**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
SLPA 5107 (WI, CE)	4	PHIL 1165 (ER)	4
SLPA 5110	4	SLPA 4651	4
PSYC elective	4	SLPA 6219	3
Elective	4	EDUC elective	4
	16		**15**

Total Hours: 132

Communication Studies and Speech-Language Pathology and Audiology, BS

The combined Bachelor of Science in Communication Studies and Speech-Language Pathology and Audiology offers an interdisciplinary approach to human communication and its disorders. Coursework focuses on the scientific and theoretical frameworks of speech, language, and hearing. Students will also be introduced to the fundamentals of communication theory, and they have an opportunity to acquire the practical skills necessary to thrive in a complex and changing society. The curriculum is enhanced by experiential learning opportunities in a clinical setting that prepare the students for a variety of professional careers.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

First-Year Seminar

Code	Title	Hours
COMM 1000	Communication Studies at Northeastern	1
or SLPA 1000	College: An Introduction	

Communication Studies Requirements

Code	Title	Hours
No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.		
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following (COMM 3201 is strongly recommended):		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	

COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Speech-Language Pathology and Audiology Requirements

Code	Title	Hours
All courses in these sections must be completed with a C or better.		
SLPA Requirements		
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1200	Phonetics	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 2000	Introduction to Co-op	1
or EEAM 2000	Professional Development for Co-op	
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3

Supporting Courses

Code	Title	Hours
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
ENGW 1111	First-Year Writing	4
HLTH 2100	Interprofessional Ethics for Individual and Population Health	4
PHTH 2210	Foundations of Biostatistics	4
PHTH 2300	Communication Skills for the Health Professions	4
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
PSYC 1101	Foundations of Psychology	4

Integrative Course

Code	Title	Hours
Note: The selected integrative course counts toward the COMM writing-intensive (COMM 3201) or COMM elective (COMM 4102) as appropriate.		
COMM 3201	Health Communication (WI)	
or COMM 4102	Health Communication Campaigns	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirements

132 total semester hours required

Plan of Study
Sample 4 Years, 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	COMM 1112	4	Communication studies elective	4
COMM 1000 or SLPA 1000	1	SLPA 1101	4	Communication studies elective	4	General elective	4
COMM 1101	4	SLPA 1205	4				
ENGW 1111	4	Communication studies foundation course	4				
PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000 or SLPA 2000	1	Co-op	0	Co-op	0	Vacation	0
PHYS 1145 and PHYS 1146	5						
SLPA 1103	4						
SLPA 1203	4						
Communication studies cluster course	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 3409 or ENGW 3306	4	PHTH 2210	4	Vacation or optional co-op #2	0	Vacation or optional co-op #2	0
HLTH 2100 or PHIL 1165	4	SLPA 1102	4				
PHTH 2300	4	SLPA 1200	4				
Communication studies elective	4	Communication studies writing-intensive	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
SLPA 5107	4	COMM 3201	4
SLPA 5110	4	SLPA 4651	4
General elective	4	SLPA 6219	3
General elective	4	General elective	4
	16		**15**

Total Hours: 132

A general elective or a COMM elective (e.g., Principles of Argumentation (COMM 1120)) can be taken to fulfill the NUpath Formal/Quantitative Reasoning (FQ) requirement.

Linguistics and Speech-Language Pathology and Audiology, BS

Overview

The combined major in linguistics and speech-language pathology and audiology provides students with an extensive background in the formal structures of human language; the methods and applications of linguistic analyses of language data; the biology, neurology, and physics of the human vocal tract; and the nature of both normal and disordered human speech communication and language development. Students have an opportunity to develop critical thinking, information literacy, and strong oral and written communication skills. While on co-op, students gain clinical experience, including preprofessional training appropriate to pursue a graduate degree in SLPA, related clinical healthcare domains, or education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
LING 3420	Phonetics (Integrative course)	4
Complete three of the following:		12
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following:		12
DEAF 2700	ASL Linguistics	
LING 3000–LING 4999 [1]		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/course-descriptions/ling/) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Speech-Language Pathology and Audiology Requirements

Code	Title	Hours
All courses in these sections must be completed with a C or better.		
Speech-Language Pathology and Audiology		
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3
Biology and Physics Requirements		

BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
Psychology Requirements		
PSYC 1101	Foundations of Psychology	4
Statistics Requirements		
PHTH 2210	Foundations of Biostatistics	4

Integrative Requirement

Code	Title	Hours
The following course is taken in another area of the major:		
LING 3420	Phonetics	4

Supporting Courses

Code	Title	Hours
ENGW 3306	Advanced Writing in the Health Professions	4
HLTH 2100	Interprofessional Ethics for Individual and Population Health	4
or PHIL 1165	Moral and Social Problems in Healthcare	
PHTH 2300	Communication Skills for the Health Professions	4

Major Credit Requirement

Complete 107 hours in the major.

Program Requirements

132 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	Vacation		Vacation	
ENGW 1111	4	LING 2350	4				
LING 1150	4	SLPA 1101	4				
PSYC 1101	4	SLPA 1205	4				
SLPA 1000 or LING 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3420	4	Co-op		Co-op		Elective	4
PHYS 1145 and PHYS 1146	5					Elective	4
SLPA 1103	4						
SLPA 1203	4						
SLPA 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306	4	HLTH 2100 or PHIL 1165	4	Vacation		Elective	4
LING 3422 or 3450	4	LING 3422 or 3450	4			Elective	4
PHTH 2300	4	PHTH 2210	4				

Linguistics elective	4	SLPA 1102	4		
	16		**16**	**0**	**8**

Year 4

Fall	Hours	Spring	Hours
LING 3412	4	LING 3424 or 3452	4
SLPA 4500	4	SLPA 4651	4
SLPA 5107	4	SLPA 6219	3
Linguistics elective	4	Linguistics elective	4
	16		**15**

Total Hours: 132

Communication Sciences and Disorders, Minor

The communication sciences and disorders minor consists of one required foundation course taken prior to any core or elective courses, then two core courses and one elective from either the remaining core courses in the list or from a specified set of elective courses that are taught by units other than the CSD department. Students may consult with an advisor in the CSD department concerning the current listing of eligible elective courses for the CSD minor. Students who may be interested in pursuing a graduate degree in speech-language pathology are encouraged to explore the Minor in Speech-Language Pathology and Audiology (p. 1239), which is a track that, if supplemented with certain elective choices within their major, would meet all admissions requirements for our department's own MS Speech-Language Pathology (https://catalog.northeastern.edu/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/) program.

Note: This minor is not open to students majoring in the Bachelor of Science in Speech-Language Pathology and Audiology, those pursuing a combined major with SLPA, or those pursuing a minor in Speech-Language Pathology and Audiology.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Foundation Course

Code	Title	Hours
Complete one of the following:		4
SLPA 1101	Introduction to Communication Disorders	
SLPA 1555	Communication Disorders in Movies	

Communication Sciences and Disorders Core

Code	Title	Hours
Complete two of the following:		8
SLPA 1102	Language Development	
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	
SLPA 1200	Phonetics	
SLPA 1203	Introduction to Audiology	
SLPA 1205	Speech and Hearing Science	
SLPA 4500	Language Disorders across the Life Span	
SLPA 4651	Speech Disorders across the Life Span	

Electives

Code	Title	Hours
Complete one of the following:		4
AMSL 1101	Elementary ASL 1	
CAEP 3480	Counseling Theories and Practice	
COMM 1112	Public Speaking	
COMM 2534	Group Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
HLTH 2100	Interprofessional Ethics for Individual and Population Health	
HLTH 5280	The (in)Visibility of (dis)Ability in Society (@ 4 SH)	
PHTH 1260	The American Healthcare System	
PHTH 2300	Communication Skills for the Health Professions	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	

Minor Credit Requirement

Minimum of 16 semester hours required in the minor

GPA Requirement

2.000 GPA required in the minor

Human Movement Science, Minor

The Minor in Human Movement Science is open to all majors at the university with the exception of Bouvé Doctor of Physical Therapy students. The minor is designed for students who seek to complement their current studies with a more detailed understanding of the interplay of human anatomy and kinetic forces of movement specific to their chosen career path. It includes three required courses and one elective course with offerings that can be tailored to a student's interest in ergonomics, sport, kinetic movement, or deeper human anatomy knowledge through cadaveric education. Pursuing a Minor in Human Movement Science complements students' knowledge in their related fields of science, engineering, and entrepreneurship to provide a baseline understanding of human anatomy, functional demands, and movement analysis as they relate to activities of daily living. To be admitted to the Minor in Human Movement Science, students must be in good academic standing (minimum 2.000 GPA overall).

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
PT 3400	Human Kinesiology	4
PT 3500	Motor Control of Human Movement	4
Complete one of the following:		4-5
BIOL 1111	General Biology 1	
BIOL 1113	General Biology 2	
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	

Elective

Code	Title	Hours
Complete one of the following:		4-5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
EXSC 4500	Exercise Physiology 1	
PT 1880	Introduction to Sports Medicine	
PT 3300 and PT 3301	Human Gross Anatomy and Lab for PT 3300	
PT 5410 and PT 5411	Functional Human Neuroanatomy and Lab for PT 5410	

GPA Requirement

Courses may not be taken pass/fail. A 2.000 GPA in the minor is required.

Credit Requirement

A minimum of 16 semester hours is required.

Speech-Language Pathology and Audiology, Minor

The clinical SLPA minor seeks to prepare students for admission into a graduate program in speech-language pathology or audiology. In particular, students in this minor are on a track that, if supplemented with certain elective choices within their major, would meet all admissions requirements for our department's own MS Speech-Language Pathology (https://catalog.northeastern.edu/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/) program.

The clinical SLPA minor consists of five department-specific SLPA core courses.

Students pursuing this minor are advised to consult early and regularly with their academic advisors in order to ensure a timely completion of the combination of their major and the clinical SLPA minor requirements.

Students pursuing this minor who wish to go to graduate school at institutions other than Northeastern are advised to carefully check admissions requirements for those programs.

Note: This minor is not open to students majoring in the Bachelor of Science in Speech-Language Pathology and Audiology, those pursuing a combined major with Speech-Language Pathology and Audiology, or those pursuing a minor in Communication Sciences and Disorders.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Speech-Language Pathology and Audiology Core

Code	Title	Hours
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1200	Phonetics	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4

GPA Requirement

2.000 GPA required in the minor

School of Community Health and Behavioral Sciences

Website (https://bouve.northeastern.edu/ap/)

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The School of Community Health and Behavioral Sciences offers students interdisciplinary education and research excellence, drawing on novel health technologies and data literacy to address society's most pressing public health issues.

Students in the school are prepared to be the next generation of innovators and thought leaders in the health professions and public health, empowered to effect real change by leveraging new and emerging technologies and data.

The school is designed to improve individuals, communities, and society through three pillars of excellence:

- Health technologies
- Public mental health
- Social and environmental determinants of health to achieve social justice

Department of Applied Psychology

The Department of Applied Psychology offers an undergraduate minor in health psychology that is designed for students from a variety of disciplines within Bouvé and across the university who wish to expand and to apply their understanding in key concepts of behavioral science and how they inform and intersect with public health, prevention science, clinical applications, and interdisciplinary and interprofessional care. The department also offers an undergraduate minor in mindfulness studies— which is designed for students who seek to enrich their understanding of mindfulness practice, including its benefits and potential applications—and a minor in early intervention—which is designed for students who enjoy working with very young children and their families. In addition to these minors, the department offers three PlusOne programs to accelerate the advancement of undergraduate students to a master's degree in applied behavior analysis, applied psychology, and school psychology.

Minors

- Early Intervention (p. 1227)
- Health Psychology (p. 1229)
- Mindfulness Studies (p. 1234)

Department of Health Sciences

The Department of Health Sciences in the Bouvé College of Health Sciences at Northeastern University provides a unique, transdisciplinary setting that incorporates instruction, research, and practice and seeks to prepare students for a wide range of career paths. The department offers two bachelor's degrees—a Bachelor of Science in Health Science and a Bachelor of Arts in Public Health—and options for combined majors with the D'Amore-McKim School of Business; the College of Arts, Media and Design; the College of Social Sciences and Humanities; the College of Science; the College of Engineering; and the Khoury College of Computer Sciences. In addition, the department offers minors in exercise science, public health, global health, and nutrition. We also offer several graduate degrees: Master of Public Health, Master of Science in Exercise Science, and a combined master's in the two fields. We have exciting new programs that will begin enrolling in fall 2023: a one-year accelerated, experiential Master of Public Health and a new Master of Science in Real-World Evidence in collaboration with the OHDSI Center at Northeastern's Roux Institute. We also collaborate with the Khoury College of Computer Sciences to offer a Master of Science in Health Informatics, as well as combined graduate degrees with the School of Pharmacy, the Physician Assistant Program, and the School of Law. At the doctoral level, we offer a PhD in Population Health and, in cooperation with Khoury, a PhD in Personal Health Informatics.

Our diverse faculty has expertise in the fields of population health; health disparities; nutrition; social epidemiology; exercise science; medical sociology; public policy; personal health technologies; neurodevelopmental disorders; environmental, occupational, and mental health, including addictive behaviors and responses to traumatic events; among many more. Students have the opportunity to work side by side with faculty in conducting cutting-edge research in these fields.

In line with Northeastern's commitment to interdisciplinary research and urban engagement, we teach and work closely with many other schools, centers, and departments in the university, including the Institute for Health Equity and Social Justice Research, the Center for Community Health Education Research and Service, the Social Science Environmental Health Research Institute, and the Center for Health Policy and Healthcare Research, as well as community agencies and neighborhood health centers in the local Boston area and beyond.

Bachelor of Arts (BA)

- Public Health (p. 1258)

Bachelor of Science (BS)

- Health Science (p. 1263)

Combined Majors

- Business Administration and Public Health (p. 607) (BS)
- Data Science and Health Science (p. 907) (BS)
- Environmental Engineering and Health Science (p. 1046) (BSEnvE)
- Health Humanities and Health Science (p. 1178) (BS)
- Health Science and Business Administration (p. 632) (BS)
- Health Science and Communication Studies (p. 371) (BS)
- Health Science and Psychology (p. 1190) (BS)
- Health Science and Sociology (p. 1195) (BS)
- Health Humanities and Public Health (p. 1202) (BA)
- Public Health and Communication Studies (p. 316) (BA)
- Public Health and Cultural Anthropology (p. 1212) (BA)
- Public Health and Journalism (p. 429) (BA)
- Public Health and Sociology (p. 1221) (BA)

Minors

- Exercise Science (p. 1228)
- Global Health (p. 1329)
- Health, Humanities, and Society (p. 1231)
- Healthcare System Operations (p. 1151)
- Nutrition (p. 1235)
- Public Health (p. 1237)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Public Health, BA

The public health major offers students a strong foundation and experiential education in the core components of public health, such as the social determinants of health, biostatistics and research methods, health communication and health education, and program planning. The public health core is supported with social science and the biology of health and disease to provide breadth and depth for students to discover their passion and desired discipline. The major positions students well with a broad range of knowledge and skills to pursue graduate studies and professions such as:

- Community health
- Epidemiology
- Health administration
- Health communication and education
- Law
- Public policy
- Social work

Academic Policies and Procedures

Please visit Bouvé College of Health Sciences Undergraduate page (p. 1156) for academic policies and procedures, including Academic Appeals. (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/)

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Core

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

Science Requirement

Code	Title	Hours
Psychology		
PSYC 1101	Foundations of Psychology	4

Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1143	Biology and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

Social Science Requirement

Code	Title	Hours
Complete three of the following:		12
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL/HIST 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Complete three of the following (two must be at the 3000 level or above and from the same area):		9-12
Society and Behavior		
AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
or WMNS 1225	Gender, Race, and Medicine	
AFAM 2355	Race, Identity, Social Change, and Empowerment	
AFAM 2600	Issues in Race, Science, and Technology	
ANTH 3441	Medical Anthropology	
ASNS 2245	Introduction to Asian American Studies	
CAEP 1290	Personal Behavior Change	
CAEP 2101	Behavioral Assessment and Treatment of Health Problems in the 21st Century	
COMM 2105	Social Networks	
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 2100	Interprofessional Ethics for Individual and Population Health	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHIL 1165	Moral and Social Problems in Healthcare	
PHTH 2616	Rural Health: An Interdisciplinary Seminar	
PHTH 5222	Health Advocacy	
PSYC 1214	The Moral Mind: The Science Underlying Ethical Decision-Making and Virtuous Character	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
SOCL 2303	Gender and Reproductive Justice	
SOCL 2358	Current Issues in Cities and Suburbs	
SOCL 3241	Violence and Society	

SOCL 3441	Sociology of Health and Illness
SOCL 4520	Race, Class, and Gender
WMNS 1101	Sex, Gender, and Popular Culture
Globalization and Global Health	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ECON 3404	International Food Policy
HIST 2233	The History of Medicine in North America
INNO 2206	Global Social Enterprise
INTL 3200	Cities in a Global Context
INTL 3400	International Conflict and Negotiation
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Environmental Health and Climate Change	
ECON 3423	Environmental Economics
ENVR 1110	Global Climate Change
COMM 3500	Environmental Issues, Communication, and the Media
INTL 5100	Climate and Development
or PPUA 5100	Climate and Development
PHTH 2414	Environmental Health
PHTH 5214	Environmental Health
PPUA 5238	Climate Change and Global Urbanization
SOCL 1246	Environment and Society
SOCL 2485	Environment, Technology, and Society
Law, Policy, and Human Rights	
ECON 3424	Law and Economics
CRIM 1400	Human Trafficking
HIST 2299	Uses and Abuses of History: Historical Reasoning in U.S. Global and Domestic Policy
INTL 2480	Women and World Politics
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 2155	Human Rights
PHIL 2301	Philosophical Problems of Law and Justice
PHIL 2303	Social and Political Philosophy
PHIL 2325	Ancient Philosophy and Political Thought
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
POLS 2345	Urban Policies and Politics
POLS 2385	U.S. Health and Welfare Policy
POLS 3307	Public Policy and Administration
POLS 3900	Social Policy
PHTH 4515	Critical Issues in Health and Public-Health Policy
Healthcare Administration and Management	
ECON 1230	Healthcare and Medical Economics
ECON 1291	Development Economics
ECON 3413	Health Economics and Healthcare Policy
IS 2000	Principles of Information Science
MGMT 3340	Healthcare Management, Innovation, and Design
ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management

PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Capstone Requirements

Code	Title	Hours
Complete one of the following options:		4-8
Health Science Capstone		
HSCI 4700	Health Science Capstone Introduction	
And complete one of these options:		
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	
HSCI 4740	Health Science Capstone Seminar	
Honors Project (must meet GPA requirement)		
HSCI 4970 will count as 4 SH toward general electives.		
HSCI 4970 and HSCI 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	

Other Major Requirements

Code	Title	Hours
HSCI 1000	College: An Introduction	1
HSCI 2000	Professional Development for Bouvé Co-op	1
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4

General Electives

Code	Title	Hours
Complete 36 semester hours of general electives.		36

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirements

Minimum of 128 semester hours required

Plan of Study

Sample Four Years, Two Co-ops (Option 1 of Science Requirement)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1143	4	BIOL 1147	4	PHTH 2350	4	Vacation	
HSCI 1000	1	ENGW 1111	4	Elective	4		
PHTH 1260	4	PHTH 2515	4				
PSYC 1101	4	Elementary language course	4				
Introductory language course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		Elective	4
PHTH 2210 and PHTH 2211	4	Elective*	4			Elective	4
PHTH 2300	4						
Social science course	4						
Intermediate language course	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306	4	Co-op		Co-op		PHTH 4540	4
PHTH 4202	4	Elective*	4	HSCI 4700	0	Elective	4
Social science course	4						
Elective	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHTH 4120	4	Electives	8
Electives	8	Social Science Courses	8
Capstone Course	4		
	16		**16**

Total Hours: 130

*Students must fulfill two electives during co-op or vacation.

Sample Four Years, Two Co-ops (Option 2 of Science Requirement)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	PHTH 2300	4	Vacation	
ENGW 1111	4	PHTH 2350	4	Elective	4		
HSCI 1000	1	PSYC 1101	4				
PHTH 1260	4	Elementary language course	4				
Introductory language course	4						
	18		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2515	4	HSCI 2000	1	Electives	8	Co-op	
Intermediate language course	4	PHTH 2210 and PHTH 2211	4				
Social science course	8	Social science course	4				
		Electives	8				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3306	4	PHTH 4540	4	Co-op	
Elective	4	PHTH 4202	4	Social science course	4		
		Social science course	4				
		Elective	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
HSCI 4700	0	PHTH 4120	4
Co-op		Capstone course	4
Elective	4	Social science course	4
		Elective	4
	4		**16**

Total Hours: 132

Health Science, BS

The health science major offers students a solid academic and experiential foundation that positions them well to pursue graduate and professional school training in the following programs:

- Medicine
- Dentistry
- Veterinary medicine
- Public health
- Physician assistant studies
- Nurse practitioner
- Pharmacy
- Physical therapy
- Social work
- Speech-language pathology

In addition to the required courses for the Bachelor of Science in Health Science, students who are interested in clinical graduate school programs can utilize available elective slots to complete prerequisite courses. The Northeastern PreMed and PreHealth Advising Program (https://undergraduate.northeastern.edu/prehealth/academics-2/coursework/) provides individualized advising resources to Northeastern undergraduate students and alumni considering careers in the areas of allopathic medicine (MD), osteopathic medicine (DO), dentistry, optometry, physician assistant, podiatric medicine, or veterinary medicine. Please visit the BS Health Science webpage (https://bouve.northeastern.edu/health-sciences/programs/bs/) to learn more about premed and prehealth pathways.

The health science major is also designed for students who are seeking a strong foundation for a career in health administration and in community-based health promotion and public health.

Please visit Bouvé College Learning Outcomes (https://bouve.northeastern.edu/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Core

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

Science Requirement

Code	Title	Hours
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Selectives

Code	Title	Hours
Complete at least three courses from the groups listed below with at least two in one category. At least one of the courses must be at the 2000 level or higher. Students may complete additional courses to fulfill a minor, such as global health, nutrition, and exercise science.		9-13
Society and Health		
ANTH 3441	Medical Anthropology	
CRIM 3040	Psychology of Crime	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
INSH 1300	Introduction to Health and Humanities	
PHTH 1270	Introduction to Global Health	
or AFRS 1270	Introduction to Global Health	
PHTH 2414	Environmental Health	
PHTH 2616	Rural Health: An Interdisciplinary Seminar	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 5234	Economic Perspectives on Health Policy	
SOCL 1245	Sociology of Poverty	
SOCL 1246	Environment and Society	
SOCL 1260	Sociology of Gender	
SOCL 1295	Drugs and Society	
SOCL 2225	Sociology of Disability	
SOCL 2303	Gender and Reproductive Justice	
SOCL 2485	Environment, Technology, and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4522	Environmental Justice	
WMNS 1225	Gender, Race, and Medicine	
Policy and Administration		
ECON 1230	Healthcare and Medical Economics	
ECON 3404	International Food Policy	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 3900	Social Policy	
INNO 2206	Global Social Enterprise	
LPSC 2301	Introduction to Law, Policy, and Society	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	

SOCL 2205	Law and Social Justice
SOCL 3241	Violence and Society
Nutrition and Wellness	
CAEP 1280	Introduction to Mindfulness
CAEP 1290	Personal Behavior Change
CAEP 2012	Health Psychology: An Introduction
CAEP 2101	Behavioral Assessment and Treatment of Health Problems in the 21st Century
COMM 2555	Games for Change
COMM 3201	Health Communication
EXSC 1120	Introduction to Exercise, Fitness, and Health
EXSC 4500 and EXSC 4501	Exercise Physiology 1 and Lab for EXSC 4500
EXSC 5200	Cardiopulmonary Physiology
EXSC 5220	Advanced Exercise Physiology
HSCI 1105	Human Nutrition
HSCI 1106	Contemporary Issues in Nutrition
HSCI 2350	Advanced Nutrition in Health and Disease
HSCI 2500	Public Health Nutrition in the Community
PSYC 1250	Drugs and Behavior
Digital Health	
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum
DS 4200	Information Presentation and Visualization
HINF 5101	Introduction to Health Informatics and Health Information Systems
HINF 5200	Theoretical Foundations in Personal Health Informatics
HINF 5300	Personal Health Interface Design and Development
IS 2000	Principles of Information Science
IS 4800	Empirical Research Methods
Health Data Science	
ANTH 3410	Ethnographic Field Experience
INSH 5304	Social Network Analysis
PHTH 3250	Fundamentals of Qualitative Research
PHTH 5202	Introduction to Epidemiology
POLS 2399	Research Methods in Political Science

Capstone Requirement

Code	Title	Hours
Complete one of the following options:		4-8
Health Science Capstone		
HSCI 4700	Health Science Capstone Introduction	
And complete one of these options:		
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	
HSCI 4740	Health Science Capstone Seminar	
Honors Project (must meet GPA requirement)		
HSCI 4970 will count as 4 semester hours toward general electives.		
HSCI 4970 and HSCI 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	

Other Major Requirements

Code	Title	Hours
HSCI 1000	College: An Introduction	1
HSCI 2000	Professional Development for Bouvé Co-op	1

ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
PHIL 1165	Moral and Social Problems in Healthcare	4

Electives

Code	Title	Hours
Complete a minimum of 41 semester hours of general electives. Total elective semester hours required to meet degree completion requirement will depend on student's choice of selectives above.		41

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Academic Policies and Procedures

Please visit Bouvé College of Health Sciences Undergraduate page (p. 1156) for academic policies and procedures, including Academic Appeals (p. 84).

Program Requirement

132 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 1000	1	PSYC 1101	4	PHTH 2300	4	Vacation	
PHTH 1260	4	Elective or selective	4	Elective or selective	4		
MATH 1241	4	BIOL 1113 and BIOL 1114	5				
BIOL 1111 and BIOL 1112	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
ENGW 1111	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Elective or selective	8	HSCI 2000	1	PHTH 2515	4	Co-op	
PHTH 2350	4	PHTH 2210 and PHTH 2211	4	Elective or selective	4		
PHIL 1165	4	Elective or selective	12				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3306	4	PHTH 4540	4	Co-op	
Elective or selective	4	PHTH 4202	4	Elective or selective	4		
		Elective or selective	8				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHTH 4120	4
Elective or selective	4	Capstone course	4
HSCI 4700	0	Elective or selective	8
	4		**16**

Total Hours: 133

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 1000	1	BIOL 1113	4	PHTH 2350	4	Vacation	0
PHTH 1260	4	BIOL 1114	1	Elective	4		
PSYC 1101	4	MATH 1241	4				
BIOL 1111	4	Elective	4				
BIOL 1112	1	CHEM 1161	4				
ENGW 1111	4	CHEM 1162	1				
		CHEM 1163	0				
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2300	4
PHTH 2515	4	Elective	4			PHIL 1165	4
PHTH 2210 and PHTH 2211	4						
Electives	8						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306	4	Co-op		Co-op		PHTH 4540	4
PHTH 4202	4	Elective	4	HSCI 4700	0	Elective or selective	4
Elective	4						
Selective	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHTH 4120	4	Elective or selective	16
Elective or selective	8		
Capstone course	4		
	16		**16**

Total Hours: 133

[1] Credit count of selective/elective is dependent on credit count of selective/elective in same term to avoid unintended credit overload.

Business Administration and Public Health, BS

Overview

The combined Bachelor of Science in Business Administration and Public Health offers students an opportunity to study a curriculum that is synergistic with the growing field of healthcare and public health. This academic combination provides students with the knowledge and expertise needed to enter a multitude of careers upon graduation. The degree allows students the unique opportunity to better understand the business side of the healthcare industry and public health administration and prepares them to be leaders.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Administration Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
INTB 1203	International Business and Global Social Responsibility	4
ORGB 3201	Organizational Behavior	4
Business Electives		
Complete two of the following:		8
FINA 2201	Financial Management	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
SCHM 2301	Supply Chain and Operations Management	
Supporting Courses for Business		
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	4
MATH 1231	Calculus for Business and Economics	4

Business Concentration

Complete one of the following concentrations. Requirements for the concentrations are listed below.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665)(available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Public Health Requirements

Code	Title	Hours
Public Health Core Courses		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Core Courses		
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Course		
Complete one of the following courses:		3-4
Society and Behavior		
COMM 3201	Health Communication	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
ECON 3404	International Food Policy	
PHTH 5230	Global Health	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
PHTH 5214	Environmental Health	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
BUSN 1102	Personal Skill Development for Business	
HSCI 1000	College: An Introduction	
Statistics		
Complete one of the following:		4
MGSC 2301	Business Statistics	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
Professional Development		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing Requirements		
ENGW 1111	First-Year Writing	4
Complete one of the following:		4
ENGW 3304	Advanced Writing in the Business Administration Professions	
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Capstone Course		
Complete one of the following options:		4
DMSB Students		
STRT 4501	Strategy in Action	
Bouvé Students		
HSCI 4700	Health Science Capstone Introduction	
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
MGMT 3340	Healthcare Management, Innovation, and Design	
PHTH 4511	Healthcare Management	

Business GPA Requirement

A minimum 2.000 GPA is required in all business courses.

Business Cooperative Education Requirement

Complete one six-month co-op experience.

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirement

128 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Summer 2/Fall—DMSB Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ACCT 1201	4	ENGW 1111	4	ECON 1116 and ECON 1126	4
BUSN 1102	1	INTB 1203	4	Public health core course	4

MATH 1231	4	PHTH 1260	4				
PSYC 1101	4	Biology course	4				
Biology course	4						
	17		**16**		**8**		

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	BUSN 1103	1	Concentration course	4	Co-op	
MGSC 2301	4	FINA 2201	4	General elective	4		
Public health core course	4	Public health core course	4				
General elective	4	Business elective	4				
		Concentration course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MGMT 3340 or PHTH 4511	4	PHTH 4540	4	Co-op	
ENGW 3304	4	PHTH 4202	4	PHTH 4120	4		
		Business elective	4				
		Concentration course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		STRT 4501	4
General elective	4	Concentration course	4
		Social science course	4
		General elective	4
	4		**16**

Total Hours: 130

Four Years/ Two Co-ops in Spring/Summer 1— Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ACCT 1201	4	INTB 1203	4	ECON 1116 and ECON 1126	4
ENGW 1110	4	PHTH 1260	4	Public health core course	4
HSCI 1000	1	PSYC 1101	4		
MATH 1231	4	Biology course	4		
Biology course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op		Co-op		Public health core course	4
FINA 2201	4	General elective	4			Concentration course	4
HSCI 2000	1						
PHTH 2210 and PHTH 2211	4						
General elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 4511 or MGMT 3340	4	Co-op		Co-op		HSCI 4700	0
Public health core course	4	ENGW 3306	4			PHTH 4120	4
Business elective	4					PHTH 4540	4

Concentration course	4			
	16	**4**	**0**	**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Concentration course	4
PHTH 4202	4	Social science course	4
Concentration course	4	General electives	8
Business elective	4		
	16		**16**

Total Hours: 130

Data Science and Health Science, BS

The data science and health science combined major offers a solid academic and experiential foundation integrating studies in health administration, computer science, mathematics, and statistics. This program reflects the impact of data in modern healthcare and prepares students for success in careers in health administration, community-based health promotion, public health, and big data analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or HSCI 1000	College: An Introduction	
CS 1210	Professional Development for Khoury Co-op	1
or HSCI 2000	Professional Development for Bouvé Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Information Science Requirement		
IS 4300	Human Computer Interaction	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Supporting Courses for Data Science

Code	Title	Hours
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1241	Calculus 1	

Data Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4

Supporting Courses for Health Science

Code	Title	Hours
Research Methods		
Complete one of the following:		4
IS 4800	Empirical Research Methods	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
Statistics		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 2500	Biostatistics	
MATH 3081	Probability and Statistics	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
PSYC 2320	Statistics in Psychological Research	
Philosophy		
Complete one of the following:		4
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
Life Sciences Core		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Integrative Requirement

Code	Title	Hours
Upper-Division Elective		
Complete four semester hours from the following:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
HSCI 4000 or higher		
IS 2000 or higher, except IS 4900		
PHTH 4000 or higher		
Integrative Course		
DS 4420	Machine Learning and Data Mining 2	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Interpreting Culture
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Engaging Differences and Diversity
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 semester hours required

Plan of Study

Four Years, One Co-op Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	DS 3000	4	Vacation	
CS 1200	1	DS 2500 and DS 2501	5	PHTH 2350	4		
CS 1800 and CS 1802	5	PHTH 1260	4				
DS 2000 and DS 2001	4	PSYC 1101	4				
ENGW 1111	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CS 1210	1	General Elective	4	Vacation	
CS 3200	4	DS 3500	4	General Elective	4		
MATH 1341 or 1241	4	DS 4200	4				
Statistics Course	4	PHTH 2300	4				
		PHTH 2515	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315	4	CS 1210	1	Vacation		Co-op	
IS 4300	4	DS 4300	4				
PHIL 1145 or 1165	4	DS 4400	4				
Upper Division Elective	4	PHTH 4202 or IS 4800	4				
		PHTH 4540	4				
	16		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		PHTH 4120	4
		General Elective	4
		General Elective	4
	0		**16**

Total Hours: 136

Environmental Engineering and Health Science, BSEnvE

This intercollege combined major is designed for students who would like to explore their interest in the health sciences while earning the benefit of a Bachelor of Science degree in environmental engineering. The combined major reflects the respective departmental thrusts in environmental health and sustainable resource engineering to create awareness about the complex relationship between the environment and human health, prepare professionals in this growing area capable of providing engineering solutions to current and emerging topics related to environmental engineering and health sciences, and maintain healthy environmental systems by applying and developing techniques to reduce exposure to health hazards. This program combines the content of two majors to allow students to learn the breadth and depth of of the convergence between public health and environmental engineering.

Our BS Environmental Engineering and Health Sciences program is ABET accredited. Visit the department website (https://cee.northeastern.edu/academics/undergraduate-studies/cee-accreditation/) for program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CIVE 2221 and CIVE 2222	Statics and Solid Mechanics and Recitation for CIVE 2221	4
CIVE 2300 and CIVE 2301	Environmental Measurements in Natural and Engineered Systems and Lab for CIVE 2300	4
CIVE 2331	Fluid Mechanics and Hydraulics	4
CIVE 2334	Environmental Engineering: Principles, Technology, and Sustainability	4
CIVE 3435	Environmental Pollution: Fate and Transport	4
CIVE 4534 and CIVE 4535	Water Treatment Systems Design and Lab for CIVE 4534	4
CIVE 4765	Senior Design Project—Environmental	5
GE 3300	Energy Systems: Science, Technology, and Sustainability	4
Technical Electives		
Complete 8-9 semester hours from the following:		8-9
CIVE 2260 and CIVE 2261	Materials for the Built Environment and Lab for CIVE 2260	
CIVE 2340 and CIVE 2341	Geotechnical Engineering and Lab for CIVE 2340	
CIVE 3335	Environmental Engineering Chemistry and Chemical Technologies	
CIVE 4540	Resource Recovery and Waste Treatment Technologies Abroad	
CIVE 4566	Design for Sustainable Transportation: Netherlands	
CIVE 4777	Climate Hazards and Resilient Cities Abroad	
CIVE 5150	Climate and Atmospheric Change	
CIVE 5250	Organic Pollutants in the Environment	
CIVE 5255	Tools and Techniques of Environmental Health	
CIVE 5260	Environmental Fluid Mechanics	
CIVE 5261	Dynamic Modeling for Environmental Investment and Policymaking	

CIVE 5271	Solid and Hazardous Waste Management	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
CIVE 5280	Remote Sensing of the Environment	
CIVE 5281	Coastal Dynamics and Design	
CIVE 5363	Climate Science, Engineering Adaptation, and Policy	
CIVE 5366	Air Quality Engineering and Science	
CIVE 5536	Hydrologic and Hydraulic Design	
CIVE 5670	Global Biogeochemistry	
Supplemental Credit		
1 semester hour from the following course counts toward the engineering requirement:		1
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
3 semester hours from the following course count toward the engineering requirement:		3
CIVE 3430	Engineering Microbiology and Ecology	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Health Sciences Major Requirements

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2414	Environmental Health	4
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
PHTH 5214	Environmental Health	3-4
or CIVE 5255	Tools and Techniques of Environmental Health	

Supporting Courses: Mathematics/Science

Complete all Mathematics/Science courses with a minimum of 30 semester hours.[2]

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
Science Elective (Earth)		
Complete one of the following:		4-5
ENVR 1120	Oceans and Coasts	
ENVR 1200	Dynamic Earth	
ENVR 2200	Earth's Changing Cycles	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	

ENVR 3600	Oceanography	
ENVR 5201	Geologic Field Seminar	
Supplemental Credit		
3 semester hours from the following course count toward the mathematics/science requirement:		3
CIVE 3464	Probability and Engineering Economy for Civil Engineering	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
CIVE 3430	Engineering Microbiology and Ecology	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Course

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
CIVE 4765	Senior Design Project—Environmental	

Engineering GPA Requirement

A minimum 2.000 GPA is required in CIVE coursework

Health Sciences Major Requirement

A minimum grade of C or higher is required for all HLTH and PHTH courses[2]

Program Requirement

132 total semester hours required

1 Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

2 Mathematics/Science Requirement: CHEM 1151, MATH 1341, and PHYS 1151 require a grade of C- or higher.

Plan of Study

Sample Plans of Study

FOUR YEARS, 1 CO-OP SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHTH 1260 (SI)	4		
ENGW 1111 (WF)	4	PHTH 2210 and PHTH 2211 (FQ, AD)	4				

GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	MATH 2341	4	Co-op	0
CIVE 2222	0	CIVE 3430	4	PHTH 2350 (SI)	4		
CIVE 2334	4	ENCP 2000	1				
CIVE 2300 and CIVE 2301	4	PHTH 2414	4				
PHTH 2515	4	CIVE 3464	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3435	4	Vacation		Vacation	
		GE 3300	4				
		PHTH 4120 (IC, DD)	4				
		PHTH 4202	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
CIVE 4534 (WI)	3	CIVE 4765 (EI, WI, CE)	5
CIVE 4535	1	PHTH 5214 or CIVE 5255	3
ENCP 3000	1	Science Elective (Earth)	4
ENGW 3302 or 3315 (WD)	4	Environmental Tech. Elective	4
PHTH 4540 (WI)	4		
Environmental Tech. Elective	4		
	17		**16**

Total Hours: 132

FIVE YEARS, 3 CO-OPS SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	MATH 2321 (FQ)	4	Vacation	
CHEM 1153	0	MATH 1342 (FQ)	4	PHTH 1260 (SI)	4		
ENGW 1111 (WF)	4	PHTH 2210 and PHTH 2211 (FQ, AD)	4				
GE 1000	1	PHYS 1151 (ND)	3				
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CIVE 2221	4	CIVE 2331	4	MATH 2341	4	Co-op	0
CIVE 2222	0	CIVE 3430	4	PHTH 2350 (SI)	4		
CIVE 2334	4	CIVE 3464	4				
CIVE 2300 and CIVE 2301	4	ENCP 2000	1				
PHTH 2515	4	PHTH 2414	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 3435	4	Vacation		Co-op	0
		GE 3300	4				
		PHTH 4540 (WI)	4				
		PHTH 4202	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CIVE 4534 (WI)	3	Vacation		Co-op	0
		CIVE 4535	1				
		ENCP 3000	1				
		ENGW 3302 or 3315 (WD)	4				
		PHTH 4120 (IC, DD)	4				
		Environmental Tech. Elective	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CIVE 4765 (EI, WI, CE)	5
		PHTH 5214 or CIVE 5255	3
		Science Elective (Earth)	4
		Environmental Tech. Elective	4
	0		**16**

Total Hours: 132

Health Humanities and Health Science, BS

Overview

The combined Bachelor of Science in Health Humanities and Health Science is designed for students who would like to learn how to think about health using humanities, social sciences, and science skills. The humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of healthcare is quickly changing, and this training is designed to equip students both for the diverse forms of healthcare professions that exist today and for the varieties of professions in the future. This combined major will appeal to students who want to pursue graduate study and research in public health, medicine, and other clinical professions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Humanities Requirements

Code	Title	Hours
Required Courses		
INSH 1300	Introduction to Health and Humanities	4
INSH 2300	Culture, Technology, and the Future of Health	4
Core Humanities Electives		
Complete two of the following not used to satsify another requirement:		8-9
AFAM 1101	Introduction to African American and Africana Studies	
ASNS 2245	Introduction to Asian American Studies	
ENGL 1400	Introduction to Literary Studies	
HIST 1200 and HIST 1201	Historical Research and Writing and First-Year Seminar	
PHIL 1101	Introduction to Philosophy	
PHIL 1110	Introduction to Religious Studies	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 1105	Introduction to Trans Studies	
Core Health Humanities Electives		
Complete three of the following not used to satisfy another requirement:		12
ENGL 2770	Writing to Heal	
ENGL 3700	Narrative Medicine	
HIST 1219	History of Global Pandemics	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
Core Digital Health Humanities Electives		
Complete two of the following not used to satisfy another requirement:		8
ARCH 5312	Mapping and Building Health	
ENGL 3460	The Archives of Public Health	
HIST 3344	The History of Western Public Health	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1261	Comparative Healthcare Systems	4
or PHTH 1260	The American Healthcare System	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Life Sciences Supporting Courses		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Other Requirements

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or HIST 1000	History at Northeastern	
or ENGL 1000	English at Northeastern	
or PHIL 1000	Philosophy at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EESH 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing Course		
Courses listed below are preferred but other advanced writing courses will be accepted:		
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Capstone		
HSCI 4700	Health Science Capstone Introduction	0
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	
HSCI 4740	Health Science Capstone Seminar	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

129 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Spring/Summer 1—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Public health core course	4	Vacation	
ENGL 1000, HIST 1000, or PHIL 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4		
MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	INSH 1300	4				
PSYC 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		ENGW 3315	4
PHTH 2210 and PHTH 2211	4	General elective	4			Public health core course	4
Core humanities course	4						
Public health core course	4						
General elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 2300	4	Co-op		Co-op		HSCI 4700	0
PHTH 4202	4					PHTH 4120	4
Core humanities course	4					PHTH 4540	4
General elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Core digital health humanities course	4
Core digital health humanities course	4	Core health humanities course	4
Core health humanities course	4	Core health humanities course	4
General elective	4	General elective	4
	16		**16**

Total Hours: 129

Four Years/ Two Co-ops in Summer 2/Fall—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Public health core course	4	Vacation	
ENGW 1111	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4		
HSCI 1000	1	INSH 1300	4				
MATH 1241	4	PSYC 1101	4				

PHTH 1260	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Core humanities course	4	HSCI 2000	1	Public health core course	4	Co-op	
Core humanities course	4	PHTH 2210 and PHTH 2211	4	General elective	4		
General elective	8	Public health core course	4				
General elective		General elective	8				
		General elective					
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INSH 2300	4	PHTH 4120	4	Co-op	
ENGW 3306	4	PHTH 4202	4	PHTH 4540	4		
		Core digital health humanities course	4				
		Core health humanities course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		HSCI 4720, 4730, or 4740	4
HSCI 4700	0	Core digital health humanities course	4
		Core health humanities course	4
		Core health humanities course	4
	0		**16**

Total Hours: 129

Health Science and Business Administration, BS

The combined major in health science and business administration provides students at Northeastern University with an opportunity to study a curriculum that is synergetic with the growing field of healthcare. This academic combination offers students the knowledge and expertise needed to enter a multitude of careers upon graduation. The degree allows students the unique opportunity to better understand the business side of the healthcare industry. The field is compatible with all the undergraduate concentrations in the School of Business and prepares students to enter the workforce after graduation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
Life Sciences Core		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Business Administration Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INTB 1203	International Business and Global Social Responsibility	4
Business Electives		
Complete two of the following:		8
MISM 2301	Introduction to Information Systems and Digital Technologies	
MKTG 2201	Introduction to Marketing	
ORGB 3201	Organizational Behavior	
SCHM 2301	Supply Chain and Operations Management	
Supporting Course for Business		

Complete one of the following:		4
ECON 1115	Principles of Macroeconomics	
or ECON 1116	Principles of Microeconomics	

Business Concentration

Complete one of the following concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Courses

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or BUSN 1102	Personal Skill Development for Business	
Calculus		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
Statistics		
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
or MGSC 2301	Business Statistics	
Co-op Preparation		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3304	Advanced Writing in the Business Administration Professions	
Capstone		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service (Prerequisite course HSCI 4700)	
HSCI 4730	Health Science Capstone—Research (Prerequisite course HSCI 4700)	
STRT 4501	Strategy in Action	

Integrative Requirement

Code	Title	Hours
MGMT 3340	Healthcare Management, Innovation, and Design	4

Required General Electives

Code	Title	Hours
Complete at least 16 semester hours of general electives.		16

Business GPA Requirement

A minimum 2.000 GPA is required in all business courses.

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

BOUVÉ: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	BIOL 1113 and BIOL 1114	5	ECON selective	4	ACCT 2301	4
BIOL 1111 and BIOL 1112	5	ENGW 1111	4	PHTH core course	4	Elective	4
HSCI 1000	1	PHTH 1260	4				
MATH 1241	4	Concentration course	4				
PSYC 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	HSCI 2000	1	PHTH core course	4	Co-op	0
FINA 2201	4	MGMT 3340	4	Elective	4		
INTB 1203	4	PHTH 2210 and PHTH 2211	4				
PHTH core course	4	Business elective	4				
		PHTH core course	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Concentration course	4	ENGW 3306	4	Co-op	0
		Concentration course	4	PHTH core course	4		
		PHTH core course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Business elective	4
HSCI 4700	0	Capstone course	4
		Concentration course	4
		Elective	4
	0		**16**

Total Hours: 133

SAMPLE PLAN OF STUDY: FIVE YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Vacation		Vacation	
HSCI 1000 or BUSN 1102	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260	4	ENGW 1111	4				
PSYC 1101	4	Concentration course	4				
MATH 1241 or 1231	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	FINA 2201	4	Vacation		Co-op	0
INTB 1203	4	HSCI 2000 or BUSN 1103	1				
ECON selective	4	PHTH 2210 and PHTH 2211	4				
PHTH core course	4	PHTH core course	8				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ACCT 2301	4	Vacation		Vacation	
		Business elective	4				
		Concentration course	4				
		PHTH core course	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306 or 3304	4	Co-op	0	Co-op	0	Vacation	
MGMT 3340	4						
Business elective	4						
PHTH core course	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
HSCI 4700	0	Capstone course	4
Concentration course	4	Concentration course	4
PHTH core course	4	Electives	8
Electives	8		
	16		**16**

Total Hours: 133

Health Science and Communication Studies, BS

The combined Bachelor of Science degree program in health science and communication studies offers an interdisciplinary approach to public health communication. Students combine courses from health sciences and communication studies to learn about health and illness and the important role of communication in shaping the public's understanding of health issues. The interdisciplinary curriculum is enhanced by experiential learning opportunities and is designed to prepare students for challenging careers that involve crafting messages about health, developing strategies for promoting healthcare services, and specific applications such as disease awareness and prevention.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Communication Studies Major Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Code	Title	Hours
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

Communication Studies Electives	
Complete three additional communication studies courses.	12

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Life Sciences		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Other Requirements

Code	Title	Hours
Intro to College		
HSCI 1000	College: An Introduction	1
or COMM 1000	Communication Studies at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EEAM 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions (or other Advanced Writing course)	4
Electives		
Complete 28 semester hours of electives.		28

Integrative Course

Code	Title	Hours
Capstone		
Complete one of the following courses:		4
COMM 4102	Health Communication Campaigns	
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Communication Studies Major Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, Two Co-ops Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Public health core	4	Vacation	0
BIOL 1112	1	BIOL 1114	1	Elective	4		
HSCI 1000 or COMM 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	Elective	4				
PSYC 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	Co-op		Co-op		ENGW 3306	4
COMM 1112 or 2301	4	Elective	4			Elective	4
HSCI 2000 or EEAM 2000	1						
PHTH 2210 and PHTH 2211	4						
COMM elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Cluster course	4	Co-op		Co-op		Public health core	4
Foundation course	4	Elective	4			Public health core	4
Public health core	4					HSCI 4700	0
Public health core	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
COMM WI course	4	COMM WI course	4
Public health core	4	COMM elective	4
COMM elective	4	Electives	8
HSCI 4720, 4730, or COMM 4102	4		
	16		**16**

Total Hours: 133

Five Years, Two Co-ops in Summer 2/Fall

This is a sample plan of study.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation	0	Vacation	0
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or COMM 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				

MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	Elective	4				
PSYC 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	HSCI 2000 or EEAM 2000	1	Vacation	0	Co-op	0
COMM 1112 or 2301	4	Cluster course	4				
Public health core	4	Foundation course	4				
Public health core	4	Elective	4				
		PHTH 2210 and PHTH 2211	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3306	4	Vacation	0	Vacation	0
		Public health core	4				
		COMM electives	8				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 4202	4	Co-op	0	Co-op	0	Vacation	0
PHTH 4540	4						
COMM WI course	4						
COMM elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
COMM WI course	4	Electives	12
Electives	8	HSCI 4720, 4730, or COMM 4102	4
HSCI 4700	0		
PHTH 4120	4		
	16		**16**

Total Hours: 133

Health Science and Psychology, BS

The combined Bachelor of Science degree program in health science and psychology is designed to provide an interdisciplinary approach to public health and psychology. Through interdisciplinary explorations, students have the opportunity to develop knowledge in health promotion and illness prevention by way of understanding people's behaviors, perceptions, and emotions within the contexts of relationships and culture. This highly flexible curriculum is enhanced by experiential learning opportunities and prepares students to practice in interdisciplinary settings and be successful in sustaining and promoting health across populations.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4
Supporting Courses for Health Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3458	Biological Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Personal/Social Bases of Behavior (Area A)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		

Complete one of the following:		4
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Electives		
Complete 12 semester hours from the following subject area:		12
PSYC		
Psychology Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4604	Laboratory in Learning and Motivation	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following		1
HSCI 1000	College: An Introduction	
INSC 1000	Science at Northeastern	
PSYC 1000	Psychology at Northeastern	
First-Year Writing		
ENGW 1111	First-Year Writing	4
Co-op Preparation		
Complete one of the following:		1
EESC 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Math		
MATH 1241	Calculus 1	4
Advanced Writing in the Discipline		
ENGW 3306	Advanced Writing in the Health Professions	4
Ethical Reasoning		
PHIL 1165	Moral and Social Problems in Healthcare	4

Open Electives	
Complete 28 semester hours of general electives.	28

Integrative Requirement

Code	Title	Hours
PSYC 3510	Brain, Behavior, and Immunity	4
or PSYC 4514	Clinical Neuroscience	
or CAEP 2012	Health Psychology: An Introduction	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Psychology GPA Requirement

A grade of C or higher is required for all PSYC courses.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation		Vacation	
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or PSYC 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
MATH 1241	4	ENGW 1111	4				
PHTH 1260 or 1261	4	Elective	4				
PSYC 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	Area A course	4	Area B course	4	Vacation	
PSYC 3458	4	Public health core	4	Psychology elective	4		
Area A course	4	Public health core	4				
Public health core	4	Psychology elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESC 2000	1	Co-op		Co-op		ENGW 3306	4
PHIL 1165	4					PHTH 4540	4
Psychology lab	4						
Open electives	8						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Public health core	4	PSYC 3510, 4514, or CAEP 2012	4
Psychology elective	4	Psychology seminar	4
Open electives	8	Open electives	8
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan (College: Bouvé)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	PSYC Area B selective	4	Open electives	8
BIOL 1112	1	BIOL 1114	1	Public health core	4		
MATH 1241	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260 or 1261	4	ENGW 1111	4				
PSYC 1000 or HSCI 1000	1	PSYC Area A selective	4				
PSYC 1101	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESC 2000	1	Co-op		Co-op		ENGW 3306	4
PSYC 2320	4					PHIL 1165	4
PSYC 3458	4						
Public health core	4						
Public health core	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC Area A selective	4	Co-op		Co-op		Open electives	8
Public health core	4						
PSYC elective	4						
Open elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PSYC lab	4	PSYC 3510, 4514, or CAEP 2012	4
Public health core	4	Psychology seminar	4
PSYCH elective	4	PSYC elective	4
Open elective	4	Open Elective	4
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan (College: Science)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	PSYC Area B selective	4	Open electives	8
BIOL 1112	1	BIOL 1114	1	Public health core	4		
MATH 1241	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260 or 1261	4	ENGW 1111	4				
PSYC 1000 or HSCI 1000	1	PSYC Area A selective	4				
PSYC 1101	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1165	4	EESC 2000 or HSCI 2000	1	PSYC elective	4	Co-op	
PSYC 2320	4	PSYC Area A selective	4	Open elective	4		

PSYC 3458	4	Public health core	4				
Public health core	4	Public health core	4				
		PSYC elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3306	4	Open electives	8	Co-op	
		PSYC 3510, 4514, or CAEP 2012	4				
		Public health core	4				
		PSYC lab	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Psychology seminar	4
		PSYC elective	4
		Open electives	8
	0		**16**

Total Hours: 133

Health Science and Sociology, BS

The combined Bachelor of Science in Health Science and Sociology integrates social scientific perspectives to the study of health, illness, and healthcare. Students explore basic sociological concepts relevant for the study of health and healthcare, such as social construction and medicalization. Students explore why, for instance, despite having the most expensive healthcare system, the United States ranks comparatively low in life expectancy and health and well-being outcomes. Provides students with an opportunity to explore the ways that societal factors such as race, class, and gender interplay with health, healthcare, and health disparities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Supporting Courses for Health Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Sociology Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
Social Change Selective		
Complete one of the following:		4
SOCL 1260	Sociology of Gender	
SOCL 3450	Class, Power, and Social Change	
SOCL 3468	Social Movements	

Social Inequality Selective		
Complete one of the following:		4
SOCL 1245	Sociology of Poverty	
SOCL 2225	Sociology of Disability	
Lower-Level Elective		
Complete one of the following:		4
SOCL 1000 to SOCL 3999		
Advanced Elective		
Complete one of the following:		4
SOCL 4000 to SOCL 4999		

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
SOCL 1000	Sociology at Northeastern	
Writing in the First Year		
ENGW 1111	First-Year Writing	4
Statistics		
Complete one of the following:		4
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
SOCL 2320	Statistical Analysis in Sociology	
Co-op Preparation (Based on Home College)		
Complete one of the following:		1
EESH 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Advanced Writing in the Discipline		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
NUPath: Ethical Reasoning		
PHIL 1165	Moral and Social Problems in Healthcare	4
Capstone (Based on Home College)		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service (Prerequisite course HSCI 4700))	
HSCI 4730	Health Science Capstone—Research (Prerequisite course HSCI 4700)	
SOCL 4600	Senior Seminar	
Open Electives		**24**

Integrative Requirement

Code	Title	Hours
Choose one of the courses below:		4
ANTH 3441	Medical Anthropology	
SOCL 3441	Sociology of Health and Illness	

Health Sciences GPA Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation		Vacation	
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or SOCL 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260	4	ENGW 1111	4				
PSYC 1101	4	Elective	4				
SOCL 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	SOCL 2321	4	PHIL 1165	4	Vacation	
PHTH 2210 and PHTH 2211	4	SOCL 3300	4	Public health core	4		
Lower-level sociology elective	4	Public health core	4				
Public health core	4	Social change or social inequality selective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		ENGW 3306 or 3308	4
HSCI 2000 or EESH 2000	1					PHTH 4540	4
Public health core	4					HSCI 4700	0
Social inequality and social change selective	4						
Open electives	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
SOCL 3441	4	Open electives	12
Advanced sociology elective	4	PHTH 4120	4
Open Elective	4		
Capstone Course	4		
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	ANTH 1101	4	PHTH 2350	4	Vacation	
BIOL 1112	1	BIOL 1113	4	Open Elective	4		
HSCI 1000 or SOCL 1000	1	BIOL 1114	1				
PHTH 1260	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PSYC 1101	4	ENGW 1111	4				
SOCL 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESH 2000	1	Co-op		Co-op		ENGW 3306	4
SOCL 2320 or PHTH 2210 (and PHTH 2211)	4			Open elective	4	PHIL 1165	4
SOCL 2321	4						
SOCL 3300	4						
Public health core	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		PHTH 4540	4
SOCL 3441	4			Open elective	4	Public health core	4
Lower-level sociology elective	4					HSCI 4700	0
Public health core	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
Social change or social inequality selective	4	Public health core	4
Capstone Course	4	Social change or social inequality selective	4
Advanced sociology elective	4	Open electives	8
Open elective	4		
	16		**16**

Total Hours: 133

Health Humanities and Public Health, BA

Overview

The combined Bachelor of Arts in Health Humanities and Public Health is designed for students who would like to learn how to think about health using humanities, social sciences, and science skills with a focus on public health. The humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of public health is quickly changing, and this training is designed to equip students both for the diverse forms of healthcare professions that exist today and for the varieties of professions in the future. This combined major will appeal to students who want to pursue graduate study and research in public health and health humanities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Humanities Requirements

Code	Title	Hours
Required Courses		
INSH 1300	Introduction to Health and Humanities	4
INSH 2300	Culture, Technology, and the Future of Health	4
Core Humanities Electives		
Complete two of the following not used to satsify another requirement:		8-9
AFAM 1101	Introduction to African American and Africana Studies	
ASNS 2245	Introduction to Asian American Studies	
ENGL 1400	Introduction to Literary Studies	
HIST 1200 and HIST 1201	Historical Research and Writing and First-Year Seminar	
PHIL 1101	Introduction to Philosophy	
PHIL 1110	Introduction to Religious Studies	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 1105	Introduction to Trans Studies	
Core Health Humanities Electives		
Complete three of the following not used to satisfy another requirement:		12
ENGL 2770	Writing to Heal	
ENGL 3700	Narrative Medicine	
HIST 1219	History of Global Pandemics	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
Core Digital Health Humanities Electives		

Complete two of the following not used to satisfy another requirement:		8
ARCH 5312	Mapping and Building Health	
ENGL 3460	The Archives of Public Health	
HIST 3344	The History of Western Public Health	

Public Health Requirements

Code	Title	Hours
Public Health Core Courses		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Core Courses		
PSYC 1101	Foundations of Psychology	4
Biology		*8-10*
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Selectives		**7-8**
Complete one introductory course from the following:		
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Complete one upper-level course from the following (categories provided for reference):		
Society and Behavior		
ANTH 3441	Medical Anthropology	
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	

SOCL 3241	Violence and Society
SOCL 3441	Sociology of Health and Illness
SOCL 4520	Race, Class, and Gender
Globalization and Global Health	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ECON 3404	International Food Policy
INTL 3200	Cities in a Global Context
or INTL 3201	Cities in a Global Context (Abroad)
INTL 3400	International Conflict and Negotiation
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Environmental Health and Climate Change	
ECON 3423	Environmental Economics
COMM 3500	Environmental Issues, Communication, and the Media
INTL 5100	Climate and Development
or PPUA 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5238	Climate Change and Global Urbanization
Law, Policy, and Human Rights	
ECON 3424	Law and Economics
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
POLS 3307	Public Policy and Administration
POLS 3900	Social Policy
PHTH 4515	Critical Issues in Health and Public-Health Policy
Healthcare Administration and Management	
ECON 3413	Health Economics and Healthcare Policy
ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Other Requirements

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or HIST 1000	History at Northeastern	
or ENGL 1000	English at Northeastern	
or PHIL 1000	Philosophy at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EESH 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing Course		
Courses listed below are preferred but other advanced writing courses will be accepted:		
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
Capstone		
HSCI 4700	Health Science Capstone Introduction	0
Complete one of the following:		4

HSCI 4720	Health Science Capstone—Service
HSCI 4730	Health Science Capstone—Research
HSCI 4740	Health Science Capstone Seminar

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirement

130 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 1300	4	ENGW 1111	4	Public health core course	4	Vacation	
PHTH 1260	4	Biology course	4	General elective	4		
PSYC 1101	4	Core humanities course	4				
Introduction to college	1	Introductory language course	4				
Biology course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		ENGW 3315	4
PHTH 2210 and PHTH 2211	4	General elective	4			Public health core course	4
Core humanities course	4						
Social science course	4						
Elementary language course	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 2300	4	Co-op		Co-op		HSCI 4700	0
PHTH 4202	4	General elective	4			PHTH 4540	4
Core humanities course	4					Public health core course	4
Intermediate language course	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Core digital health humanities elective	4
PHTH 4120	4	Core health humanities course	4
Core digital health humanities elective	4	Core health humanities course	4
Core health humanities course	4	Social science course	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC 1101	4	Public health core course	4	Vacation	
HSCI 1000	1	Biology course	4	General elective	4		
INSH 1300	4	Introductory language course	4				
PHTH 1260	4	General elective	4				
Biology course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Core humanities course	4	HSCI 2000	1	Public health core course	4	Co-op	
General elective	4	PHTH 2210 and PHTH 2211	4	Social science course	4		
Core humanities elective	4	Core health humanities course	4				
Elementary language course	4	Public health core course	4				
		Intermediate language course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INSH 2300	4	PHTH 4120	4	Co-op	
ENGW 3306	4	PHTH 4202	4	PHTH 4540	4	General elective	4
		Core digital health humanities course	4				
		Core health humanities course	4				
	4		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		HSCI 4720, 4730, or 4740	4
HSCI 4700	0	Core digital health humanities course	4
		Core health humanities course	4
		Social science course	4
	0		**16**

Total Hours: 130

Public Health and Communication Studies, BA

Overview

The combined Bachelor of Arts in Public Health and Communication Studies offers an interdisciplinary approach to public health communication. Students combine courses from public health, social sciences, and communication studies to study the important role of communication in shaping the public's understanding of health issues. The interdisciplinary curriculum is enhanced by experiential learning opportunities and is designed to prepare students for challenging careers that involve crafting messages about health, developing strategies for promoting access to healthcare services, and specific applications such as disease awareness and prevention.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE REQUIREMENTS

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Upper-Level Course		
Complete one of the following:		3-4
Society and Behavior		
ANTH 3441	Medical Anthropology	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
SOCL 3241	Violence and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4520	Race, Class, and Gender	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
INTL 5100	Climate and Development	
or PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	

ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Communication Studies Requirements

REQUIRED COURSES

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

FOUNDATION COURSE

Code	Title	Hours
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	

CLUSTER COURSE

Code	Title	Hours
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	

WRITING-INTENSIVE COURSES

Code	Title	Hours
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	

COMMUNICATION STUDIES ELECTIVES

Code	Title	Hours
Complete three additional COMM courses.		12

Supporting Course Requirements

Code	Title	Hours
Introduction to College (based on home college)		**1**
HSCI 1000	College: An Introduction	
COMM 1000	Communication Studies at Northeastern	
Co-op Preparation (based on home college)		**1**

HSCI 2000	Professional Development for Bouvé Co-op	
EEAM 2000	Professional Development for Co-op	
Writing Courses		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		*4*
Complete one of the following:		
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3314	Advanced Writing in the Arts, Media, and Design	
Capstone and Integrative Course		**4**
Complete one of the following:		
HSCI 4720	Health Science Capstone—Service (Prerequisite course#HSCI#4700)	
HSCI 4730	Health Science Capstone—Research (Prerequisite course#HSCI#4700)	
HSCI 4740	Health Science Capstone Seminar (Prerequisite course#HSCI#4700)	
COMM 4102	Health Communication Campaigns	

General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Communication Studies Grade Requirement

No more than two grades below a C in COMM courses may be used to fulfill degree requirements.

Public Health and Communication Studies Major Credit Requirement

Minimum of 91 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/Two Co-ops in Spring/Summer 1—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
HSCI 1000	1	ENGW 1111	4	PHTH 2350	4
PHTH 1260	4	BIOL course—see options	4	General elective	4
PSYC 1101	4	Elementary language course	4		
BIOL course—see options	4	General elective	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2300	4
PHTH 2210 and PHTH 2211	4			General elective	4	ENGW 3306	4
COMM 1101	4						
COMM 1112 or PHTH 2301	4						
COMM elective	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2515	4	Co-op		Co-op		PHTH 4120	4

Social science course	4			General elective	4	PHTH 4540	4
COMM foundation course	4					HSCI 4700	0
COMM elective	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
PHTH 4202	4	COMM elective	4
COMM cluster course	4	COMM writing-intensive course	4
HSCI 4720, 4730, or 4740	4	Social science course	4
COMM writing-intensive course	4	Intermediate language course	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CAMD Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
COMM 1000	1	PSYC 1101	4	PHTH 2515	4
PHTH 1260	4	BIOL course—see options	4	General elective	4
ENGW 1111	4	Elementary language course	4		
BIOL course—see options	4	General elective	4		
Elementary language course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	EEAM 2000	1	PHTH 2300	4	Co-op	
COMM 1112 or 2301	4	PHTH 2210 and PHTH 2211	4	ENGW 3314	4		
COMM foundation course	4	PHTH 2350	4				
COMM elective	4	COMM cluster course	4				
		Social science course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHTH 4202	4	PHTH 4120	4	Co-op	
General elective	4	COMM writing-intensive course	4	PHTH 4540	4		
		COMM elective	4				
		Intermediate language course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		COMM 4102	4
General elective	4	COMM elective	4
		COMM writing-intensive course	4
		Social science course	4
	4		**16**

Total Hours: 130

Public Health and Cultural Anthropology, BA

Overview

The combined Bachelor of Arts in Public Health and Cultural Anthropology integrates concepts and theories from cultural anthropology with public health concepts to approach complex health inequities. Students have an opportunity to gain foundational anthropological knowledge and skills and apply theory to public health approaches for addressing poor health outcomes. Students explore how culture and social structures affect health promotion strategies and outcomes. This combined major will appeal to students who want to pursue graduate study and research in anthropology, public health, public policy and administration, and education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE COURSES

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
Upper-Level Course		
Complete one course (total) from any of the following groups:		3-4
Society and Behavior		
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
COMM 3500	Environmental Issues, Communication, and the Media	
INTL/PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	

PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Cultural Anthropology Requirements

REQUIRED CULTURAL ANTHROPOLOGY COURSES

Code	Title	Hours
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4

AREA COURSES

Code	Title	Hours
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	

CULTURAL ANTHROPOLOGY ELECTIVES

Code	Title	Hours
Complete three additional courses with the ANTH subject code.		12

Supporting Course Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
ANTH 1000	Anthropology at Northeastern	
Co-op Preparation		
Based on home college:		1
HSCI 2000	Professional Development for Bouvé Co-op	
EESH 2000	Professional Development for Co-op	
Writing Courses		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
Capstone		
Complete one of the following options:		4
Health Science Capstone		
Complete the following prerequisite:		
HSCI 4700	Health Science Capstone Introduction	
Complete one of the following:		
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	
Anthropology Senior Seminar		
ANTH 4600	Senior Seminar	

Integrative Course

Code	Title	Hours
ANTH 3441	Medical Anthropology	4

General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Public Health and Cultural Anthropology Major Credit Requirement

Minimum of 95 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Spring/Summer 1—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 1111	4	ANTH 1101	4	PHTH 2350	4
HSCI 1000	1	PSYC 1101	4	ANTH elective	4
PHTH 1260	4	BIOL course—see options	4		
BIOL course—see options	4	Elementary LANG course	4		
Elementary LANG course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		PHTH 2515	4
HSCI 2000	1			General elective	4	Social science course	4
PHTH 2210 and PHTH 2211	4						
PHTH 2300	4						
Intermediate LANG course	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3410	4	Co-op		Co-op		PHTH 4540	4
ANTH 3421	4			General elective	4	ENGW 3306	4
ANTH 3441	4					HSCI 4700	0
ANTH area course	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	PHTH 4120	4
PHTH 4202	4	ANTH elective	4
ANTH area course	4	Social science course	4
ANTH elective	4	General elective	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ANTH 1000	1	ANTH 1101	4	PHTH 2515	4
PHTH 1260	4	ENGW 1111	4	ANTH elective	4
PSYC 1101	4	BIOL course—see options	4		

BIOL course—see options	4	Elementary LANG course	4				
Elementary LANG course	4						
	17		**16**		**8**		

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2350	4	ANTH 2305	4	Social science course	4	Co-op	
ANTH elective	4	EESH 2000	1	General elective	4		
ANTH area course	4	PHTH 2210 and PHTH 2211	4				
Intermediate LANG course	4	PHTH 2300	4				
		ANTH elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH 3410	4	PHTH 4120	4	Co-op	
General elective	4	ANTH 3421	4	PHTH 4540	4		
		ANTH 3441	4				
		ENGW 3308	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600	4
General elective	4	PHTH 4202	4
		ANTH area course	4
		Social science course	4
	4		**16**

Total Hours: 130

Public Health and Journalism, BA

Overview

The combined major in public health and journalism addresses the vital interest in society for the ability to communicate scientific understanding to the broad public. This combined major provides a valuable and unique set of competencies, ranging from the statistical analysis and epidemiological best practices gained from the courses in the public health program to the cutting-edge communication skills taught within the university's School of Journalism. The combined major highlights the important role both journalism and public health will surely play in a complex and rapidly changing future.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Requirements		
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Requirements		
Introductory		
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	

ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Upper Level		
Complete one of the following:		3-4
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ANTH 3441	Medical Anthropology	
COMM 3201	Health Communication	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3404	International Food Policy	
ECON 3413	Health Economics and Healthcare Policy	
ECON 3420	Urban Economic Issues	
ECON 3423	Environmental Economics	
ECON 3424	Law and Economics	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
ORGB 3201	Organizational Behavior	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHTH 4511	Healthcare Management	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
PHTH 5214	Environmental Health	
PHTH 5222	Health Advocacy	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	
POLS 3307	Public Policy and Administration	
POLS 3487	Politics of Developing Nations	
POLS 3900	Social Policy	
PPUA 5100	Climate and Development	
or INTL 5100	Climate and Development	
PPUA 5238	Climate Change and Global Urbanization	
PSYC 3402	Social Psychology	
PSYC 3450	Learning and Motivation	
SOCL 3241	Violence and Society	
SOCL 3441	Sociology of Health and Illness	
SOCL 4520	Race, Class, and Gender	

Journalism Requirements

Code	Title	Hours
Journalism Foundation		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5

JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
Complete one of the following:		4
JRNL 3550	The First Amendment and the Media	
JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete any four JRNL electives (two must be at the 3000 level or above).		16

Other Requirements

Code	Title	Hours
Intro to College		
HSCI 1000	College: An Introduction	1
or JRNL 1000	Journalism at Northeastern	
Intro to Co-op		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EEAM 2000	Professional Development for Co-op	
Integrative Course		
Complete one of the following:		4
JRNL 3650	Science Writing	
JRNL 3700	Data Storytelling	
Capstone		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service	
HSCI 4740	Health Science Capstone Seminar	
Writing Requirement		
ENGW 1111	First-Year Writing	4
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3303	Advanced Writing in the Environmental Professions	

Public Health Grade Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Academic Policies and Procedures

Please visit Bouvé College of Health Sciences Undergraduate page (p. 1156) for academic policies and procedures, including Academic Appeals. (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/)

Program Requirements

Minimum of 129 semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Introductory language course or elective	4	Elective courses*	8
JRNL 1000 or HSCI 1000	1	PSYC 1101	4	Elective	4		
JRNL 1150	4	PHTH core course	4				

PHTH 1260	4	Science course	4				
Science course	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	HSCI 2000 or EEAM 2000	1	ENGW 3306, 3314, or 3303	4	Co-op	
JRNL elective	4	PHTH 2210 and PHTH 2211	4	Social science course	4		
PHTH core course	4	JRNL elective	4				
Elementary-level language course	4	Intermediate-level language course	4				
		Visual storytelling course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHTH 4202	4	PHTH 4120	4	Co-op	
		JRNL elective	4	Elective	4		
		Integrative course	4				
		Law and ethics course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHTH 4540	4
HSCI 4700	0	Capstone course	4
		JRNL elective	4
		Social science course	4
	0		**16**

Total Hours: 131

* These two elective courses may also be taken one at a time while on co-op.

Public Health and Sociology, BA

Overview

The combined Bachelor of Arts in Public Health and Sociology integrates social science theory and perspectives with public health concepts to approach complex health inequities. Students gain foundational sociological knowledge and skills and apply theory to public health approaches for addressing poor health outcomes. Students explore the ways that societal constructs, such as race, class, and gender, intersect with health. This combined major will appeal to students who want to pursue graduate study and research in sociology, public health, public policy and administration, and education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE REQUIREMENTS

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
COMM 1225	Communication Theory	

ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
Upper-Level Course		
Complete one course (total) from any of the following groups:		3-4
Society and Behavior		
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
COMM 3500	Environmental Issues, Communication, and the Media	
ECON 3423	Environmental Economics	
INTL/PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 3300	Social Theory	4
Electives		
Complete two electives with courses beyond those taken in the requirements above.		8
SOCL 1102 to SOCL 2999		
Complete four additional SOCL courses in the following range:		16
SOCL 3000 to SOCL 5999		

Supporting Course Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
SOCL 1000	Sociology at Northeastern	
Co-op Preparation		
Complete one of the following:		1
EESH 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing Courses		
First-Year Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
Statistics and Research Methods		
Complete one of the following:		8
PHTH 2210 and PHTH 2211 and PHTH 4202	Foundations of Biostatistics and Recitation for PHTH 2210 and Principles of Epidemiology in Medicine and Public Health	
SOCL 2320 and SOCL 2321	Statistical Analysis in Sociology and Research Methods in Sociology	
Capstone		
Complete one of the following options:		4
Health Science Capstone		
Complete the following prerequisite:		
HSCI 4700	Health Science Capstone Introduction	
And complete one of the following:		
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	
Sociology Senior Seminar		
SOCL 4600	Senior Seminar	

Integrative Requirement

Code	Title	Hours
SOCL 3441	Sociology of Health and Illness	4

General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Public Health and Sociology Major Credit Requirement

Minimum of 87 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/Two Co-ops in Spring/Summer 1— Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
ENGW 1111	4	PSYC 1101	4	PHTH 2350	4	
HSCI 1000	1	SOCL 1101	4	SOCL elective (1000–2999)	4	
PHTH 1260	4	BIOL course—see options	4			
BIOL course—see options	4	Elementary language course	4			
Elementary language course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2515	4
PHTH 2300	4			General elective	4	Social science course	4
PHTH 2210 and PHTH 2211	4						
SOCL 3300	4						
Intermediate language course	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		HSCI 4700	0
ENGW 3306	4			General elective	4	PHTH 4540	4
SOCL 3441	4					PHTH 4120	4
SOCL elective (1000–2999)	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Social science course	4
PHTH 4202	4	SOCL electives (3000–5999)	8
SOCL electives (3000–5999)	8	General elective	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
PHTH 1260	4	ENGW 1111	4	PHTH 2515	4	
PSYC 1101	4	SOCL 1101	4	General elective	4	
SOCL 1000	1	BIOL course—see options	4			
BIOL course—see options	4	Elementary language course	4			
Elementary language course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2350	4	ANTH 2305	4	General elective	4	Co-op	
SOCL 3300	4	EESH 2000	1	SOCL elective (3000–5999)	4		
SOCL elective (1000–2999)	4	PHTH 2300	4				
Intermediate language course	4	SOCL 2320	4				
		Social science course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3308	4	PHTH 4120	4	Co-op	
General elective	4	SOCL 3441	4	PHTH 4540	4		
		Social science course	4				
		SOCL elective (3000–5999)	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 2321	4
General elective	4	SOCL 4600	4
		SOCL electives (3000–5999)	8
	4		**16**

Total Hours: 130

Early Intervention, Minor

Overview

The interdisciplinary minor in early intervention (EI) is designed for students who enjoy working with very young children and their families. Through coursework and practicum experiences, students are prepared to work with infants and toddlers with known disabilities, or those who are at risk for developmental delay, and their families.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CAEP 5150	Early Intervention: Family Systems	3
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	3
CAEP 5153	Early Intervention: Assessment and Intervention	3
SLPA 5152	Early Intervention: Planning and Evaluating Services	3
SLPA 5154	Early Intervention Practicum 1	2
SLPA 5155	Early Intervention Practicum 2	2

GPA Requirement

2.000 GPA required in the minor

Exercise Science, Minor

The minor in exercise science is for undergraduate students from any discipline wishing to expand their understanding in this area. Exercise science is a discipline that examines the short- and long-term responses to exercise and benefits of exercise training for healthy persons, as well as persons with chronic diseases such as heart disease, pulmonary diseases, diabetes, and obesity. Through this minor, undergraduate students have an opportunity to broaden their understanding of exercise and physical activity in health promotion, disease prevention, and interventions. Students who elect a minor in exercise science may then apply to the Master of Science in Exercise Science upon graduation.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Exercise Science Requirements

A minimum grade of C is required in all courses taken toward the minor.

Required Courses

Code	Title	Hours
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
EXSC 4500 and EXSC 4501	Exercise Physiology 1 and Lab for EXSC 4500	5
EXSC 5200	Cardiopulmonary Physiology	3
EXSC 5220	Advanced Exercise Physiology	3

GPA Requirement

2.000 GPA required in the minor

Global Health, Minor

The area of global health has become a critical field of study across and within diverse disciplines, because of the cross-border and cross-national implications of health-related risks for national security, commerce, transportation, and healthcare delivery itself. In collaboration with the College of Social Sciences and Humanities, the minor in global health is designed to provide undergraduate students an opportunity to explore and discuss the implications with an interdisciplinary lens. The minor is comprised of five courses: one foundation and one core course, three electives, and a global health experience to be approved by the global health minor advisor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Foundation Course

Code	Title	Hours
AFRS 1270	Introduction to Global Health	4
or PHTH 1270	Introduction to Global Health	

Core Course

Code	Title	Hours
Complete one of the following. If additional courses are taken, they may be used as electives.		3-4
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
PHTH 4120	Global Perspectives on Discrimination and Health	
PHTH 5230	Global Health	

Elective Courses

Code	Title	Hours
Complete three courses from the following areas. Only two courses from any one area may count toward the minor electives. No more than two required courses in the student's major may count toward the minor electives. At least one of the minor electives must be at the 3000-level or above.		9-12
Area 1: Community and Public Health		
AFRS 4939	Community Health, Culture, and Development in Kenya (Dialogue of Civilizations only)	
CAEP 2050	Health Systems, Services, and Education in Ghana (Dialogue of Civilizations only)	
ENVR 1110	Global Climate Change	
PHTH 1261	Comparative Healthcare Systems (Dialogue of Civilizations only)	
PHTH 2301	Communication Skills for the Health Professions—Global (Dialogue of Civilizations only)	
PHTH 2350	Community and Public Health	
or PHTH 2351	Community and Public Health - Global	
or NRSG 4604	Public Health Community Nursing	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
PHTH 4540	Health Education and Program Planning	
Area 2: Biology of Health and Disease		
BIOL 1141	Microbes and Society	
BIOL 1143	Biology and Society	
BIOL 2327	Human Parasitology	
EEMB 3466	Disease Ecology	
Area 3: Society and Cultural Health / Area Studies		
AFRS 2900	Swahili, Culture, and Politics in Kenya (Dialogue of Civilizations only)	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ECON 1230	Healthcare and Medical Economics	
HIST 2233	The History of Medicine in North America	
LACS 1220	Latino, Latin American, and Caribbean Studies	

PHIL 1165	Moral and Social Problems in Healthcare
WMNS 3100	Gender, Social Justice, and Transnational Activism
or POLS 3100	Gender, Social Justice, and Transnational Activism
or ANTH 3100	Gender, Social Justice, and Transnational Activism
Area 4: Globalization and Development	
CRIM 1400	Human Trafficking
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3413	Health Economics and Healthcare Policy
ECON 3416	Behavioral Economics
ECON 5292	Gender and Development Economics
HLTH 2100	Interprofessional Ethics for Individual and Population Health
INTL 1101	Globalization and International Affairs
POLS 1160	International Relations

Global Health Experience

Complete a global health experience that has been approved by the global health minor advisor.

Recommended

Competency in another language other than English is recommended.

Completion of the Minor

All coursework must be completed at a minimum grade of B and courses may not be taken Pass/Fail.
Complete a minimum of 16 semester hours.

3.000 GPA required in the minor.

Health Psychology, Minor

The objective of the minor in health psychology is to provide students with knowledge regarding the relationship between psychological and behavioral processes and health and illness. Distinct from other specialty areas in psychology, health psychology focuses on how biology, psychology, behavior, and social factors influence health and illness.

This minor seeks to benefit students by highlighting the unique features of this specialty area and help students understand how to apply this knowledge to the provision of health services and various career paths relevant to health psychology, should they choose to pursue careers in professional psychology focused on the promotion of health. The minor in health psychology is designed for undergraduate students from a variety of disciplines within Bouvé and across the university who wish to expand and to apply their understanding in key concepts of behavioral science and how they inform and intersect with public health, prevention science, clinical applications, and interdisciplinary and interprofessional care.

The minor is comprised of five courses. It requires two foundational courses, one that provides an introduction to the role of psychology in health, illness, and healthcare—Health Psychology: An Introduction (CAEP 2012)—and one that focuses on the application of principles of behavior analysis to address common health problems, such as obesity, addiction, and adherence to medical procedures—Behavioral Assessment and Treatment of Health Problems in the 21st Century (CAEP 2101).

These courses instruct students on basic, foundational principles of mental/behavioral health and the role of psychology in overall health and well-being in applied settings. Students may choose three other electives based on their specific interests.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CAEP 2012	Health Psychology: An Introduction	4
CAEP 2101	Behavioral Assessment and Treatment of Health Problems in the 21st Century	4

Elective Courses

Code	Title	Hours
Complete any three of the following:		12
CAEP 2105	College Student Mental Health	
CAEP 3899	Relationships in College	
CAEP 5150	Early Intervention: Family Systems	
CAEP 5151	Early Intervention: Infant and Toddler Development, Risk, and Disability	
HLTH 5002	Mindfulness: Theory and Practice	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 3520	Child Intervention and Treatment	
PSYC 1101	Foundations of Psychology	
PSYC 3404	Developmental Psychology	

GPA Requirement

2.000 GPA required in the minor

Health, Humanities, and Society, Minor

The health, humanities, and society minor is designed for students who would like to learn how to think capaciously and creatively about health using the rigorous, precise, and flexible skills trained by the social sciences and the humanities. The social sciences teach students to think about the social, economic, and political factors that structure health conditions and outcomes in particular societies, while the humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of healthcare is quickly changing, and this training will equip students well not only for the diverse forms of health work that exist today, but for as yet unimaginable varieties of health-related work in the future.

This minor is structured around the particular competencies that the social sciences and humanities train. Those competencies are narrative and historical perspective, critical attention and observation, ethics and judgment, performance and creativity, and social and structural proficiency. Rather than adopting the more traditional approach of connecting particular skills to particular disciplines (say, narrative to literature and observation to art history), this minor builds from discipline-specific health knowledge while training students to think across disciplines. Thus, it will not be unusual for students to find a single course addressing multiple competencies or to take courses in different disciplines that address the same competency from distinct but complementary perspectives.

This minor is housed in the Humanities Center of the College of Social Sciences and Humanities in partnership with the Bouvé College of Health Sciences.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

No more than two courses, in addition to the introductory course, may be taken under the 2000 level.

Code	Title	Hours
Introductory Course		
INSH 1300	Introduction to Health and Humanities	4
Humanities Requirement		
Complete two of the following:		8
ENGL 2770	Writing to Heal	
ENGL 3140	19th-Century Literatures	
ENGL 3700	Narrative Medicine	
ENGL 4710	Capstone Seminar	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
WMNS 1225	Gender, Race, and Medicine	
Social Sciences Requirement		
Complete two of the following:		8
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4580	Special Topics in Anthropology	
ECON 1230	Healthcare and Medical Economics	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 1270	Introduction to Global Health	
PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 4120	Global Perspectives on Discrimination and Health	
PHTH 5202	Introduction to Epidemiology	
PHTH 5234	Economic Perspectives on Health Policy	
SOCL 1295	Drugs and Society	
SOCL 2303	Gender and Reproductive Justice	
SOCL 3441	Sociology of Health and Illness	
Total Hours		**20**

GPA Requirement

2.000 GPA required in the minor

Healthcare System Operations, Minor

The objective of the minor in healthcare system operations is to prepare students to apply industrial and systems engineering methods in healthcare applications. Distinct from other service industries, healthcare systems are characterized by extensive complexities driven by communication between and interdependencies among multiple actors, and the need to simultaneously address multiple competing objectives pertaining to economic, quality-driven, individual-driven, and population-driven goals. This minor will benefit students by highlighting the unique features of this industry and methods for addressing its unique challenges to engineer improvements to the design, operation, and management of healthcare systems.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

At most, one course from the minor may be counted toward major requirements.

Code	Title	Hours
Required Courses		
IE 5617	Lean Concepts and Applications	4
IE 5400	Healthcare Systems Modeling and Analysis	4
or IE 3500	Introduction to Healthcare Systems Engineering	
PHTH 1260	The American Healthcare System	4
Electives		
Complete one of the following:		4
IE 5374	Special Topics in Industrial Engineering (System Dynamics in Healthcare)	
IE 5500	Systems Engineering in Public Programs	
IE 5640	Data Mining for Engineering Applications	
NRSG 5121	Epidemiology and Population Health	
PHTH 4511	Healthcare Management	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5232	Evaluating Healthcare Quality	
SCHM 3315	Managing Healthcare Operations and Supply Chain	

GPA Requirement

2.000 GPA required in the minor

Mindfulness Studies, Minor

The minor in mindfulness studies is open to all majors at the university. The term “mindfulness” refers to maintaining an awareness of the present moment without judgment. Modern-day mindfulness has roots in Eastern spiritual traditions including Buddhism and Hinduism; after arriving in the West, mindfulness practice became a mostly secular practice used by many to promote health and wellbeing. The minor in mindfulness studies is designed for students who seek to enrich their understanding of mindfulness practice, including its benefits and potential applications. Pursuing a minor in mindfulness studies will complement students’ knowledge in the related fields of psychology, health sciences, philosophy, and religious studies. However, developing a mindfulness practice and an understanding of the potential benefits and applications of mindfulness may help enrich the lives of students in any major. Whether students are interested in health, education, or business, by pursuing the minor in mindfulness studies they have an opportunity to learn how to develop a mindfulness practice and explore how to apply mindfulness to their career.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CAEP 1280	Introduction to Mindfulness	4
PHIL 1133	Selling Spirituality	4
PHIL 1275	Hinduism, Buddhism, and Beyond	4
or PHIL 2395	Japanese Buddhism	

Electives

Code	Title	Hours
Complete one of the following:		
CAEP 1290	Personal Behavior Change	4
CAEP 2280	The Yoga Tradition in Nepal: Philosophy, Methods, and Practice	4
CAEP 2290	The Yoga Tradition: Philosophy, Methods, and Practice	4
CAEP 3899	Relationships in College	4
HLTH 5002	Mindfulness: Theory and Practice	3
HUSV 2340	Mindfulness in Mental Health	4
PHIL 1130	Comparative Ethics	4
PHIL 1290	Chinese Philosophy and Religion	4

GPA and Grade Requirement

Minimum 2.000 GPA required in the minor. All coursework must be completed with a minimum grade of C.

Credit Requirement

15 hours required

Nutrition, Minor

The minor in nutrition is designed for undergraduate students from a variety of disciplines across the university who wish to expand and apply their understanding in key concepts of nutrition and how they intersect with public health, clinical applications, food policy, behavioral counseling, or health communication.

The minor is comprised of five courses. It requires a foundational course in Human Nutrition (HSCI 1105) that instructs students in the basic principles of human nutrition. Students expand foundational concepts in additional required courses to apply knowledge of nutrition in clinical settings and to public health initiatives. Following the initial core courses, students complete two elective courses, at least one at 3000 level or higher, developing deeper knowledge and specific professional skills.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
HSCI 1105	Human Nutrition	4
HSCI 2350	Advanced Nutrition in Health and Disease	4
HSCI 2500	Public Health Nutrition in the Community	4

Supporting Courses

Code	Title	Hours
Complete two of the following. At least one elective must be at the 3000 level or above:		7-8
BIOL 3611	Biochemistry	
or PHSC 2320	Biochemistry	
CAEP 2012	Health Psychology: An Introduction	
CAEP 3480	Counseling Theories and Practice	
COMM 3201	Health Communication	
or PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
ECON 3404	International Food Policy	
EXSC 1120	Introduction to Exercise, Fitness, and Health	
HSCI 1106	Contemporary Issues in Nutrition	
PHSC 4340	Pharmacology for the Health Professions	
PHSC 4502	Pharmacology/Medicinal Chemistry 2	
PPUA 5270	Food Systems and Public Policy	

GPA Requirement

2.000 GPA required in the minor

Public Health, Minor

The minor in public health is designed for undergraduate students from a variety of disciplines who wish to explore key components of public health including the basic components of the U.S. healthcare system, core values and concepts of public health, public health analytic methods, and the social determinants of health. The minor is comprised of five courses for a minimum of 18 semester hours. The four required courses focus on the key components of public health and the remaining course is an elective from the provided list. Through the elective course, students can explore policy, healthcare management and delivery, research methods, health communication, nutrition and exercise, health disparities, and environmental health.

Minor Requirements

Note: This minor is not open to students majoring in the Bachelor of Science in Health Science or Bachelor of Arts in Public Health or those pursuing a combined major with those majors.

Complete all courses listed below unless otherwise indicated.

Required Courses

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2350	Community and Public Health	3-4
or PHTH 2351	Community and Public Health - Global	
or NRSG 4604	Public Health Community Nursing	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
Complete one of the following (PHTH 2210 is recommended):		3-4
ECON 2350	Statistics for Economists	
ENVR 2500	Biostatistics	
MATH 2280	Statistics and Software	
MATH 3081	Probability and Statistics	
MGSC 2301	Business Statistics	
NRSG 5120	Statistics for Health Science	
PHMD 3450	Research Methodology and Biostatistics	
PHTH 2210	Foundations of Biostatistics	
POLS 2400	Quantitative Techniques	
PSYC 2320	Statistics in Psychological Research	

Elective

Code	Title	Hours
Complete one course from the options below. Categories are provided to assist with selection.		**4**
Nutrition and Wellness		
EXSC 1120	Introduction to Exercise, Fitness, and Health	
HSCI 1105	Human Nutrition	
or HSCI 1106	Contemporary Issues in Nutrition	
PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 4540	Health Education and Program Planning	
Policy and Administration		
PHTH 2515	Healthcare Policy and Administration	
PHTH 4511	Healthcare Management	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Society and Health		
PHTH 1270	Introduction to Global Health	
or AFRS 1270	Introduction to Global Health	
PHTH 2414	Environmental Health	
PHTH 4120	Global Perspectives on Discrimination and Health	
Research Methods		
PHTH 3250	Fundamentals of Qualitative Research	

GPA Requirement

2.000 GPA required in the minor

School of Nursing

Website (http://www.northeastern.edu/bouve/nursing/)

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The School of Nursing offers a traditional BS, an accelerated BS, and a direct entry (BSN) to master's (MSN) for second-degree students in nursing designed to prepare students to become professional nurses by providing them with the knowledge, skills, and professional values needed for successful practice in a variety of healthcare settings. The school aims to provide all students—including those with diverse backgrounds and changing career goals—with a broad-based education that will foster ongoing personal and professional growth.

The mission of the Northeastern University School of Nursing is to educate students to provide evidence-based, culturally and linguistically competent, ethical healthcare that is high quality, safe, and accessible to diverse local, national, and global communities. Our programs seek to prepare students to become leaders as nurse clinicians, educators, scholars, and researchers.

Nursing is both a science-based profession and a caring art. The curriculum draws on basic and behavioral sciences, the arts and humanities, and the art and science of nursing to help students understand the complexities of health and illness across the life span.

Clinical Settings

Clinical settings require student criminal background checks. Additionally, international students require curricular practical training clearance to meet federal requirements for all clinical and co-op experiences. Please see Requirements for Clinical, Internships, and Practicum Courses (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/practicum-internship-policies/) and Background Checks (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/background-checks/) in this catalog for further details.

ACCREDITATION

The baccalaureate degree program in nursing at Northeastern University is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791, and is approved by the Board of Registration in Nursing of the Commonwealth of Massachusetts and the state of North Carolina. Accreditation and approval indicate that the program meets educational standards for faculty, curriculum design, student quality, and overall university support.

Programs

Bachelor of Science in Nursing (BSN)

- Nursing (p. 1340)
- Nursing—Accelerated Program for Second-Degree Students (p. 1348)
- Nursing—Transfer Track (p. 1353)

Minor

- Wellness Studies (p. 1240)

Nursing, BSN

The goal of the School of Nursing is to prepare students to think critically and to practice nursing competently and compassionately in rapidly changing practice environments. All efforts are designed to build nursing knowledge; enhance nursing practice and patient safety; foster professional integrity; and ultimately improve the health outcomes of patients, families, and communities across the continuum of care. This approach requires knowledge, skills, and attitudes that demonstrate leadership, quality care, critical thinking and clinical reasoning, cultural and linguistic competence, interprofessional collaboration, evidence-based practice, and integration of informatics and technology.

The clinical program takes place in the community where people live, as well as in hospitals, rehabilitation centers, and long-term-care facilities. The curriculum is capped by courses that enable students to put leadership and management skills into action and to synthesize the complete role of the professional nurse in a clinical practicum.

In addition to completing academic coursework, students must meet the cooperative education requirement as specified by their plan of study, which gives them the opportunity to integrate the theory and practice of nursing in selected settings. Numerous community and institutional healthcare agencies in Greater Boston and across the country offer students an opportunity to gain experience in providing nursing care to a variety of patients and families and to understand that nurses have major roles in wellness and health promotion, acute care, and long-term care. Students in the program are strongly encouraged to participate in research activity and in global educational opportunities that can all be a part of the program.

The baccalaureate degree program in nursing at Northeastern University is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791, and is also approved by the Board of Registration in Nursing of the Commonwealth of Massachusetts. Accreditation and approval indicate that the program meets educational standards for faculty, curriculum design, student quality, and overall university support.

The school subscribes to the standards established by the American Association of Colleges of Nursing (AACN), of which it is a member.

Academic Standards for Nursing Majors

ACADEMIC DISMISSAL FROM MAJOR

Students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Students who do not meet the required minimum grade in two professional courses, including labs and clinical, will be dismissed from the program. Only one professional course can be remediated.
- Remediation of a failed professional course is a requirement for progression in the program.
- Students who do not meet the minimum grade requirement within two attempts of the course will be dismissed from the program.

Note: Students dismissed from their major but who are otherwise in good standing with the university are allowed to remain at Northeastern for up to two semesters as a provisional Bouvé student, by the end of which the student is expected to move into a new major.

ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Additional details about the process may be found in the Bouvé College of Health Sciences Academic Affairs Appeals Process (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/)and in *Appeals Policies and Procedures* in the university Undergraduate Student Handbook *(*http://www.northeastern.edu/osccr/code-of-student-conduct/*).*

Program Policies and Standards

Students are expected to adhere to the policies and standards of their program major as stated in the Undergraduate Student Handbook *(*http://www.northeastern.edu/osccr/code-of-student-conduct/*)* to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major will be brought before the School of Nursing Academic Standing Committee to present their petitions.

BACHELOR OF SCIENCE IN NURSING PROGRAM REQUIREMENTS

The nursing program includes several options for a student's plan of attendance, as specified below:

For those students entering Northeastern as first-year (freshman) students (including N.U.in) and current Northeastern students entering the BSN via the change-of-major process:

- A four-year plan with two, six-month co-ops:

  At least one of the two co-op experiences must involve working with registered nurses providing direct patient care.

  Students must complete all co-op experiences planned in their academic program with a grade of S for each co-op experience.

Current Northeastern students entering the BSN via the change-of-major process should follow the requirements found at the Bouvé College of Health Sciences Office of Student Services under Change of Major (https://bouve.northeastern.edu/student-services/undergraduate-change-of-major/).

All students, regardless of entry point, must successfully complete 133 semester hours of academic credit to graduate in compliance with university and nursing curriculum requirements and in their expected year of graduation.

- Degree requirements must be completed within eight years from the date of matriculation.
- Students are required to attend all scheduled nursing classes, clinical experiences, and clinical labs on campus and in clinical agencies. If the student fails to meet attendance requirements, the student will fail the associated class, clinical, and/or lab.

Transfer students who do not already have a bachelor's degree from institutions outside Northeastern may choose to apply to the Nursing, BSN—Transfer Track (p. 1353), a 16-month transfer track hybrid program, where approved by state governance. All plans are not offered at all campuses.

CLINICAL REQUIREMENTS

Clinical settings require criminal background checks. Additionally, international students require curricular practical training clearance to meet federal requirements for all clinical and co-op experiences.

All students must receive a health clearance from University Health and Counseling Services. Health clearance is based on specific documentation of immunity from infectious disease and a physical examination (this may be done by the student's own healthcare provider). In addition, nursing students need a clinical clearance in order to participate in clinical courses. Clinical clearance, managed by the School of Nursing's Clinical Placement Office, includes verification of certification of *Healthcare Provider* cardiopulmonary resuscitation; recent negative tuberculosis screening (PPD); positive titers for MMR, varicella, and hepatitis B; vaccines including TDAP and influenza; and additional health screenings as may be required by the program. It is the responsibility of the student to stay current and to provide documentation required for clinical clearance throughout the entire nursing program.

Six weeks prior to the start of a clinical course, students must show:

- Evidence of immunizations and health clearance by UHCS.
- Documentation of *Healthcare Provider* CPR certification.
- Completion of a Criminal Offender Record Information background check to be eligible for clinical placement.
- Students will not be allowed to start the clinical course, and may be dropped from the clinical course, if these processes are not satisfactorily completed.

Students should refer to clinical course requirements, health clearance requirements for clinical rotations, and the professional conduct statement here (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/practicum-internship-policies/) for additional details.

CLINICAL WARNING

A nursing student may be placed on clinical warning, or fail the clinical course, at any time during the semester for the following reasons:

- Failing to meet the clinical objectives at a satisfactory level.
- Failing to demonstrate safe practice. Students may be removed from the clinical area, before completion of the clinical rotation, if the instructor determines that the student is unsafe. This will result in the student failing the clinical course.
- Failing to meet the attendance requirement.

Conditions

- Students on clinical warning must develop an academic plan with the clinical instructor to address clinical performance.
- Students will be expected to improve clinical performance by adhering to the plan.
- Failure to adhere to the terms of the plan will result in the student failing the course and being placed on academic probation. All conditions of academic probation will then apply.

Notification

- The clinical instructor will issue the student a Clinical Warning via the university's academic progress reporting tool.
- The student and the instructor should then develop a plan together to address the deficiency.
- Copies of the warning will be forwarded to the program director and/or the assistant dean for undergraduate programs if needed.
- This is an administrative warning and will not be posted on the transcript.
- Satisfactory completion of the clinical experience component of the course will result in removal of the warning from the student's file.

BLOOD-BORNE PATHOGEN EXPOSURE AND INJURY

Any student who sustains any kind of injury and/or exposure related to blood-borne, respiratory, or other pathogens or hazardous materials while on a clinical rotation should seek immediate treatment. They must also immediately follow the procedures listed below:

Procedures

- Students must follow the affiliate site's protocol for exposure reporting, testing, counseling, and follow-up.
- Students can present their Clinical Accident Insurance identification card (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/General%20Resources/Forms/AllItems.aspx?id=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance%2FNortheastern%20University%20Insurance%20Card%2Epdf&parent=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance) to arrange billing at the site or a suitable nearby hospital or urgent care clinic. If students do not know a local provider, they can call the resource number on their identification card for aid in finding a local provider. Students should also present their personal health insurance information.
- Within 24 hours of the accident, students must also inform their program's director of clinical education (or unit designee responsible for clinical placements) of the accident and submit, in writing, a description of the incident and injury or exposure using the BCHS Accident Report form, linked here (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Clinical-Accident-Report-Form.aspx). *If a student is incapacitated and unable to file their own report within the 24-hour time frame, a Northeastern faculty or staff person familiar with the incident may file on their behalf. The student should file their own report as soon as possible thereafter.*
- Submission of the Accident Report form linked above will automatically notify:
  - The program's director of clinical education or Clinical Placement Office (or unit designee responsible for clinical placements)
  - The program director (if applicable)
  - Assistant dean of clinical education in the BCHS Dean's Office
  - Risk Services (risk@northeastern.edu) (risk@northeastern.edu)
  - If exposure involved, Office of Environmental Health and Safety—Biosafety
- If for any reason a student is not able to receive immediate medical treatment, there is the resource of postexposure counseling through the university's partner, OEHN (Occupational & Environmental Health Network). They can be reached at 1-866-360-8100. OEHN is open 24 hours a day, 7 days a week, 365 days a year. OEHN will collect appropriate information and engage the doctor on call who can help to direct appropriate care depending on exposure and circumstances.

Technical Standards for Admission, Academic Progression, and Graduation

The primary mission of the School of Nursing is to educate our students to provide evidence-based, culturally and linguistically competent, ethical healthcare that is high quality, safe, and accessible to diverse local, national, and global communities. Our programs are designed to prepare students to become leaders as nurse clinicians, educators, scholars, and researchers. The School of Nursing is also committed to achieving the goals of the university to become an outstanding national research, practice-oriented, student-centered, urban institution.

The goal of the School of Nursing is to prepare students to think critically and to practice nursing competently and compassionately in rapidly changing practice environments. All efforts are designed to build nursing knowledge, enhance nursing practice and patient safety, foster professional integrity, and ultimately improve the health outcomes of patients, families, and communities across the continuum of care.

In addition to classroom learning, students' clinical education experiences occur in settings, like hospitals, in which patient safety is the priority. For this reason, students who, upon enrollment in any of the nursing programs, seek accommodations from the Disability Resource Center at Northeastern must also request an assessment of accommodations that would be needed for clinical education.

Certain functional abilities are essential for the delivery of safe, effective nursing care during clinical education activities. Therefore, the School of Nursing has determined that certain technical standards are requisite for admission, progression, and graduation from the nursing programs. An individual must be able to independently, with or without reasonable accommodation, meet the following technical standards:

1. General abilities
2. Observational ability
3. Communication ability
4. Motor ability
5. Intellectual, conceptual, and quantitative abilities
6. Behavioral and social attributes
7. Ability to manage stressful situations

Individuals unable to meet these technical standards, with or without reasonable accommodation, will not be able to complete the program.

GENERAL ABILITIES

The student is expected to possess functional use of the senses of vision, touch, hearing, and smell so that data received by the senses may be integrated, analyzed, and synthesized in a consistent and accurate manner. A student must be able to respond promptly to urgent situations that may occur during clinical training activities and must not hinder the ability of other members of the healthcare team to provide prompt treatment and care to patients.

OBSERVATIONAL ABILITY

The student must have sufficient capacity to make accurate visual observations and interpret them in the context of laboratory studies, medication administration, and patient care activities. In addition, the student must be able to document these observations and maintain accurate records.

COMMUNICATION ABILITY
The student must communicate both verbally and nonverbally in order to elicit information and to convey that information to others. Each student must have the ability to read and write accurately and comprehensively in English. The student must be able to thoroughly comprehend and fluently speak the English language so as to facilitate communication with patients, families, professionals in healthcare settings, instructors, and other students. The student must also be able to present information in a professional, logical manner and to provide counseling and instruction in order to effectively care for patients and their families.

MOTOR ABILITY
The student must be able to perform gross and fine motor movements with sufficient coordination needed to perform complete physical examinations utilizing the techniques of inspection, palpation, percussion, auscultation, and other diagnostic maneuvers. A student must develop the skills needed to perform or assist with procedures, treatments, administration of medication, and the management and operation of diagnostic and therapeutic medical equipment. The student must possess the physical and mental stamina to meet the demands associated with extended periods of sitting, standing, moving, and physical exertion required for satisfactory and safe performance in the clinical and classroom settings.

INTELLECTUAL, CONCEPTUAL, AND QUANTITATIVE ABILITIES
The student must be able to develop and refine critical thinking skills that are essential to nursing practice. Critical thinking involves the abilities to measure, calculate, reason, analyze, and synthesize objective and subjective data and to make decisions, often in a time-urgent environment, that reflect consistent and thoughtful deliberation and sound clinical judgment.

BEHAVIORAL AND SOCIAL ATTRIBUTES
Compassion, integrity, motivation, effective interpersonal skills, and concern for others are personal attributes required of those in the nursing programs. The student must be able to work under supervision of a clinical instructor or preceptor; this is essential to ensure patient safety. The student must exercise good judgment and promptly complete all responsibilities in the classroom and clinical settings. The ability to establish culturally competent relationships with individuals, families, and groups and to respond effectively to patients who have different intellectual capacities is critical to nursing practice.

ABILITY TO MANAGE STRESSFUL SITUATIONS
The student must be able to adapt to and function effectively in stressful situations in both the classroom and clinical settings, including emergency situations. These stressors include personal, patient care/family, faculty/peer, and/or program-related issues.

Disability and Special Needs
Students with special needs are encouraged to contact the Disability Resource Center (https://drc.sites.northeastern.edu/) to register and request services. Students must notify the instructor at the beginning of the semester if they plan to use DRC services throughout the course. The staff in that office is available for assistance.

State Board Nursing Examination

In Massachusetts, and several other states, the registering board requires that graduates taking the National Council Licensing Examination (NCLEX-RN) meet standards of "good moral character" (GMC). Students may review the GMC requirement specified at Massachusetts General Laws Chapter 112, sections 74, 74A, and 76; Licensure Policy No. 00-01 under "Rules & Regulations" on the Massachusetts BORN website.

Please visit Bouvé College of Health Sciences Program Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Professional courses with a prefix HLTH, HSCI, and NRSG and professional prerequisite courses with a prefix BIOL, CHEM, MATH, and PSYC require a minimum passing grade of C.

Nursing Major Requirements

Code	Title	Hours
NRSG 2150	Ethical Healthcare: Genetics and Genomics	4
or HLTH 2100	Interprofessional Ethics for Individual and Population Health	
or PHIL 1165	Moral and Social Problems in Healthcare	
NRSG 2210	Influences on Health and Illness: A Nursing Perspective	3
NRSG 2220 and NRSG 2221	Health Assessment and Fundamental Nursing Skills and Lab for NRSG 2220	4

NRSG 2350	Integrated Pathophysiology and Pharmaceutical Interventions for Nursing Practice	6
NRSG 3302 and NRSG 3303	Nursing with Women and Families and Clinical for NRSG 3302	5
NRSG 3320 and NRSG 3321	Nursing Care of Adults 1 and Clinical for NRSG 3320	6
NRSG 3323 and NRSG 3324	Advanced Assessment and Interventions and Lab for NRSG 3323	2
NRSG 3400 and NRSG 3401	Nursing and the Promotion of Mental Health and Clinical for NRSG 3400	5
NRSG 3420 and NRSG 3421	Nursing Care of Adults 2 and Clinical for NRSG 3420	6
NRSG 4502 and NRSG 4503	Nursing Care of the Child and Clinical for NRSG 4502	6
NRSG 4604 and NRSG 4605	Public Health Community Nursing and Clinical for NRSG 4604	5
NRSG 4610	Managing and Leading in Healthcare	4
or NRSG 4611	Managing and Leading in Healthcare—An International Perspective	
NRSG 4995 and NRSG 4996	Comprehensive Nursing Practicum and Clinical for NRSG 4995	5
NRSG 5120	Statistics for Health Science	3
NRSG 5220	Introduction to Research Methods and Application for Healthcare	4

Supporting Courses

Code	Title	Hours
CORE TERM 1		
NRSG 1000	College: An Introduction	1
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
Complete one of the following two lecture/lab pairs:		
CHEM 1101 and CHEM 1102	General Chemistry for Health Sciences and Lab for CHEM 1101	5
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
HSCI 1105	Human Nutrition	4
Complete one of the following:		4
MATH 1215	Mathematical Thinking	
MATH 1241	Calculus 1	
MATH 1242	Calculus 2	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1252	Calculus and Differential Equations for Biology 2	
MATH 1341	Calculus 1 for Science and Engineering	
CORE TERM 2		
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
PSYC 1101	Foundations of Psychology	4
BIOL 2221 and BIOL 2222	Foundations of Microbiology and Lab for BIOL 2221	5
ENGW 1111	First-Year Writing	4
The university requires a minimum grade of C for ENGW 1111.		
CLINICAL TERM 2		
NRSG 2000	Professional Development for Co-op	1
SOCL 1101	Introduction to Sociology	4
CLINICAL TERM 3		
PSYC 3404	Developmental Psychology	4
CLINICAL TERM 4		

CLINICAL TERM 5

ENGW 3306	Advanced Writing in the Health Professions	4

The university requires a minimum grade of C for ENGW 3306.

Electives

Code	Title	Hours
Complete four courses (for at least 15 credits) outside the School of Nursing or NRSG courses not used to fulfill requirements above.		15

NUPATH REQUIREMENTS SATISFIED

- Analyzing/Using Data (AD)
- Capstone Experience (CE)
- Engaging Differences/Diversity (DD)
- Exploring Creative Expression and Innovation (EI)
- Ethical Reasoning (ER)
- Conducting Formal/Quantitative Reasoning (FQ)
- Interpreting Culture (IC)
- Natural/Designed World (ND)
- Society/Institutions (SI)
- Writing-Intensive in the Major (WI)
- Advanced Writing in the Disciplines (WD)

Integrating Knowledge and Skills Through Experience (EX) is satisfied through co-op.

Students are responsible for using the general electives in this program to complete NUpath requirements not satisfied by required courses in this program.

Academic Standards for Nursing Majors

Minimum passing grade standards exist for both professional courses, which are required courses taught within the major/college, and professional prerequisite courses and are outlined before the nursing requirements above.

Courses in the above-listed professional or professional prerequisite subjects that are taken as electives are exempt from the C or better rule, and the university's minimum satisfactory grade will be accepted.

For all other courses, the university's minimum passing grade for the course will be accepted.

PROGRESSION WITHIN NURSING

- First-year students must complete at least 27 semester hours and meet all major prerequisite course requirements to progress to sophomore status. First-year students who earn fewer than the semester hours stipulated by the curriculum plan for their major must make up the difference prior to graduation.
- To progress into the subsequent year of professional courses, students must have completed all professional prerequisites with the required minimum passing grade as noted in the program requirements.
- Students must successfully complete all courses, as stipulated by their approved curriculum plan, with a grade of C or better in order to progress into the next professional course.
- Students who either fail or withdraw from a professional course will need to successfully remediate that course before continuing in their approved curriculum plan.
- Students who incur an incomplete grade in a prerequisite course must obtain approval from their academic advisor, upon consultation with the department faculty and, when appropriate, the School of Nursing Academic Standing Committee, prior to progression into the subsequent course(s).
- Students may not change their graduation date more than twice.

Program Requirements

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
NRSG 1000	1	PSYC 1101 (ND) (SI)	4	NUterm (optional)		Vacation	
Select ONE of the following CHEM course sequences:	5	BIOL 2219 and BIOL 2220	5	Elective	4		
CHEM 1101 and CHEM 1102 and CHEM 1103		BIOL 2221 and BIOL 2222	5	Elective	4		
CHEM 1161 and CHEM 1162 and CHEM 1163		ENGW 1111	4				
BIOL 2217 and BIOL 2218	5						
MATH 1215, 1241, 1242, 1251, 1252, or 1341	4						
HSCI 1105	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
NRSG 2000	1	Co-op 1		Co-op 1		NRSG 3302 and NRSG 3303	5
NRSG 2210 (DD) (EI)	3					PSYC 3404	4
NRSG 2220 and NRSG 2221	4						
NRSG 2350	6						
Elective	4						
	18		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
NRSG 3320 and NRSG 3321	6	Co-op 2		Co-op 2		NRSG 2150, HLTH 2100, or PHIL 1165 (ER)	4
NRSG 3323 and NRSG 3324	2					NRSG 5220 (ND) (WI)	4
NRSG 3400 and NRSG 3401	5						
NRSG 5120 (AD) (FQ)	3						
Elective	3						
	19		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
SOCL 1101 (SI)	4	NRSG 4604 and NRSG 4605 (for NRSG 4604 (IC), for NRSG 4605 (EX))	5
NRSG 4502 and NRSG 4503	6	NRSG 4610 or 4611 (CE) (WI)	4
NRSG 3420 and NRSG 3421	6	NRSG 4995 and NRSG 4996	5
		ENGW 3306 (WD)	4
	16		**18**

Total Hours: 133

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
NRSG 1000	1	PSYC 1101 (ND) (SI)	4	NUterm (optional)		Vacation	
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	Elective	4		
Select ONE of the following CHEM course sequences:	5	BIOL 2221 and BIOL 2222	5	Elective	4		
CHEM 1101 and CHEM 1102 and CHEM 1103		ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163							
HSCI 1105	4						
MATH 1215, 1241, 1242, 1251, 1252, or 1341	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
NRSG 2210 (DD) (EI)	3	NRSG 2000	1	NRSG 3400 and NRSG 3401	5	Co-op 1	0
NRSG 2220 and NRSG 2221	4	NRSG 3302 and NRSG 3303	5	PSYC 3404	4		
NRSG 2350	6	NRSG 3320 and NRSG 3321	6				
Elective	4	NRSG 3323 and NRSG 3324	2				
		SOCL 1101 (SI)	4				
	17		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op 1		NRSG 3420 and NRSG 3421	6	ENGW 3306 (WD)	4	Co-op 2	
		NRSG 4502 and NRSG 4503	6	NRSG 4604 and NRSG 4605 (for NRSG 4604 (IC), for NRSG 4605 (EX))	5		
		NRSG 5120 (AD) (FQ)	3				
		Elective	3				
	0		**18**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op 2		NRSG 2150, HLTH 2100, or PHIL 1165 (ER)	4		
		NRSG 4610 or 4611 (CE) (WI)	4		
		NRSG 4995 and NRSG 4996	5		
		NRSG 5220 (ND) (WI)	4		
	0		**17**		**0**

Total Hours: 133

Nursing, BSN—Accelerated Program for Second-Degree Students

The Accelerated Bachelor of Science in Nursing (https://absn.northeastern.edu/accelerated-bsn/?utm_source=catalog.northeastern.edu&utm_medium=absn-copy&utm_campaign=main_site) hybrid program, which comprises 16 months of full-time study, combines online didactic coursework and hands-on learning involving both clinical placements and experience in the skills laboratory. Eligibility for the ABSN program requires completion of a prior bachelor's degree in another field. The ABSN program offers students an opportunity to work closely with nursing faculty to master the core skills necessary to excel in their nursing career. The program also seeks to prepare students to successfully take and pass the National Council Licensure Examination for Registered Nurses and earn an RN license.

The ABSN curriculum includes 67 credits of undergraduate courses with online learning modules incorporating lectures and learning activities. The majority of these credits are completed online through an e-learning platform that allows students to listen to lectures, submit assignments, complete interactive learning modules, and engage in discussion with faculty and classmates.

The Bouvé College of Health Sciences School of Nursing has an extensive network of clinical affiliations at health centers, major teaching hospitals, and community hospitals that allow students to engage in clinical experiences covering a wide range of nursing specialties that include adult health, maternal-newborn, pediatrics, behavioral and mental health, acute care, and public health.

The baccalaureate degree program in nursing at Northeastern University is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791, and is also approved by the Board of Registration in Nursing of the Commonwealth of Massachusetts and by the North Carolina Board of Nursing. Accreditation and approval indicate that the program meets educational standards for faculty, curriculum design, student quality, and overall university support.

The school subscribes to the standards established by the American Association of Colleges of Nursing, of which it is a member.

Academic Standards for Nursing Majors

ACADEMIC DISMISSAL FROM MAJOR

Students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Students who do not meet the required minimum grade in two professional courses, including labs and clinical, will be dismissed from the program. Only one professional course can be remediated.
- Remediation of a failed professional course is a requirement for progression in the program.
- Students who do not meet the minimum grade requirement within two attempts of the course will be dismissed from the program.

ACADEMIC APPEALS

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Additional details about the process may be found in the Bouvé College of Health Sciences Academic Affairs Appeals Process (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/) and in *Appeals Policies and Procedures* in the university Undergraduate Student Handbook (http://www.northeastern.edu/osccr/code-of-student-conduct/).

Program Policies and Standards

Students are expected to adhere to the policies and standards of their program major to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major will be brought before the School of Nursing Academic Standing Committee to present their petitions.

Students are required to attend all scheduled nursing classes, clinical experiences, and clinical labs on campus and in clinical agencies. If the student fails to meet attendance requirements, the student will fail the associated class, clinical, and/or lab.

Students enrolled in the clinical courses will need access to a car to travel to assigned agencies. Students are responsible for their own transportation costs.

CLINICAL REQUIREMENTS

Clinical settings require criminal background checks. Additionally, international students require curricular practical training clearance to meet federal requirements for all clinical and co-op experiences.

All students must receive a health clearance from University Health and Counseling Services. Health clearance is based on specific documentation of immunity from infectious disease and a physical examination (this may be done by the student's own healthcare provider). In addition, nursing students need a clinical clearance in order to participate in clinical courses. Clinical clearance, managed by the School of Nursing's Clinical Placement Office, includes verification of certification of Healthcare Provider cardiopulmonary resuscitation; recent negative tuberculosis screening (PPD); positive titers for MMR, varicella, and hepatitis B; vaccines including TDAP and influenza; and additional health screenings as may be required by the program. It is the responsibility of the student to stay current and to provide documentation required for clinical clearance throughout the entire nursing program.

Beginning six weeks prior to the start of a clinical course, students must show:

- Evidence of immunizations and health clearance by UHCS.
- Documentation of Healthcare Provider CPR certification.
- Completion of a Criminal Offender Record Information background check to be eligible for clinical placement.
- Students will not be allowed to start the clinical course, and may be dropped from the clinical course, if these processes are not satisfactorily completed.

Students should refer to Clinical Course Requirements, Health Clearance Requirements for Clinical Rotations, and the Professional Conduct statement here (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/practicum-internship-policies/) for additional details.

CLINICAL WARNING

A nursing student may be placed on clinical warning, or fail the clinical course, at any time during the semester for the following reasons:

- Failing to meet the clinical objectives at a satisfactory level.
- Failing to demonstrate safe practice. Students may be removed from the clinical area, before completion of the clinical rotation, if the instructor determines that the student is unsafe. This will result in the student failing the clinical course.
- Failing to meet the attendance requirement.

Conditions

- Students on clinical warning must develop an academic plan with the clinical instructor to address clinical performance.
- Students will be expected to improve clinical performance by adhering to the plan.
- Failure to adhere to the terms of the plan will result in the student failing the course and being placed on academic probation. All conditions of academic probation will then apply.

Notification

- The clinical instructor will issue the student a clinical warning via the university's academic progress reporting tool.
- The student and the instructor should then develop a plan together to address the deficiency.
- Copies of the warning will be forwarded to the program director and/or the assistant dean for undergraduate programs if needed.
- This is an administrative warning and will not be posted on the transcript.
- Satisfactory completion of the clinical experience component of the course will result in removal of the warning from the student's file.

BLOOD-BORNE PATHOGEN EXPOSURE AND INJURY

Any student who sustains any kind of injury and/or exposure to blood-borne, respiratory, or other pathogens or hazardous materials while on a clinical rotation should seek immediate treatment. They must also immediately follow the procedures listed below:

Procedures

- Students must follow the affiliate site's protocol for exposure reporting, testing, counseling, and follow-up.
- Students can present their Clinical Accident Insurance identification card (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/General%20Resources/Forms/AllItems.aspx?id=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance%2FNortheastern%20University%20Insurance%20Card%2Epdf&parent=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance) to arrange billing at the site or a suitable nearby hospital or urgent care clinic. If students do not know a local provider, they can call the resource number on their identification card for aid in finding a local provider. Students should also present their personal health insurance information.
- Within 24 hours of the accident, students must also inform their program's director of clinical education (or unit designee responsible for clinical placements) of the accident and submit, in writing, a description of the incident and injury or exposure using the BCHS Accident Report form (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Clinical-Accident-Report-Form.aspx). *If a student is incapacitated and unable to file their own report within the 24-hour time frame, a Northeastern University faculty or staff person familiar with the incident may file on their behalf. The student should file their own report as soon as possible thereafter.*
- Submission of the Accident Report form linked above will automatically notify:
  - The program's Director of Clinical Education or Clinical Placement Office (or unit designee responsible for clinical placements)
  - The program director (if applicable)
  - Assistant Dean of Clinical Education in the BCHS Dean's Office
  - Risk Services (risk@northeastern.edu) (risk@northeastern.edu)
  - If exposure involved, Office of Environmental Health and Safety—Biosafety
- If for any reason a student is not able to receive immediate medical treatment, there is the resource of postexposure counseling through the university's partner, OEHN (Occupational & Environmental Health Network). They can be reached at 1-866-360-8100. OEHN is open 24 hours a day, 7 days a week, 365 days a year. OEHN will collect appropriate information and engage the doctor on call who can help to direct appropriate care depending on exposure and circumstances.

Technical Standards for Admission, Academic Progression, and Graduation

The primary mission of the School of Nursing is to educate our students to provide evidence-based, culturally and linguistically competent, ethical healthcare that is high quality, safe, and accessible to diverse local, national, and global communities. Our programs are designed to prepare students to become leaders as nurse clinicians, educators, scholars, and researchers. The School of Nursing is also committed to achieving the goals of the university to become an outstanding national research, practice-oriented, student-centered, urban institution.

The goal of the School of Nursing is to prepare students to think critically and to practice nursing competently and compassionately in rapidly changing practice environments. All efforts are designed to build nursing knowledge, enhance nursing practice and patient safety, foster professional integrity, and ultimately improve the health outcomes of patients, families, and communities across the continuum of care.

In addition to classroom learning, students' clinical education experiences occur in settings, like hospitals, in which patient safety is the priority. For this reason, students who, upon enrollment in any of the nursing programs, seek accommodations from the Disability Resource Center at Northeastern must also request an assessment of accommodations that would be needed for clinical education.

Certain functional abilities are essential for the delivery of safe, effective nursing care during clinical education activities. Therefore, the School of Nursing has determined that certain technical standards are requisite for admission, progression, and graduation from the nursing programs. An individual must be able to independently, with or without reasonable accommodation, meet the following technical standards:

1. General abilities (p. 1350)
2. Observational ability (p. 1350)
3. Communication ability (p. 1350)
4. Motor ability (p. 1350)
5. Intellectual, conceptual, and quantitative abilities (p. 1350)
6. Behavioral and social attributes (p. 1350)
7. Ability to manage stressful situations (p. 1351)

Individuals unable to meet these technical standards, with or without reasonable accommodation, will not be able to complete the program.

GENERAL ABILITIES

The student is expected to possess functional use of the senses of vision, touch, hearing, and smell so that data received by the senses may be integrated, analyzed, and synthesized in a consistent and accurate manner. A student must be able to respond promptly to urgent situations that may occur during clinical training activities and must not hinder the ability of other members of the healthcare team to provide prompt treatment and care to patients.

OBSERVATIONAL ABILITY

The student must have sufficient capacity to make accurate visual observations and interpret them in the context of laboratory studies, medication administration, and patient care activities. In addition, the student must be able to document these observations and maintain accurate records.

COMMUNICATION ABILITY

The student must communicate both verbally and nonverbally in order to elicit information and to convey that information to others. Each student must have the ability to read and write accurately and comprehensively in English. The student must be able to thoroughly comprehend and fluently speak the English language so as to facilitate communication with patients, families, professionals in healthcare settings, instructors, and other students. The student must also be able to present information in a professional, logical manner and to provide counseling and instruction in order to effectively care for patients and their families.

MOTOR ABILITY

The student must be able to perform gross and fine motor movements with sufficient coordination needed to perform complete physical examinations utilizing the techniques of inspection, palpation, percussion, auscultation, and other diagnostic maneuvers. A student must develop the skills needed to perform or assist with procedures, treatments, administration of medication, and the management and operation of diagnostic and therapeutic medical equipment. The student must possess the physical and mental stamina to meet the demands associated with extended periods of sitting, standing, moving, and physical exertion required for satisfactory and safe performance in the clinical and classroom settings.

INTELLECTUAL, CONCEPTUAL, AND QUANTITATIVE ABILITIES

The student must be able to develop and refine critical thinking skills that are essential to nursing practice. Critical thinking involves the abilities to measure, calculate, reason, analyze, and synthesize objective and subjective data, and to make decisions, often in a time-urgent environment, that reflect consistent and thoughtful deliberation and sound clinical judgment.

BEHAVIORAL AND SOCIAL ATTRIBUTES

Compassion, integrity, motivation, effective interpersonal skills, and concern for others are personal attributes required of those in the nursing programs. The student must be able to work under supervision of a clinical instructor or preceptor; this is essential to ensure patient safety. The student must exercise good judgment and promptly complete all responsibilities in the classroom and clinical settings. The ability to establish culturally competent relationships with individuals, families, and groups, and to respond effectively to patients who have different intellectual capacities, is critical to nursing practice.

ABILITY TO MANAGE STRESSFUL SITUATIONS

The student must be able to adapt to and function effectively in stressful situations in both the classroom and clinical settings, including emergency situations. These stressors include personal, patient care/family, faculty/peer, and/or program-related issues.

DISABILITY AND SPECIAL NEEDS

Students with special needs are encouraged to contact the Disability Resource Center (https://drc.sites.northeastern.edu/) to register and request services. Students must notify the instructor at the beginning of the semester if they plan to use DRC services throughout the course. The staff in that office is available for assistance.

State Board Nursing Examination

In Massachusetts, and several other states, the registering board requires that graduates taking the National Council Licensing Examination meet standards of "good moral character." Students may review the GMC requirement specified at Massachusetts General Laws Chapter 112, sections 74, 74A, and 76; Licensure Policy No. 00-01 under "Rules & Regulations" on the Massachusetts Board of Registration in Nursing website (https://www.mass.gov/orgs/board-of-registration-in-nursing/).

Please visit Bouvé College of Health Sciences Program Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, clinicals, or courses where specified beyond specific college and major requirements to satisfy graduation credit requirements.

Students must successfully complete all courses with a grade of C or better.

Code	Title	Hours
SEMESTER 1		
NRSG 2001	Foundations of Professional Nursing Practice	2
NRSG 2220 and NRSG 2221	Health Assessment and Fundamental Nursing Skills and Lab for NRSG 2220	4
NRSG 2350	Integrated Pathophysiology and Pharmaceutical Interventions for Nursing Practice	6
NRSG 3302 and NRSG 3303	Nursing with Women and Families and Clinical for NRSG 3302	5
SEMESTER 2		
NRSG 2210	Influences on Health and Illness: A Nursing Perspective	3
NRSG 3320 and NRSG 3321	Nursing Care of Adults 1 and Clinical for NRSG 3320	6
NRSG 3323 and NRSG 3324	Advanced Assessment and Interventions and Lab for NRSG 3323	2
NRSG 3400 and NRSG 3401	Nursing and the Promotion of Mental Health and Clinical for NRSG 3400	5
SEMESTER 3		
NRSG 3420 and NRSG 3421	Nursing Care of Adults 2 and Clinical for NRSG 3420	6
NRSG 4502 and NRSG 4503	Nursing Care of the Child and Clinical for NRSG 4502	6
NRSG 5220	Introduction to Research Methods and Application for Healthcare	4
SEMESTER 4		
NRSG 2150	Ethical Healthcare: Genetics and Genomics	4
NRSG 4604 and NRSG 4605	Public Health Community Nursing and Clinical for NRSG 4604	5
NRSG 4610	Managing and Leading in Healthcare	4
NRSG 4995 and NRSG 4996	Comprehensive Nursing Practicum and Clinical for NRSG 4995	5

Progression within Nursing

- Students who either fail or withdraw from a professional course (any course with a prefix of NRSG, HLTH) in nursing will need to successfully remediate that course before continuing in their approved curriculum plan.
- Students who incur an incomplete grade in a prerequisite course must obtain approval from their academic advisor, upon consultation with the department faculty and, when appropriate, the School of Nursing Academic Standing Committee, prior to progression into the subsequent course(s).

- Students may not change their graduation date more than twice.

Program Requirement

128 total semester hours required (minimum of 67 semester hours in residence at Northeastern)

Nursing, BSN—Transfer Track

The transfer track Bachelor of Science in Nursing hybrid program is designed for students who do not already have a bachelor's degree. The program is open to transfer students only and requires students to complete specified prerequisite courses prior to matriculation. Students who have fulfilled the transfer prerequisite courses fulfill remaining requirements through online didactic coursework and hands-on learning involving both clinical placements and experience in the skills laboratory over a 16-month period. The program offers students an opportunity to work closely with nursing faculty to master the core skills necessary to excel in their nursing career. The program also seeks to prepare students to successfully take and pass the National Council Licensure Examination for Registered Nurses (NCLEX-RN) and earn an RN license.

The curriculum includes undergraduate courses with online learning modules incorporating lectures and learning activities. The majority of these are completed online through an e-learning platform that allows students to listen to lectures, submit assignments, complete interactive learning modules, and engage in discussion with faculty and classmates. Labs are offered at Northeastern University network locations where the program is approved (not approved in all locations) and clinical placements are offered at affiliate sites.

The goal of the School of Nursing is to prepare students to think critically and to practice nursing competently and compassionately in rapidly changing practice environments. All efforts are designed to build nursing knowledge; enhance nursing practice and patient safety; foster professional integrity; and ultimately improve the health outcomes of patients, families, and communities across the continuum of care. This approach requires knowledge, skills, and attitudes that demonstrate leadership, quality care, critical thinking and clinical reasoning, cultural and linguistic competence, interprofessional collaboration, evidence-based practice, and integration of informatics and technology.

The clinical program takes place in the community where people live, as well as in hospitals, rehabilitation centers, and long-term-care facilities. The curriculum is capped by courses that enable students to put leadership and management skills into action and to synthesize the complete role of the professional nurse in a clinical practicum.

The baccalaureate degree program in nursing at Northeastern is accredited by the Commission on Collegiate Nursing Education, 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791, and is also approved by the Board of Registration in Nursing of the Commonwealth of Massachusetts and by the North Carolina Board of Nursing. Accreditation and approval indicate that the program meets educational standards for faculty, curriculum design, student quality, and overall university support.

The school subscribes to the standards established by the American Association of Colleges of Nursing, of which it is a member.

Academic Standards for Nursing Majors

ACADEMIC DISMISSAL FROM MAJOR

Students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Students who do not meet the required minimum grade in two professional courses, including labs and clinical, will be dismissed from the program. Only one professional course can be remediated.
- Remediation of a failed professional course is a requirement for progression in the program.
- Students who do not meet the minimum grade requirement within two attempts of the course will be dismissed from the program.

Academic Appeals

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Additional details about the process may be found in the Bouvé College of Health Sciences Academic Affairs Appeals Procedures (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/appeals-process/)and in *Appeals Policies and Procedures* in the university Undergraduate Student Handbook *(*http://www.northeastern.edu/osccr/code-of-student-conduct/*).*

Program Policies and Standards

Students are expected to adhere to the policies and standards of their program major as stated in the Undergraduate Student Handbook *(*http://www.northeastern.edu/osccr/code-of-student-conduct/*)* to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major will be brought before the School of Nursing Academic Standing Committee to present their petitions.

BACHELOR OF SCIENCE IN NURSING PROGRAM REQUIREMENTS

- Degree requirements must be completed within eight years from the date of matriculation.
- Students are required to attend all scheduled nursing classes, clinical experiences, and clinical labs on campus and in clinical agencies. If the student fails to meet attendance requirements, the student will fail the associated class, clinical, and/or lab.

CLINICAL REQUIREMENTS

Clinical settings require criminal background checks. Additionally, international students require curricular practical training clearance to meet federal requirements for all clinical and co-op experiences.

All students must receive a health clearance from University Health and Counseling Services. Health clearance is based on specific documentation of immunity from infectious disease and a physical examination (this may be done by the student's own healthcare provider). In addition, nursing students need a clinical clearance in order to participate in clinical courses. Clinical clearance, managed by the School of Nursing's Clinical Placement

Office, includes verification of certification of *Healthcare Provider* cardiopulmonary resuscitation; recent negative tuberculosis screening (PPD); positive titers for MMR, varicella, and hepatitis B; vaccines including TDAP and influenza; and additional health screenings as may be required by the program. It is the responsibility of the student to stay current and to provide documentation required for clinical clearance throughout the entire nursing program.

Six weeks prior to the start of a clinical course, students must show:

- Evidence of immunizations and health clearance by UHCS.
- Documentation of *Healthcare Provider* CPR certification.
- Completion of a Criminal Offender Record Information background check to be eligible for clinical placement.
- Students will not be allowed to start the clinical course, and may be dropped from the clinical course, if these processes are not satisfactorily completed.

Students should refer to clinical course requirements, health clearance requirements for clinical rotations, and the professional conduct statement here (https://catalog.northeastern.edu/graduate/health-sciences/academic-policies-procedures/practicum-internship-policies/) for additional details.

CLINICAL WARNING

A nursing student may be placed on clinical warning, or fail the clinical course, at any time during the semester for the following reasons:

- Failing to meet the clinical objectives at a satisfactory level.
- Failing to demonstrate safe practice. Students may be removed from the clinical area, before completion of the clinical rotation, if the instructor determines that the student is unsafe. This will result in the student failing the clinical course.
- Failing to meet the attendance requirement.

Conditions

- Students on clinical warning must develop an academic plan with the clinical instructor to address clinical performance.
- Students will be expected to improve clinical performance by adhering to the plan.
- Failure to adhere to the terms of the plan will result in the student failing the course and being placed on academic probation. All conditions of academic probation will then apply.

Notification

- The clinical instructor will issue the student a Clinical Warning via the university's academic progress reporting tool.
- The student and the instructor should then develop a plan together to address the deficiency.
- Copies of the warning will be forwarded to the program director and/or the assistant dean for undergraduate programs if needed.
- This is an administrative warning and will not be posted on the transcript.
- Satisfactory completion of the clinical experience component of the course will result in removal of the warning from the student's file.

BLOOD-BORNE PATHOGEN EXPOSURE AND INJURY

Any student who sustains any kind of injury and/or exposure related to blood-borne, respiratory, or other pathogens or hazardous materials while on a clinical rotation should seek immediate treatment. They must also immediately follow the procedures listed below:

Procedures

- Students must follow the affiliate site's protocol for exposure reporting, testing, counseling, and follow-up.
- Students can present their Clinical Accident Insurance identification card (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/General%20Resources/Forms/AllItems.aspx?id=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance%2FNortheastern%20University%20Insurance%20Card%2Epdf&parent=%2Fsites%2FBouveCurrentStudentResources%2FGeneral%20Resources%2FAccident%20Insurance) to arrange billing at the site or a suitable nearby hospital or urgent care clinic. If students do not know a local provider, they can call the resource number on their identification card for aid in finding a local provider. Students should also present their personal health insurance information.
- Within 24 hours of the accident, students must also inform their program's director of clinical education (or unit designee responsible for clinical placements) of the accident and submit, in writing, a description of the incident and injury or exposure using the BCHS Accident Report form, linked here (https://northeastern.sharepoint.com/sites/BouveCurrentStudentResources/SitePages/Clinical-Accident-Report-Form.aspx). *If a student is incapacitated and unable to file their own report within the 24-hour time frame, a Northeastern faculty or staff person familiar with the incident may file on their behalf. The student should file their own report as soon as possible thereafter.*
- Submission of the Accident Report form linked above will automatically notify:
  - The program's director of clinical education or Clinical Placement Office (or unit designee responsible for clinical placements)
  - The program director (if applicable)
  - Assistant dean of clinical education in the BCHS Dean's Office
  - Risk Services (risk@northeastern.edu) (risk@northeastern.edu)
  - If exposure involved, Office of Environmental Health and Safety—Biosafety
- If for any reason a student is not able to receive immediate medical treatment, there is the resource of postexposure counseling through the university's partner, OEHN (Occupational & Environmental Health Network). They can be reached at 1-866-360-8100. OEHN is open 24 hours a

day, 7 days a week, 365 days a year. OEHN will collect appropriate information and engage the doctor on call who can help to direct appropriate care depending on exposure and circumstances.

TECHNICAL STANDARDS FOR ADMISSION, ACADEMIC PROGRESSION, AND GRADUATION

The primary mission of the School of Nursing is to educate our students to provide evidence-based, culturally and linguistically competent, ethical healthcare that is high quality, safe, and accessible to diverse local, national, and global communities. Our programs are designed to prepare students to become leaders as nurse clinicians, educators, scholars, and researchers. The School of Nursing is also committed to achieving the goals of the university to become an outstanding national research, practice-oriented, student-centered, urban institution.

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1. General abilities
2. Observational ability
3. Communication ability
4. Motor ability
5. Intellectual, conceptual, and quantitative abilities
6. Behavioral and social attributes
7. Ability to manage stressful situations

Individuals unable to meet these technical standards, with or without reasonable accommodation, will not be able to complete the program.

GENERAL ABILITIES

The student is expected to possess functional use of the senses of vision, touch, hearing, and smell so that data received by the senses may be integrated, analyzed, and synthesized in a consistent and accurate manner. A student must be able to respond promptly to urgent situations that may occur during clinical training activities and must not hinder the ability of other members of the healthcare team to provide prompt treatment and care to patients.

OBSERVATIONAL ABILITY

The student must have sufficient capacity to make accurate visual observations and interpret them in the context of laboratory studies, medication administration, and patient care activities. In addition, the student must be able to document these observations and maintain accurate records.

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MOTOR ABILITY

The student must be able to perform gross and fine motor movements with sufficient coordination needed to perform complete physical examinations utilizing the techniques of inspection, palpation, percussion, auscultation, and other diagnostic maneuvers. A student must develop the skills needed to perform or assist with procedures, treatments, administration of medication, and the management and operation of diagnostic and therapeutic medical equipment. The student must possess the physical and mental stamina to meet the demands associated with extended periods of sitting, standing, moving, and physical exertion required for satisfactory and safe performance in the clinical and classroom settings.

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The student must be able to develop and refine critical thinking skills that are essential to nursing practice. Critical thinking involves the abilities to measure, calculate, reason, analyze, and synthesize objective and subjective data and to make decisions, often in a time-urgent environment, that reflect consistent and thoughtful deliberation and sound clinical judgment.

BEHAVIORAL AND SOCIAL ATTRIBUTES

Compassion, integrity, motivation, effective interpersonal skills, and concern for others are personal attributes required of those in the nursing programs. The student must be able to work under supervision of a clinical instructor or preceptor; this is essential to ensure patient safety. The student must exercise good judgment and promptly complete all responsibilities in the classroom and clinical settings. The ability to establish

culturally competent relationships with individuals, families, and groups and to respond effectively to patients who have different intellectual capacities is critical to nursing practice.

ABILITY TO MANAGE STRESSFUL SITUATIONS

The student must be able to adapt to and function effectively in stressful situations in both the classroom and clinical settings, including emergency situations. These stressors include personal, patient care/family, faculty/peer, and/or program-related issues.

DISABILITY AND SPECIAL NEEDS

Students with special needs are encouraged to contact the Disability Resource Center (https://drc.sites.northeastern.edu/) to register and request services. Students must notify the instructor at the beginning of the semester if they plan to use DRC services throughout the course. The staff in that office is available for assistance.

State Board Nursing Examination

In Massachusetts, and several other states, the registering board requires that graduates taking the National Council Licensing Examination (NCLEX-RN) meet standards of "good moral character." Students may review the GMC requirement specified at Massachusetts General Laws Chapter 112, sections 74, 74A, and 76; Licensure Policy No. 00-01 under "Rules & Regulations" on the Massachusetts BORN website.

Please visit Bouvé College of Health Sciences Program Learning Outcomes for the specific student learning outcomes for this program.

Program Requirements

Professional courses with a prefix NRSG require a minimum passing grade of C.

Nursing Major Requirements

Code	Title	Hours
NRSG 2220 and NRSG 2221	Health Assessment and Fundamental Nursing Skills and Lab for NRSG 2220	4
NRSG 2350	Integrated Pathophysiology and Pharmaceutical Interventions for Nursing Practice	6
NRSG 3302 and NRSG 3303	Nursing with Women and Families and Clinical for NRSG 3302	5
NRSG 2210	Influences on Health and Illness: A Nursing Perspective	3
NRSG 3320 and NRSG 3321	Nursing Care of Adults 1 and Clinical for NRSG 3320	6
NRSG 3400 and NRSG 3401	Nursing and the Promotion of Mental Health and Clinical for NRSG 3400	5
NRSG 3323 and NRSG 3324	Advanced Assessment and Interventions and Lab for NRSG 3323	2
NRSG 3420 and NRSG 3421	Nursing Care of Adults 2 and Clinical for NRSG 3420	6
NRSG 4502 and NRSG 4503	Nursing Care of the Child and Clinical for NRSG 4502	6
NRSG 5220	Introduction to Research Methods and Application for Healthcare	4
NRSG 4604 and NRSG 4605	Public Health Community Nursing and Clinical for NRSG 4604	5
NRSG 4610	Managing and Leading in Healthcare	4
NRSG 4995 and NRSG 4996	Comprehensive Nursing Practicum and Clinical for NRSG 4995	5
NRSG 2150	Ethical Healthcare: Genetics and Genomics	4
Complete one of the following:		3-4
NRSG 5120	Statistics for Health Science (Met by transfer requirement)	
MATH 2280	Statistics and Software	
MTH 2310	Statistics for the Behavioral and Social Sciences	

Supporting Courses

Code	Title	Hours
Supporting Courses		
ENGW 3306	Advanced Writing in the Health Professions	4
The university requires a minimum grade of C for ENGW 3306.		
Supporting Courses Met by Transfer Prerequisites		

BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
BIOL 2221 and BIOL 2222	Foundations of Microbiology and Lab for BIOL 2221	5
Complete one of the following pairs:		5
CHEM 1101 and CHEM 1102	General Chemistry for Health Sciences and Lab for CHEM 1101	
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	
ENGW 1111	First-Year Writing	4
The university requires a minimum grade of C for ENGW 1111.		
HSCI 1105	Human Nutrition	4
Complete one of the following:		4
MATH 1215	Mathematical Thinking	
MATH 1241	Calculus 1	
MATH 1242	Calculus 2	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1252	Calculus and Differential Equations for Biology 2	
MATH 1341	Calculus 1 for Science and Engineering	
PSYC 1101	Foundations of Psychology	4
PSYC 3404	Developmental Psychology	4
SOCL 1101	Introduction to Sociology	4

Electives

Code	Title	Hours
Courses Met by Transfer Prerequisites		
Complete at least 15 credits outside the School of Nursing or NRSG courses not used to fulfill requirements above.		15

Academic Standards for Nursing Majors

Minimum passing grade standards exist for both professional courses, which are required courses taught within the major/college, and professional prerequisite courses and are outlined before the nursing requirements above.

Courses in the above-listed professional or professional prerequisite subjects that are taken as electives are exempt from the C or better rule, and the university's minimum satisfactory grade will be accepted.

For all other courses, the university's minimum passing grade for the course will be accepted.

PROGRESSION WITHIN NURSING

- To progress into the subsequent year of professional courses, students must have completed all professional prerequisites with the required minimum passing grade as noted in the program requirements.
- Students must successfully complete all courses, as stipulated by their approved curriculum plan, with a grade of C or better in order to progress into the next professional course.
- Students who either fail or withdraw from a professional course will need to successfully remediate that course before continuing in their approved curriculum plan.
- Students who incur an incomplete grade in a prerequisite course must obtain approval from their academic advisor, upon consultation with the department faculty and, when appropriate, the School of Nursing Academic Standing Committee, prior to progression into the subsequent course(s).
- Students may not change their graduation date more than twice.

Program Requirements

131 total semester hours and 2.000 GPA required

Plan of Study

Sample Plan of Study

Code	Title	Hours
SEMESTER 1		
NRSG 2220	Health Assessment and Fundamental Nursing Skills	3

NRSG 2221	Lab for NRSG 2220	1
NRSG 2350	Integrated Pathophysiology and Pharmaceutical Interventions for Nursing Practice	6
NRSG 3302	Nursing with Women and Families	3
NRSG 3303	Clinical for NRSG 3302	2
SEMESTER 2		
NRSG 2210	Influences on Health and Illness: A Nursing Perspective	3
NRSG 3320	Nursing Care of Adults 1	4
NRSG 3321	Clinical for NRSG 3320	2
NRSG 3400	Nursing and the Promotion of Mental Health	3
NRSG 3401	Clinical for NRSG 3400	2
NRSG 3323	Advanced Assessment and Interventions	1
NRSG 3324	Lab for NRSG 3323	1
ENGW 3306	Advanced Writing in the Health Professions	4
SEMESTER 3		
NRSG 3420	Nursing Care of Adults 2	4
NRSG 3421	Clinical for NRSG 3420	2
NRSG 4502	Nursing Care of the Child	4
NRSG 4503	Clinical for NRSG 4502	2
NRSG 5220	Introduction to Research Methods and Application for Healthcare	4
SEMESTER 4		
NRSG 4604	Public Health Community Nursing	3
NRSG 4605	Clinical for NRSG 4604	2
NRSG 4610	Managing and Leading in Healthcare	4
NRSG 4995	Comprehensive Nursing Practicum	3
NRSG 4996	Clinical for NRSG 4995	2
NRSG 2150	Ethical Healthcare: Genetics and Genomics	4

Wellness Studies, Minor

The wellness studies minor provides a holistic approach to the study of the human wellness experience. Offering interdisciplinary enrollment, this minor includes foundational wellness courses, as well as a range of interdisciplinary electives that embrace evidence-based science and education vis-à-vis selected domains of wellness. A cross-cultural, life span approach to individual and population wellness and well-being is offered as an experiential learning initiative.

As Northeastern University guides students in the ways of self-managing (life-long learning), an understanding of the nature and practices of wellness may inform deliberative decision-making processes that lead to the attainment of wellness-informed lifestyle choices. Over time, these choices may inform the design and crafting of a life well lived.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
NRSG 1205	Wellness	4
or NRSG 1206	Wellness Abroad	
NRSG 5000	Advanced Perspectives in Wellness	4

Electives

Code	Title	Hours
Complete two of the following:		7-8
COMM 2135	Sex and Interpersonal Communication	
COMM 2555	Games for Change	
COMM 3230	Interpersonal Communication	
ENGL 2770	Writing to Heal	
EXSC 1120	Introduction to Exercise, Fitness, and Health	
HLTH 2302	Alternative Medicine	
HLTH 5002	Mindfulness: Theory and Practice	
HSCI 1105	Human Nutrition	
HSCI 2350	Advanced Nutrition in Health and Disease	
SOCL 1246	Environment and Society	
WMNS 2800	Sexual Orientation and Gender Expression	

GPA Requirement

Minimum 2.000 GPA required in all minor courses

Credit Requirement

A minimum of 15 hours is required.

School of Pharmacy and Pharmaceutical Sciences

Website (http://www.northeastern.edu/bouve/pharmacy/)

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The School of Pharmacy and Pharmaceutical Sciences provides transformative learning and research experiences in a collaborative and diverse environment to develop leaders who positively impact the health and well-being across the life span of those we serve.#SOPPS will be the model for excellence and innovation in pharmacy and pharmaceutical sciences education that is grounded in experiential learning and enhances the health of communities through research and practice.

SOPPS offers two programs for undergraduate students: the pharmacy program, leading to the Doctor of Pharmacy degree, and the Bachelor of Science in Pharmaceutical Sciences program. These programs allow students interested in pharmacy practice or the pharmaceutical sciences to choose the pathway most suited to their professional goals. The Doctor of Pharmacy degree is the entry-level professional degree earned by pharmacists. The Bachelor of Science in Pharmaceutical Sciences degree is designed for students interested in research in the area of drug design and delivery, pharmacology, pharmaceutics, or interdisciplinary research collaborations for careers in the pharmaceutical industry. The bachelor's degree does not qualify a graduate for the pharmacist licensure exam.

Programs

Bachelor of Science (BS)

- Pharmaceutical Sciences (p. 1369)

Doctor of Pharmacy (PharmD)

- Pharmacy (p. 1361)

Minor

- Health Sciences Entrepreneurship (p. 1230)
- Pharmaceutical Sciences (p. 1236)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p. 1375)

Pharmacy, PharmD

To earn the Doctor of Pharmacy degree (PharmD), students must complete two years of preprofessional studies and four years of professional courses at Northeastern University.

Year 1: Preprofessional Studies (PP1)

Year 2: Preprofessional Studies (PP2)

Year 3: Professional Year 1 (P1)

Year 4: Professional Year 2 (P2)

Year 5: Professional Year 3 (P3)

(Student earns the Bachelor of Science in Pharmacy Studies degree and moves to the graduate level for completion of PharmD studies.)

Year 6: Professional Year 4 (P4)

The PharmD fully integrates campus-based learning with experiential learning, including the university's signature cooperative education program, to provide students with the knowledge, skills, and abilities necessary to succeed in the pharmacy profession. Our students promote and ensure the safe and effective use of drugs and provide medication therapy management services. In addition to preparing and dispensing prescribed medications, our students provide information to patients about medications and their uses; advise physicians, other prescribers, and healthcare practitioners on medication selection, dosages, interactions, and adverse effects; and monitor patient responses to drug therapy.

Our students are well equipped to provide patient care services in a variety of settings. Most of our graduates work in community pharmacies or in healthcare facilities such as hospitals and ambulatory clinics. Additional practice opportunities exist in health maintenance organizations, private practice groups, long-term-care facilities, home healthcare, the Public Health Service, the armed services, and law enforcement and regulatory agencies such as the Federal Drug Administration or Drug Enforcement Administration. Graduates may also find employment in drug development, marketing and research within the pharmaceutical industry, colleges of pharmacy, and professional association management. In addition, many of our graduates go on to pharmacy practice residencies, fellowships, and leading graduate programs.

Doctor of Pharmacy students are admitted with the expectation that by working with faculty, staff, and each other, they will develop the knowledge, skills, and attitudes necessary for academic and professional success. Students follow academic progression plans for their respective years of graduation. Any deviation from the prescribed curriculum will require faculty/staff permission and an approved plan of study from the School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee.

The curriculum includes both Introductory Pharmacy Practice Experiences (IPPEs, fulfilled by cooperative education) and Advanced Pharmacy Practice Experiences (APPEs). These pharmacy practice experiences (PPEs) are provided primarily under the direct supervision of qualified pharmacist preceptors and occasionally with other qualified healthcare professionals. The school is affiliated with many world-class practice sites throughout the United States, providing students with access to experienced clinicians and scholars. Although every effort is made to accommodate individual circumstances and requests, students should be prepared to travel outside the Boston area to complete some of their PPEs. Availability of a car may be required, as some sites are not accessible by public transportation. All expenses associated with PPEs, including travel and housing, are the responsibility of the student.

IPPEs are competitive placements that are based on job availability in a geographic region. The placements are facilitated by School of Pharmacy and Pharmaceutical Sciences cooperative education coordinators. Students are required to earn satisfactory (S) grades in one IPPE in a community setting and in one IPPE in an institutional/hospital practice setting.

APPE placements are provided based on site/preceptor availability and the final approval of the School of Pharmacy and Pharmaceutical Sciences Office of Experiential Education. Students may be able to petition the OEE for special-arrangement APPEs; however, availability for such requests is limited.

To be eligible for a Doctor of Pharmacy degree, a student must successfully complete all courses in the curriculum including the IPPEs (co-op) and APPEs; meet the academic progression standards of the program; meet the technical standards of the program; and satisfy all other requirements as stated. The pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education (https://www.acpe-accredit.org/) and adheres to the standards established by ACPE.

Pharmacy graduates must meet specific requirements to qualify for professional licensure in the state where they plan to practice as a registered pharmacist. These requirements include graduating from an accredited school of pharmacy, passing national and state board examinations, and completing internship hours. The internship is a period of practical experience conducted under the supervision of a registered pharmacist. Massachusetts requires 1,500 internship hours, all of which are satisfied through completion of IPPEs (co-op) and APPEs.

Professional and/or legal exigencies arise from time to time, which may necessitate changes in a pharmacy course, progression, and/or graduation requirements. Students should review their status with academic advisors on a timely basis and refer to current publications for updated information.

Program Progression

A minimum grade of C is required in major prerequisite courses (those identified with the subject codes BIOL, CHEM, MATH). To progress into the subsequent year of professional courses, students must have completed all professional prerequisites with the required minimum passing grade, have satisfactorily completed all academic courses in the preprofessional phase of the curriculum, have a preferred overall GPA of 3.000 or higher, and a preferred science prerequisite GPA of 3.000 or higher. The science GPA is comprised of all courses with prefixes BIOL, CHEM and MATH. In addition, to progress into the first professional year of the PharmD program (P1), students must demonstrate good verbal and written communication skills, understanding of the pharmacy profession, and commitment to patient care through an interview process based on criteria set by the School of Pharmacy and Pharmaceutical Sciences.

All students entering P1 in fall 2022 and beyond are required to complete the PharmCAS application. The PharmCAS application process is considered a formality in the progression process and will not jeopardize the student's preferred or guaranteed enrollment status.

To progress into the subsequent semester of professional courses (P1–P4), students must receive a grade of C or better in all PHMD and PHSC courses, as well as in any course completed to fulfill the professional elective requirement.

Pharmacy (PharmD-UG) students must maintain an overall GPA of 3.000 or higher during the professional years (P1–P4) of the Doctor of Pharmacy program.

Requirements for the PharmD Pharmacy PPEs

Requirements for the successful completion of the PharmD PPEs include:

1. Evidence of health clearance from University Health and Counseling Services before placements at any PPE site.
2. Satisfactory completion of any additional site-specific requirements including, but not limited to, criminal record information (CORI), urine drug screens, and verification of immunization status. All fees associated with these requirements are the responsibility of the student. Please see below for management of positive urine drug screens.
3. Adherence to the school's code of professional conduct and the university's code of conduct policies while off-campus.
4. Maintenance of an active pharmacy intern license in every state where the student completes an experience.
5. Compliance with site-specific requirements (via site descriptions) and completion of site requests within specified deadlines. Students who fail to complete these requirements as directed will likely incur grade penalties and may experience a delay of graduation or dismissal from the pharmacy program.

Management of Positive Urine Drug Screens

If the student learns the urine drug screen (test #1) is positive, the student will notify the OEE (pharmacyoee@northeastern.edu) and immediately complete a second urine screen (test #2). A professional concern form will be completed based on test #1 results and reported to the University's Office of Student Conduct and Conflict Resolution via the Incident Report form (IRF).

- If urine screen test #2 is negative (-), the student will be allowed to continue the PPEs. However, the student will be asked to complete a random urine screen (test #3) at a time determined by the OEE. If urine screen test #3 is positive (+), the student will be administratively removed from the active PPEs and graduation may be delayed. A second professional concern form and OSCCR IRF will be completed, based on test #3 results. The return to PPEs will occur once a repeat urine test is negative. That repeat negative test will be followed up by a random urine screen at a time determined by the OEE.
- If urine screen test #2 is positive (+), the student will be administratively removed from the PPEs and graduation may be delayed. The return to PPEs will occur once a repeat urine screen is negative. That negative screen will be followed up by a random urine screen at a time determined by the OEE. A second professional concern form will be completed based on a positive test #3 result.

Program Policies

Students are expected to adhere to the policies and standards of their program major, as stated, to progress through their curriculum as planned. Students seeking any exceptions to the program policies and standards specified for their program major must present a petition before the School of Pharmacy and Pharmaceutical Sciences Academic Standing Committee.

Given programmatic requirements, coupled with concerns over the loss of therapeutic knowledge, requests for a General Leave of Absence (p. 71), other than Medical or Emergency Leave of Absence:

- Must comply with all stated Northeastern general policies, regardless of the academic year.
- May be made at any time period during the P1 or P2 years.
- During the P3 academic year, any request for a general leave must be made no later than February 1 of the given academic year. Requests after this date will not be permitted.
- During the P4 academic year, requests for a general leave cannot be made at any time.

SOPPS Professional Code of Conduct

All SOPPS students (i.e., preprofessional PharmD, Pharmaceutical Sciences, BS, P1–P4 PharmD, MS, PhD) are expected to adhere to the SOPPS—Professional Code of Conduct .

Technical Standards for the Doctor of Pharmacy Program

The PharmD program at Northeastern is a rigorous and challenging academic program that requires students to possess specific characteristics and abilities within the cognitive, affective, and psychomotor domains, referred to here as technical standards. To successfully progress in and ultimately complete the didactic, laboratory, and experiential components of the PharmD program, students must meet the standards described below.

INTELLECTUAL ABILITIES

Students must have well-developed problem-solving and critical-thinking skills. Cognitive function must be appropriate to integrate, evaluate, and apply information gained through measurement, analysis, calculation, and reasoning. Students must have the capacity to learn efficiently in classroom, laboratory, small group and experiential settings, and through independent study. Students are required to demonstrate the ability to integrate course content knowledge with clinical practice applications to optimize medication therapy management.

COMMUNICATION SKILLS

Students must be able to communicate effectively with colleagues, professors, patients, families, and healthcare providers. This includes efficiently comprehending, speaking, reading, and writing in English. Students must be able to process and use appropriate nonverbal cues and be proficient in the use of electronic communication media.

BEHAVIORAL AND SOCIAL ATTRIBUTES

Students must demonstrate professionalism, maturity, integrity, honesty, compassion, and respect when relating to others. Students must have sufficient mental and emotional health to complete work and responsibilities using good judgment. Students must be able to tolerate and adapt to stressful workloads and situations and modify behavior based on constructive criticism. Students must be able to function in accordance with the legal, ethical, and professional standards of practice.

OBSERVATION AND MOTOR SKILLS

Students must have functional use of visual, auditory, and tactile senses. Students must be able to observe and perform experiments, physical assessments, patient interviews, and medication order processing. Students must be able to distinguish physical characteristics of medications by inspection. Students must have coordination of gross and fine muscular movements sufficient to perform pharmacy-related tasks including compounding and dispensing medications, administering medications, and using computers and other technology necessary for learning and professional practice.

Academic Dismissal from Major

PharmD students in the Bouvé College of Health Sciences will be dismissed from their major effective the following academic semester for any of the reasons noted below:

- Failure to earn a grade of C or better in three professional courses, regardless of remediation. Within the PharmD program, each specific professional course (with separate registration number) will be counted as a separate failure even if content is related.
- Failure to earn the minimum required grade in the same course twice.
- Failure to maintain a GPA of 3.000 after two semesters of probation.
- The expected graduation date may not change more than twice.

The PharmD program monitors and promotes the development of professional behaviors in its students to ensure appropriate professionalism in the classroom, local and global communities, and clinical settings. Breach of adherence to these standards may result in dismissal from the program.

Academic Appeals

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Refer to the Bouvé College of Health Sciences Academic Affairs Appeals Process and the Northeastern University Appeals Policies and Procedures.

Progression to the 4th Professional Year (P4) of the PharmD Program

Students enrolled in the PharmD program will be awarded a Bachelor of Science in Pharmacy Studies after successful completion of all didactic and laboratory courses in years 1-5 of the pharmacy curriculum. To earn the PharmD degree, students must complete an additional 36 semester hours of APPEs with an overall GPA of 3.000 or higher. The PharmD degree is required to pursue licensure or registration as a pharmacist; graduates with the Bachelor of Science in Pharmacy Studies degree only are not eligible for pharmacist licensure.

Program Student Learning Outcomes

Please visit Bouvé College Learning Outcomes for the specific student learning outcomes for this program.

Undergraduate Phase

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Complete all courses listed below unless otherwise indicated. Also, complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Some NUpath requirements are not explicitly satisfied by required courses. Students are responsible for satisfying these requirements with an elective.

Students who incur an incomplete grade in a prerequisite course may not progress into the subsequent courses(s). Any exceptions will be determined by protocols established by the program, after consultation with the student's academic advisor.

Code	Title	Hours
Progression Requirement: The student should maintain a preferred overall GPA of 3.000 or higher and a preferred a science prerequisite GPA of 3.000 or higher through the end of semester 5 to progress to semester 6 (professional year 1) of this program.		
YEAR 1		
PHMD 1000	College: An Introduction	1
YEAR 2		
PHSC 2301 and PHSC 2302	Human Physiology 1 and Human Anatomy Lab	4
PHSC 2303 and PHSC 2304	Human Physiology 2 and Human Physiology Lab	4
PHSC 2320	Biochemistry	4
Progression Requirement: The student must maintain an overall GPA of 3.000 throughout semesters 6 through 13 in order to progress to the graduate-level phase of this program.		
YEAR 3		
Co-op/Introductory Pharmacy Practice Experience [1]		
PHMD 5115	Integrated Science and Therapeutics 2	4
PHMD 5120	Principles of Pharmacy Practice	4
PHMD 5140	Integrated Social and Administrative Sciences 1	4
PHMD 5182	Integrated Learning Lab 2	1
PHMD 5191	Concepts in Practice 1	1
PHMD 5192	Concepts in Practice 2	1
PHSC 5110	Integrated Science and Therapeutics 1	4
PHSC 5130	Foundations of Pharmaceutical Sciences 1	4
PHSC 5181	Integrated Learning Lab 1	1
YEAR 4		
Co-op/Introductory Pharmacy Practice Experience [1]		
PHMD 5210	Integrated Science and Therapeutics 4	4
PHMD 5215	Integrated Science and Therapeutics 5	4
PHMD 5220	Integrated Science and Therapeutics 6	4
PHMD 5240	Integrated Social and Administrative Sciences 2	4
PHMD 5245	Integrated Social and Administrative Sciences 3	4
PHMD 5283	Integrated Learning Lab 3	1
PHMD 5284	Integrated Learning Lab 4	1
PHMD 5285	Integrated Learning Lab 5	1
PHMD 5293	Concepts in Practice 3	1
PHMD 5294	Concepts in Practice 4	1
PHMD 5295	Concepts in Practice 5	1
PHSC 5205	Integrated Science and Therapeutics 3	4
PHSC 5230	Foundations of Pharmaceutical Sciences 2	4
YEAR 5		
Co-op/Introductory Pharmacy Practice Experience [1]		
PHMD 5320	APPE Readiness	4
PHMD 5335	Integrated Science and Therapeutics 7	4

PHMD 5345	Integrated Social and Administrative Sciences 4	4
PHMD 5386	Integrated Learning Lab 6	1
PHMD 5396	Concepts in Practice 6	1

[1] For pharmacy students, an unsatisfactory grade (U) in a co-op will be counted as a professional course deficiency.

Electives

Code	Title	Hours
A minimum of 30 semester hours of electives is required.		30
Students must use electives to fulfill the professional elective requirement, the NUpath Interpreting Culture, Understanding Societies and Institutions, and Exploring Creative Expression and Innovation attributes (if not already fulfilled through prior coursework).		
Professional Elective		
Complete at least 2 semester hours during the professional phase of the program from the following:		
CAEP 3480	Counseling Theories and Practice	
CAEP 6203	Understanding Culture and Diversity	
HINF 5101	Introduction to Health Informatics and Health Information Systems	
HINF 5407	Business Application of Decision Support in Healthcare	
HINF 6205	Creation and Application of Medical Knowledge	
HINF 6404	Patient Engagement Informatics and Analytics	
HLTH 2100	Interprofessional Ethics for Individual and Population Health	
HLTH 2302	Alternative Medicine	
HLTH 5002	Mindfulness: Theory and Practice	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
HSCI 1105	Human Nutrition	
HSCI 2350	Advanced Nutrition in Health and Disease	
HSCI 2500	Public Health Nutrition in the Community	
NRSG 1205	Wellness	
PHMD 3600	Leadership and Advocacy in Health Professions	
PHMD 4350	Exploring Academic Careers	
PHMD 4581	Cancer Chemotherapy	
PHMD 4585	Research Methods in Health Systems	
PHMD 4700	Principles in General Medicine	
PHMD 4890	Contemporary Issues in Geriatric Pharmacy	
PHMD 4991	Research	
PHMD 4992	Directed Study	
PHMD 5575	Pharmaceutical Industry	
PHMD 5675	Ambulatory Care Pharmacy Practice in Urban Health	
PHMD 5900	Self-Care and Nonprescription Medications: A Team-Based Approach	
PHSC 4991	Research	
PHSC 4992	Directed Study	
PHSC 5100	Concepts in Pharmaceutical Science	
PHSC 5400	Principles of Drug Design	
PHSC 5500	Repurposing Drugs for Cancer Immunotherapies	
PHSC 5555	Pharmaceutical Toxicology	
PHSC 6222	The Chemistry and Biology of Drugs of Abuse	
PHSC 6224	Behavioral Pharmacology and Drug Discovery	
PHSC 6290	Biophysical Methods in Drug Discovery	
PHTH 1270	Introduction to Global Health	
PHTH 5222	Health Advocacy	
PHTH 5226	Strategic Management and Leadership in Healthcare	
PHTH 5230	Global Health	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

PHTH 5300	Project Management in Public Health
PHTH 5310	Budget Principles in Public Health
PHTH 5320	Grant Writing in Public Health
PHTH 6320	Qualitative Methods in Health and Illness
PMST 6250	Advanced Physical Pharmacy
PMST 6252	Pharmacokinetics and Drug Metabolism
PMST 6254	Advanced Drug Delivery Systems
SLPA 1101	Introduction to Communication Disorders
SLPA 1555	Communication Disorders in Movies

Supporting Courses

Code	Title	Hours
YEAR 1		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
ENGW 1111	First-Year Writing	4
The university requires a minimum grade of C for First-Year Writing (ENGW 1111). The university's minimum passing grade for the course will be accepted for all other courses.		
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
MATH 1245	Calculus with Applications	4
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	5
YEAR 2		
CHEM 2313 and CHEM 2314 and CHEM 2320	Organic Chemistry 2 and Lab for CHEM 2313 and Recitation for CHEM 2313	5
ENGW 3306	Advanced Writing in the Health Professions	4
The university requires a minimum grade of C for Advanced Writing in the Health Professions (ENGW 3306). The university's minimum passing grade for the course will be accepted for all other courses.		

Program Requirement

If the Bachelor of Science in Pharmacy Studies degree is the terminal degree (i.e., the student does not plan to continue on to the fourth professional year), an overall grade-point average of 2.000 or greater is considered acceptable. Students who earn the Bachelor of Science in Pharmacy Studies as the terminal degree are not eligible for pharmacist licensure.

A minimum grade of C is required in major prerequisite courses (those identified with the subject code: BIOL, CHEM, MATH). To progress into the subsequent year of professional courses, students must have completed all professional prerequisites with the required minimum passing grade, have satisfactorily completed all academic courses in the preprofessional phase of the curriculum, have an overall preferred GPA of 3.000 or higher, and a science prerequisite preferred GPA of 3.000 or higher. The science GPA is comprised of all courses with prefix BIOL, CHEM, MATH. In addition, to progress into the first professional year of the PharmD program (P1), students must demonstrate good verbal and written communication skills, understanding of the pharmacy profession, and commitment to patient care through an interview process based on criteria set by the School of Pharmacy and Pharmaceutical Sciences.

To progress into the subsequent semester of professional courses, students must receive a grade of C or better in all PHMD and PHSC courses, as well as in any course completed to fulfill the professional elective requirement.

All students entering P1 in fall 2022 and beyond are required to complete the PharmCAS application. The PharmCAS application process is considered a formality in the progression process and will not jeopardize the student's preferred or guaranteed enrollment status.

152 total semester hours required

Graduate Phase

Complete all courses and requirements listed below unless otherwise indicated.

Core Requirements

Code	Title	Hours
Complete 36 semester hours in the following range:		36
PHMD 6440 to PHMD 6474		

Program Credit/GPA Requirements

36 total semester hours required
Minimum 3.000 GPA required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Preprofessional studies (PP1)		Preprofessional studies (PP1)		Preprofessional studies (PP1)		Preprofessional studies (PP1)	
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Vacation/GEO		Vacation/GEO	
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CHEM 2311 and CHEM 2312 and CHEM 2319	5				
ENGW 1111	4	MATH 1245	4				
PHMD 1000	1	Elective/NUPath Elective	4				
Elective/NUPath Elective	4						
	19		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Preprofessional studies (PP2)		Preprofessional studies (PP2)		Preprofessional studies (PP2)		Preprofessional studies (PP2)	
CHEM 2313 and CHEM 2314 and CHEM 2320	5	ENGW 3306	4	Vacation/GEO		Vacation/GEO	
PHSC 2301 and PHSC 2302	4	PHSC 2303 and PHSC 2304	4				
Elective/NUPath Elective	4	PHSC 2320	4				
Elective/NUPath Elective	4	Elective/NUPath Elective	4				
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional year 1 (P1)		Professional year 1 (P1)		Professional Year 1 (P1)		PHMD 5115	4
PHSC 5110	4	Introductory Pharmacy Practice Experience (IPPE) / Co-op	0	Introductory Pharmacy Practice Experience (IPPE) / Co-op	0	PHMD 5182	1
PHMD 5120	4					PHMD 5192	1
PHMD 5140	4					Elective/NUPath Elective	2-4
PHMD 5191	1						
PHSC 5130	4						
PHSC 5181	1						
	18		**0**		**0**		**8-10**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional year 2 (P2)		Professional year 2 (P2)		Professional Year 2 (P2)		Introductory Pharmacy Practice Experience (IPPE) / Co-op	0
PHMD 5240	4	PHMD 5210	4	PHMD 5220	4		
PHMD 5283	1	PHMD 5215	4	PHMD 5285	1		
PHMD 5293	1	PHMD 5245	4	PHMD 5295	1		

PHSC 5205	4	PHMD 5284	1	Elective/NUPath Elective	2-4		
PHSC 5230	4	PHMD 5294	1				
Elective/NUPath Elective	2-4	Elective/NUPath Elective	2-4				
	16-18		**16-18**		**8-10**		**0**

Year 5

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Professional year 3 (P3)		Professional year 3 (P3)		Professional Year 4 (P4)		Professional Year 4 (P4)	
Introductory Pharmacy Practice Experience (IPPE) / Co-op	0	PHMD 5320	4	APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
		PHMD 5335	4				
		PHMD 5345	4				
		PHMD 5386	1				
		PHMD 5396	1				
		Elective/NUPath Elective	2-4				
	0		**16-18**		**6**		**6**

Year 6

Fall	Hours	Spring	Hours
Professional year 4 (P4)		Professional year 4 (P4)	
APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
APPE (choose from PHMD 6440–PHMD 6474)	6	APPE (choose from PHMD 6440–PHMD 6474)	6
	12		**12**

Total Hours: 188-198

Pharmaceutical Sciences, BS

The Bachelor of Science in Pharmaceutical Sciences is geared toward highly motivated students who are strongly focused on careers in a number of competitive areas:

- Research: biomedical/pharmaceutical research, biomedicine, and/or the pharmaceutical/biotech industries
- Healthcare: curriculum provides opportunities to meet the core requirements requested by medical, veterinary and dental schools, while providing an immersive background in research and the pharmaceutical sciences

The educational approach is an innovative paradigm that immerses students into undergraduate research at the earliest possible time and promotes graduate-style mentorship and experiential learning in the context of an intensive curriculum with specialized educational opportunities. Pharmaceutical sciences are by nature highly interdisciplinary: pharmacology; physiology; structural biology; medicinal chemistry; pharmaceutics and the allied fields of toxicology, chemical biology, and nanomedicine; and a spectrum of emerging health science disciplines that span classical life sciences, engineering, and biotechnology. All students take courses in basic chemistry, basic biology, organic chemistry, physiology, pharmacology, medicinal chemistry, and pharmaceutical sciences. Students can then further specialize their program of study with elective courses in interest areas aligned with their developing career trajectories.

Graduates of the Bachelor of Science in Pharmaceutical Sciences program will have a solid foundation in the science of drug discovery, delivery, evaluation, and development, as well as specialized training at the undergraduate level in research labs.

The program prepares students to pursue graduate studies, enroll in professional programs such as medical, veterinary or dental school, or enter the biopharmaceutical industry. The BS degree requires a minimum of four years of study and at least one co-op experience. Graduates are positioned to pursue MS and PhD programs in the biomedical sciences, medical schools, and other health professional degree programs.

Bachelor of Science in Pharmaceutical Sciences—Progression Standards

The Bachelor of Science in Pharmaceutical Sciences requires students to satisfy a set of academic standards that include maintaining an overall GPA of 3.000 or better. A grade of C is the minimal passing grade for any of the required courses in the major.

Bachelor of Science Students in this program are expected to maintain a cumulative GPA of 3.000 each semester to remain in good academic standing and to progress towards graduation. If a student's cumulative GPA falls below the required 3.000, a student may be on probation for only two semesters, or until the course is offered again, unless the advisor approves an action plan that specifies a longer (but definite) period. A student may only be placed on probation twice during enrollment in the program and must correct all deficiencies, as specified, in each respective action plan during the applicable probationary period. Failure to remediate the deficiency within the agreed time may result in dismissal from the program.

The program also requires students to seek out and establish, with program support, research opportunities with a faculty-level mentor. It is advised that students get involved in laboratory research during their first year in the program. Each student must secure a laboratory research opportunity by the fall semester of the second year and complete a course to develop lab based research skills.

Securing a Laboratory Research Experience

The Bachelor of Science in Pharmaceutical Sciences requires students to earn a minimum of 12 credits for laboratory research through participation in Lab Research Rotation (PHSC 2100) and the writing and completion of an undergraduate thesis, comprised of Senior Thesis (PHSC 4997) and Senior Thesis Continuation (PHSC 4998). Each student must take the initiative to seek out opportunities for undergraduate laboratory research either on campus, off campus at a neighboring university, or in an industry setting accessible to the student, under the direction of a faculty-level mentor. Students are assisted with securing laboratory research experiences through participation in Introduction to Health Science Research (PHSC 2650) and, as needed, through work with a faculty advisor within the Bachelor of Science Pharmaceutical Sciences program. A variety of university resources are also available to assist students in finding opportunities, including the Bouvé College Office of Research, the Northeastern University Office of Undergraduate Research and Fellowships, the Northeastern University Integrated Initiative for Global Health, and various other departmental and college resources across Northeastern University.

Change of Major

Students are eligible to transfer into the program at any point prior to the third year of the program. Students must have an overall GPA of 3.000 or better.

Academic Appeals

Students who believe that they were erroneously, capriciously, or otherwise unfairly treated in an academic or cooperative education decision may petition to appeal the decision. Refer to the Bouvé College of Health Sciences Academic Affairs Appeals Process and the Northeastern University Appeals Policies and Procedures.

Program Learning Outcomes

Please visit Bouvé College Program Learning Outcomes (https://bouve.northeastern.edu/bchs/about/learning-outcomes/) for the specific student learning outcomes for this program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Pharmaceutical Sciences Major Requirements

Code	Title	Hours
SEMESTER 1		
PHMD 1000	College: An Introduction	1
PHSC 1001	Introduction to Contemporary Pharmaceutical Sciences	1
SEMESTER 2		
PHSC 2650	Introduction to Health Science Research	4
SEMESTER 3		
PHSC 2320	Biochemistry	4
PHSC 2100	Lab Research Rotation	4
SEMESTER 4		
PHSC 2000	Professional Development for Pharmaceutical Sciences Co-op	1
SEMESTER 5		
PHSC 2301 and PHSC 2302	Human Physiology 1 and Human Anatomy Lab	4
PHSC 2400	Research Ethics for Beginning Health Scientists	4
SEMESTER 6		
PHSC 2330	Immunology	3
PHSC 3411	Pharmaceutics 1	4
PHSC 3419	Pharmaceutics Laboratory	1
PHSC 3801	Principles of Pharmacology and Medicinal Chemistry 1	4
PHSC 4995	Practicum	4
SEMESTER 7		
Elective		4
Elective		4
SEMESTER 8		
Elective		4
Elective		4
SEMESTER 9		
PHSC 3802	Principles of Pharmacology and Medicinal Chemistry 2	4
PHSC 4997	Senior Thesis	4
SEMESTER 10		
PHSC 3430	Pharmacokinetics and Biopharmaceutics	3
PHSC 4998	Senior Thesis Continuation	4

Supporting Courses

Code	Title	Hours
SEMESTER 1		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
SEMESTER 2		
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5

CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1245	Calculus with Applications	4
SEMESTER 3		
CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
SEMESTER 4		
CHEM 2313 and CHEM 2314 and CHEM 2320	Organic Chemistry 2 and Lab for CHEM 2313 and Recitation for CHEM 2313	5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	5
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4

Writing Requirement

Code	Title	Hours
SEMESTER 1		
ENGW 1111	First-Year Writing	4
SEMESTER 9		
ENGW 3306	Advanced Writing in the Health Professions	4

Program Requirements

Some NUpath requirements are not explicitly satisfied by required courses. Students are responsible for satisfying these requirements with electives.

PreMed students have the opportunity to complete all necessary coursework via required and elective courses in the BS in Pharmaceutical Sciences program. Please refer to Northeastern University's PreMed and PreHealth Advising Program's Academic Preparation guidance (https://undergraduate.northeastern.edu/prehealth/academics/coursework/).

Minimum of 145 semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation or volunteer research experience		Vacation or volunteer research experience	
BIOL 1112	1	BIOL 1114	1				
ENGW 1111	4	CHEM 1161	4				
PHMD 1000	1	CHEM 1162	1				
PHSC 1001	1	CHEM 1163	0				
Elective[1]	4	MATH 1245	4				
Elective[1]	4	PHSC 2650	4				
	19		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311	4	CHEM 2313	4	PHSC 2301	3	CO-OP	
CHEM 2312	1	CHEM 2314	1	PHSC 2302	1		
CHEM 2319	0	CHEM 2320	0	PHSC 2400	4		
PHYS 1145	4	PHYS 1147	4				
PHYS 1146	1	PHYS 1148	1				
PHSC 2320	4	PHTH 2210	4				
PHSC 2100	4	PHTH 2211	0				
		PHSC 2000	1				

		Elective	4				
	18		**19**		**8**		**0**
Year 3							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
CO-OP		PHSC 2330	3	Elective	4	Elective	4
		PHSC 3801	4	Elective	4	Elective	4
		PHSC 3411	4				
		PHSC 3419	1				
		PHSC 4995	4				
	0		**16**		**8**		**8**
Year 4							
Fall	**Hours**	**Spring**	**Hours**				
PHSC 4997	4	PHSC 3430	3				
PHSC 3802	4	PHSC 4998	4				
ENGW 3306	4	Elective	4				
Elective	4	Elective	4				
	16		**15**				

Total Hours: 145

[1] *Students following* PreMed or PreHealth course plans *(*https://undergraduate.northeastern.edu/prehealth/academics/coursework/*)should use electives within this program to complete PreMed or PreHealth courses that are not listed above.*

Health Sciences Entrepreneurship, Minor

The health sciences entrepreneurship minor is for undergraduate students from any major, in any college at the university, who have an interest in developing skills in the creation and management of health sciences companies. The minor builds on currently offered courses within and outside of Bouvé College of Health Sciences. This minor allows students to apply the entrepreneurial mindset to develop marketable and applicable skills conversant in the unique regulatory, reimbursement, and promotion of products and services in the health sciences. Providing opportunities to develop these skills will benefit students pursuing positions within healthcare organizations and medical technology businesses, as well as students wishing to be entrepreneurs or innovators in the companies that employ them.

Minor Requirements

The minor consists of three required courses and one elective course. Up to *two courses* from other major and minor requirements may apply to this minor.

Required Courses

Code	Title	Hours
PHMD 2100	Entrepreneurship in Health Sciences	4
PHMD 2350	Healthcare Systems	3-4
or PHTH 1260	The American Healthcare System	
or PHTH 1261	Comparative Healthcare Systems	
PHMD 2550	Innovation, Entrepreneurship, and Drug and Medical Device Development	4

Elective Courses

Code	Title	Hours
Complete one of the following:		3-4
ENTR 2303	Marketing Strategies for Startups	
ENTR 3305	Business Model Design and Innovation	
ENTR 3330	Design Thinking for Startups	
ENTR 4505	Entrepreneurial Venture Growth Strategies	
INNO 2206	Global Social Enterprise	
INNO 2301	Innovation!	
INNO 2304	Industry Disruption and Corporate Transformation	
MKTG 2201	Introduction to Marketing	
PHTH 2350	Community and Public Health	
PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
PHTH 5234	Economic Perspectives on Health Policy	

GPA Requirement

Students are required to have an overall grade-point average of 2.000 or higher.

Credit Requirement

15 semester hours required

Pharmaceutical Sciences, Minor

The minor in pharmaceutical sciences is open to all majors at the university with the exception of Bouvé PharmD and BS Pharmaceutical Sciences students. The minor is designed for undergraduate students from a variety of disciplines who wish to explore key aspects of the pharmaceutical sciences, including pharmacology, medicinal chemistry, and pharmaceutics. It is comprised of three required courses and one elective for a minimum of 15 hours. Students who believe that additional exposure to these topics will integrate effectively with their major (particularly students in biology and chemistry majors, as well as those in chemical and bioengineering programs and health sciences) are encouraged to pursue this minor.

Minor Requirements

Successful completion of the minor requires that all coursework be completed with a minimum grade of D and courses may not be taken as pass/fail. The minor consists of three required courses and one elective course. Up to *two courses* from other major and minor requirements may apply to this minor.

Required Courses

Code	Title	Hours
PHSC 3411	Pharmaceutics 1	4
PHSC 3801	Principles of Pharmacology and Medicinal Chemistry 1	4
PHSC 3802	Principles of Pharmacology and Medicinal Chemistry 2	4

Elective Courses

Code	Title	Hours
Complete one of the following:		3-4
PHSC 2301 and PHSC 2302	Human Physiology 1 and Human Anatomy Lab	
PHSC 2303 and PHSC 2304	Human Physiology 2 and Human Physiology Lab	
PHSC 2330	Immunology	
PHSC 3412	Pharmaceutics 2	
PHSC 3430	Pharmacokinetics and Biopharmaceutics	
PHSC 5400	Principles of Drug Design	
CHEM 5676	Bioorganic Chemistry	

GPA Requirement

Minimum 2.000 GPA required in the minor

Credit Requirement

15 hours required

Accelerated Bachelor/Graduate Degree Programs

Bouvé College of Health Science offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

College of Science

Website (http://www.northeastern.edu/cos/)

Hazel Sive, PhD, Dean
Brent D. Nelson, PhD, Senior Associate Dean, Undergraduate Affairs

Rachelle Reisberg, Assistant Dean, Undergraduate Curriculum and Students

Dean's Office
617.373.5085
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The College of Science offers instructional programs that are at the forefront of discovery, invention, and innovation in the physical sciences, life sciences, linguistics, and mathematics. Our programs are designed to give students a deep understanding and hands-on experience in traditional and emerging interdisciplinary fields such as chemical biology, cognition and neuroscience, marine science, biochemistry, nanoscience, and network science.

The college places a strong emphasis on the experiential learning model and seeks to provide students with a wide array of opportunities to explore innovative, interdisciplinary collaborations through cooperative educational work assignments, service-learning, undergraduate research, internships, study-abroad programs, and active participation in our award-winning student chapters of professional associations. The college seeks to provide students with the best possible foundation for achieving their goals, whether they seek to attend graduate school, professional school, or immediately pursue a career upon graduation.

The college offers Bachelor of Arts, Bachelor of Science, and Bachelor of Science/Master of Science (PlusOne programs) degrees in a number of majors and emphasizes the value of a solid general education through NUpath. Students may choose a four- or five-year experiential learning plan in most programs. Either plan offers co-op opportunities, often in an area related to the student's chosen academic area.

PlusOne Programs

Many programs and departments offer academically strong students the option of obtaining their BS and MS degree in five years.

College Requirements

All students in the College of Science must successfully complete the university requirements of NUpath (p. 111). In addition, students pursuing a Bachelor of Arts degree must fulfill the BA requirements (p. 119).

Academic Advising

The College of Science has an academic advising system that consists of professional advisors and faculty advisors located in the college's department and program offices. Detailed advising information is available on the college website (http://www.northeastern.edu/cos/). PreMed and PreHealth Advising (p. 121), as well as Pre-Law (p. 120) (http://www.northeastern.edu/prelaw/)Advising (p. 120), are also available.

Graduation Clearance Process

Students in the College of Science are required to meet with an academic advisor in the College of Science to determine their remaining graduation requirements. This should be completed in the junior year to ensure ample time to complete any outstanding requirements.

Academic Progression Standards

In addition to meeting university progression standards, it is expected that full-time science students enroll in four (3- or 4-credit) courses with appropriate labs and recitations and successfully complete at least 12 semester hours each academic semester with an acceptable grade-point average as noted below. Any exceptions to the course load requirement must be approved in writing by the student's academic advisor prior to the start of each semester. Pass/fail courses are restricted to electives outside of the major, minor, and NUpath requirements.

Graduation Requirements

A minimum cumulative GPA requirement of 2.000 in major courses and a minimum cumulative GPA requirement of 2.000 overall are required for graduation. *Note:* The university requires a minimum grade of C for First-Year Writing and Advanced Writing requirements.

Criteria for Academic Probation

Full-time students in the College of Science will be placed on academic probation effective for the following academic semester for any of the reasons noted below. A notation of the academic probation action will appear on the internal record but not on the permanent transcript.

FIRST-YEAR STUDENTS:

- Not maintaining a semester GPA of at least a 1.800 at the end of each full-term semester (fall, spring) of the first-year curriculum
- Not earning at least 12 semester hours at the end of each fall and spring semester of the first-year curriculum

UPPERCLASS AND TRANSFER STUDENTS:

- Not earning at least 12 semester hours in the academic full-term semester (fall, spring) just completed
- Not maintaining an overall cumulative GPA of at least 2.000 at the end of each full-term academic semester (fall, spring)

Academic Dismissal from Major

Students can be dismissed from their major for not maintaining a GPA of at least a 2.000 in the major at the end of the second academic full-term semester of the curriculum and at the end of each full-term academic semester (fall, spring) thereafter. Students may also be dismissed from the major for accumulating three total outstanding course deficiencies (grades of F, I, W, NE, U, or missing grades) without successfully completing the course(s) in a later semester. Students may be dismissed by failure to follow a program of study approved by the student's academic advisor. Students dismissed from their major, but otherwise eligible to remain an active student within the university, are allowed to continue within the College of Science as a transitional student for up to two semesters. If the student does not find a new major after two transitional semesters, they may be dismissed from the college.

Academic Dismissal from University

Students who remain on probation after two full-term academic semesters may be dismissed from the university. This action may appear on the transcript at the end of the second probationary semester. In addition, students who have below a 1.000 GPA or fewer than 4 earned semester hours in any semester or cumulatively may be dismissed at the discretion of their college. Students may appeal this decision to the Academic Standing Committee. International students must consult with an advisor in the Office of Global Services (http://www.northeastern.edu/ogs/) to discuss the impact of an academic dismissal as it relates to nonimmigrant visa status.

Biology

Website (https://cos.northeastern.edu/biology/)

Jonathan Tilly, PhD
Chair and University Distinguished Professor

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617.373.2260
Advising website (http://www.tinyurl.com/bioadv/)

The Department of Biology offers two majors, the BS in Biology and the BS in Cell and Molecular Biology. Both majors lay the groundwork for strong scientific training with basic coursework in mathematics, chemistry, and physics, relevant to biology. In the biology major, students explore the organization and processes of life, from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. The BS degree in cell and molecular biology offers a more focused program of study emphasizing processes operating at the cellular and molecular levels of biological systems. In both majors, students can select advanced electives to specialize in a subdiscipline of biology such as developmental biology, stem cell biology, microbiology, or physiology.

Our programs provide a wide range of relevant co-op opportunities in the renowned Boston-area biotechnology industry, hospitals, and research institutions, as well as across the country and at international sites.

There are a number of interdisciplinary opportunities involving biology. These include programs in behavioral neuroscience and in biochemistry, as well as combined majors between biology and computer science, data science, mathematics, or political science. Due to curricular overlap, combinations of any two of these programs or of any one of these programs with ecology and evolutionary biology, marine biology, or bioengineering are not offered.

Several accelerated bachelor/graduate degree programs are available: BS in Biology/MS in Bioinformatics, BS in Biology/MS in Biotechnology, BS in Computer Science and Biology/MS in Bioinformatics, BS in Data Science and Biology/MS in Bioinformatics, BS in Cell and Molecular Biology/MS in Bioinformatics, BS in Cell and Molecular Biology/MS in Biotechnology, and BS in Biology/PhD in Biology.

Our degree programs are designed to prepare students to enter the job market directly or to go on to graduate, medical, veterinary, dental, law, or business school. Our graduates are qualified for a wide array of career paths in industrial and clinical research in any of the life sciences, in teaching at all levels, in state or federal government agencies, and in medicine and other healthcare-related professions. Premedical, predental, and other preprofessional students are urged to consult with the prehealth advising program early in their careers at Northeastern University.

Programs

Bachelor of Science (BS)

- Biology (p. 1379)
- Cell and Molecular Biology (p. 1386)
- Biology and Mathematics (p. 1397)
- Biology and Political Science (p. 1401)
- Computer Science and Biology (p. 755)
- Data Science and Biology (p. 875)

Minors

- Biology (p. 1418)
- Cell and Molecular Biology (p. 1416)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Biology, BS

The BS Biology curriculum lays the groundwork for strong scientific training with basic course work in mathematics, chemistry, and physics, relevant to biology. Students explore the organization and processes of life across broad areas of the field, from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. Students can select advanced electives to specialize in a subdiscipline of biology such as developmental biology, stem cell biology, microbiology, or physiology.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Major Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or INSC 1000	Science at Northeastern	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
Required Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5

Biology Capstone

Code	Title	Hours
Please complete one of the following options to fulfill the capstone requirement:		1-4
BIOL 4701	Biology Capstone	
BIOL 4971	Junior/Senior Honors Project 2	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994)	

Biology Major Electives

Code	Title	Hours
Organismal and Evolutionary Biology		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	

EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	
Intermediate and Advanced Biology		
Complete three additional 4– or 5-semester-hour courses from the following:		12-15
BIOL 2321 to BIOL 3999		
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 4707	Cell and Molecular Biology	
BIOL 5000 to BIOL 5999		
EEMB 2290 to EEMB 5515		
EEMB 5520 to EEMB 5535		
EEMB 5548 to EEMB 5569		
One of the three intermediate/advanced electives can be a research course:		
BIOL 4970	Junior/Senior Honors Project 1	
BIOL 4971	Junior/Senior Honors Project 2	
BIOL 4991	Research	
BIOL 4994	Internship	

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physics		
Physics 1		
Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
Physics 2		
Complete one of the following lecture/lab pairs. PHYS 1147/PHYS 1148 is recommended:		5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	

PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
Intermediate or Advanced Science		
Complete one course from the following:		4
BIOL 2301 to BIOL 5999		
CHEM 2311 to CHEM 5999		
EEMB 2290 to EEMB 5999		
ENVR 2310 to ENVR 5999		
MATH 2280 to MATH 5999		
PHYS 2303 to PHYS 5999		
PSYC 2290 to PSYC 5999		

Biology Major Credit/GPA Requirement

Complete 78 semester hours in the major with a cumulative GPA of 2.000.

Due to overlap in course content, double majoring in biology and cell and molecular biology, biology and biochemistry, biology and behavioral neuroscience, or biology and marine biology is not permitted.

Program Requirement

136 total semester hours required

Plan of Study

Please note that these are sample plans of study. While the requirements are the same for all students, individual schedules may vary.

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107	4	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1108	1	CHEM 2311	4	BIOL 2302	1		
CHEM 1161	4	CHEM 2312	1	Elective	4		
CHEM 1162	1	ENGW 1111	4				
INSC 1000	1	Elective	4				
MATH 1341	4						
Elective	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2313	4	BIOL 2309	4	BIOL 3611	4	Co-op	
CHEM 2314	1	EESC 2000	1	BIOL 3612	1		
ENVR 2500	4	PHYS 1145	4	Elective	4		
ENVR 2501	1	PHYS 1146	1				
Elective	4	Elective	4				
Elective	4	Elective	4				
	18		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHYS 1147	4	Intermediate/Advanced Biology Elective	4	Co-op	
ENGW 3307	4	PHYS 1148	1	(Intermediate/Advanced Biology Elective Lab)	1		
		Organismal/Population Bio Elective	4	Elective	4		
		(Organismal/Population Bio Elective Lab)	1				
		Intermediate/Advanced Biology Elective	4				

		(Intermediate/Advanced Biology Elective Lab)	1				
		Elective	4				
	4		**19**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOL 4701	4
		Intermediate/Advanced Biology Elective	4
		(Intermediate/Advanced Biology Elective Lab)	1
		Intermediate/Advanced Science Elective	4
		(Intermediate/Advanced Science Elective Lab)	1
		Elective	4
	0		**18**

Total Hours: 140

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AP Credit for Biology	5	BIOL 2301	4	BIOL 2309	4	Vacation	
BIOL 1000	1	BIOL 2302	1	Elective	4		
BIOL 2299	4	CHEM 2311	4				
CHEM 1161	4	CHEM 2312	1				
CHEM 1162	1	ENGW 1111	4				
MATH 1251	4	Elective	4				
Elective	4						
	23		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2313	4	Co-op		Co-op		PHYS 1147	4
CHEM 2314	1			Elective	4	PHYS 1148	1
EESC 2000	1					Elective	4
ENVR 2500	4						
ENVR 2501	1						
PHYS 1145	4						
PHYS 1146	1						
	16		**0**		**4**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3611	4	Co-op		Co-op		Intermediate/Advanced Science Elective	4
BIOL 3612	1					(Intermediate/Advanced Science Elective Lab)	1
ENGW 3307	4					Elective	4
Intermediate/Advanced Biology Elective	4						
(Intermediate/Advanced Biology Elective Lab)	1						
Elective	4						
	18		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
Intermediate/Advanced Biology Elective	4	BIOL 4701	4
(Intermediate/Advanced Biology Elective Lab)	1	Intermediate/Advanced Biology Elective	4
Organismal/Population Bio Elective	4	(Intermediate/Advanced Biology Elective Lab)	1
(Organismal/Population Bio Elective Lab)	1	Elective	4
Elective	4	Elective	4
Elective	4		
	18		**17**

Total Hours: 140

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	0
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	Elective	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	Elective	4				
MATH 1251	4						
Elective	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2313	4	BIOL 2309	4	Intermediate/Advanced Biology Elective	4	Co-op	0
CHEM 2314	1	EESC 2000	1	(Intermediate/Advanced Biology Elective Lab)	1		
ENVR 2500	4	PHYS 1145	4	Elective	4		
ENVR 2501	1	PHYS 1146	1				
Elective	4	Elective	4				
Elective	4	Elective	4				
	18		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	BIOL 3611	4	Vacation		Co-op	0
		BIOL 3612	1				
		ENGW 3307	4				
		PHYS 1147	4				
		PHYS 1148	1				
		Elective	4				
	0		**18**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Intermediate/Advanced Biology Elective	4	Vacation		Co-op	0
		(Intermediate/Advanced Biology Elective Lab)	1				
		Organismal/Population Bio Elective					

		(Organismal/Population Bio Elective Lab)	1				
		Elective	4				
		Elective	4				
	0		**14**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	BIOL 4701	4
		Intermediate/Advanced Biology Elective	4
		(Intermediate/Advanced Biology Elective Lab)	1
		Intermediate/Advanced Science Elective	4
		(Intermediate/Advanced Science Elective Lab)	1
		Elective	4
	0		**18**

Total Hours: 140

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AP Credit for Biology	5	BIOL 2301	4	BIOL 2309	4	Vacation	
BIOL 1000	1	BIOL 2302	1	Elective	4		
BIOL 2299	4	CHEM 2311	4				
CHEM 1161	4	CHEM 2312	1				
CHEM 1162	1	ENGW 1111	4				
MATH 1251	4	Elective	4				
Elective	4						
	23		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2313	4	Co-op		Co-op		PHYS 1147	4
CHEM 2314	1					PHYS 1148	1
EESC 2000	1					Elective	4
ENVR 2500	4						
ENVR 2501	1						
PHYS 1145	4						
PHYS 1146	1						
	16		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3611	4	Co-op		Co-op		Vacation	
BIOL 3612	1						
ENGW 3307	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Intermediate/Advanced Biology Elective	4	Co-op		Co-op		Vacation	

(Intermediate/Advanced Biology Elective Lab)	1				
Organismal/Population Bio Elective	4				
(Organismal/Population Bio Elective Lab)	1				
Elective	4				
Elective	4				
	18		**0**	**0**	**0**

Year 5

Fall	Hours	Spring	Hours
Intermediate/Advanced Biology Elective	4	BIOL 4701	4
(Intermediate/Advanced Biology Elective Lab)	1	Intermediate/Advanced Biology Elective	4
Intermediate/Advanced Science Elective	4	(Intermediate/Advanced Biology Elective Lab)	1
(Intermediate/Advanced Science Elective Lab)	1	Elective	4
Elective	4		
Elective	4		
	18		**13**

Total Hours: 140

Cell and Molecular Biology, BS

The BS Cell and Molecular Biology curriculum lays the groundwork for strong scientific training with basic course work in mathematics, chemistry, and physics, relevant to biology. Students pursue a focused program of study emphasizing processes operating at the cellular and molecular levels of biological systems, including specialty courses in molecular cell biology and advanced genomics. Students choose from a range of advanced electives that delve deeply into molecular aspects of biology.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cell and Molecular Biology Major Requirements

Code	Title	Hours
Introduction to College		
Introduction to Experiential Learning		
BIOL 1000	Biology at Northeastern	1
or INSC 1000	Science at Northeastern	
EESC 2000	Professional Development for Co-op	1
Required Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Molecular Biology		
BIOL 4707	Cell and Molecular Biology	4
BIOL 5591	Advanced Genomics	4
Intermediate/Advanced Cell and Molecular Biology Electives		
Complete two of the following:		8-9
BIOL 2329	Bioethics	
BIOL 3411	Current Topics in Cell and Molecular Biology	
BIOL 3421 and BIOL 3422	Microbiology and Lab for BIOL 3421	
BIOL 3601	Neural Systems and Behavior	
BIOL 3603	Mammalian Systems Physiology	
BIOL 3605	Developmental Neurobiology	
BIOL 5541	Endocrinology	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	

BIOL 5581	Biological Imaging
BIOL 5583	Immunology
BIOL 5585	Evolution
BIOL 5587	Comparative Neurobiology
BIOL 5593	Cell and Molecular Biology of Aging
BIOL 5597	Immunotherapies of Cancer and Infectious Disease
EEMB 3001	Genetics and Evolution in Action
Research	
One of the two Intermediate/Advanced Electives can be a research course:	
BIOL 4970	Junior/Senior Honors Project 1
BIOL 4971	Junior/Senior Honors Project 2
BIOL 4991	Research
BIOL 4994	Internship

Biology Capstone

Code	Title	Hours
Please complete one of the following options to fulfill the capstone requirement:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994, which may be used toward Intermediate/Advanced Cell and Molecular Biology Electives)	
BIOL 4971	Junior/Senior Honors Project 2	

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physics		
Physics 1		
Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
Physics 2		
Complete one of the following lecture/lab pairs. PHYS 1147/PHYS 1148 is recommended:		5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	

PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
Intermediate or Advanced Science		
Complete one course from the following:		4-5
BIOL 2301 to BIOL 5999		
CHEM 2311 to CHEM 5999		
EEMB 2290 to EEMB 5999		
ENVR 2310 to ENVR 5999		
MATH 2280 to MATH 5999		
PHYS 2303 to PHYS 5999		
PSYC 2290 to PSYC 5999		

Cell and Molecular Biology Major Credit/GPA Requirement

Complete 79 semester hours in the major with a cumulative GPA of 2.000.

Due to overlap in course content, double majoring in cell and molecular biology and biology, biochemistry, marine biology or behavioral neuroscience is not permitted.

Program Requirement

136 total semester hours required

Plan of Study

Please note that these are sample plans of study. While the requirements are the same for all students, individual schedules may vary.

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107	4	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1108	1	CHEM 2311	4	BIOL 2302	1		
CHEM 1161	4	CHEM 2312	1	Elective	4		
CHEM 1162	1	ENGW 1111	4				
INSC 1000	1	Elective	4				
MATH 1341	4						
Elective	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2313	4	BIOL 2309	4	BIOL 3611	4	Co-op	
CHEM 2314	1	EESC 2000	1	BIOL 3612	1		
ENVR 2500	4	PHYS 1145	4	Elective	4		
ENVR 2501	1	PHYS 1146	1				
Intermediate/advanced CMB elective	4	Elective	4				
(Intermediate/advanced CMB elective lab)	1	Elective	4				
Elective	4						
	19		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3307	4	BIOL 4707	4	Co-op	
Elective	4	PHYS 1147	4	Elective	4		
		PHYS 1148	1				
		Elective	4				
		Intermediate/advanced CMB elective	4				

		(Intermediate/advanced CMB elective lab)	1				
	4		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours				
Co-op		BIOL 5591	4				
		Capstone Option	4-5				
		Intermediate/advanced science elective	4				
		(Intermediate/advanced science elective lab)	1				
		Elective	4				
	0		**17-18**				

Total Hours: 138-139

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107	4	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1108	1	CHEM 2311	4	BIOL 2302	1		
CHEM 1161	4	CHEM 2312	1	Elective	4		
CHEM 1162	1	ENGW 1111	4				
INSC 1000	1	Elective	4				
MATH 1251	4						
Elective	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2313	4	BIOL 2309	4	BIOL 3611	4	Co-op	
CHEM 2314	1	EESC 2000	1	BIOL 3612	1		
ENVR 2500	4	PHYS 1145	4				
ENVR 2501	1	PHYS 1146	1				
Elective	4	Elective	4				
Elective	4	Elective	4				
	18		**18**		**5**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOL 4707	4	Vacation		Co-op	
		ENGW 3307	4				
		PHYS 1147	4				
		PHYS 1148	1				
		Elective	4				
	0		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Intermediate/advanced CMB elective	4	Vacation		Co-op	
		(Intermediate/advanced CMB elective lab)	1				
		Intermediate/advanced science elective	4				
		Intermediate/advanced science elective lab)	1				

		Elective	4		
		Elective	4		
	0		**18**	**0**	**0**

Year 5

Fall	**Hours**	**Spring**	**Hours**
Co-op		BIOL 5591	4
		Capstone Option	4-5
		Intermediate/advanced CMB elective	4
		(Intermediate/advanced CMB elective lab)	1
		Elective	4
	0		**17-18**

Total Hours: 138-139

Biology and English, BS

In the combined biology and English degree , science courses lay the groundwork for strong basic training in mathematics, chemistry, and physics that are relevant to biology. In biology courses, students broadly explore the organization and processes of life—from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. In English courses, students study the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures; analyze writing practices and related media; and practice a variety of approaches to the study of language, rhetoric, writing, and literature. The fields of biology and English are bridged with course work in different forms of science writing , as well as psychology and sociology courses exploring the acquisition of language and reading; the sociology of health and illness; and the environment, technology, and society.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or ENGL 1000	English at Northeastern	
or INSC 1000	Science at Northeastern	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
Required Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5

Biology Elective

Code	Title	Hours
Intermediate/Advanced Biology		
Complete one of the following:		4-5
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
Organismal and Evolutionary Biology		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	

EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 2400	Introduction to Evolution
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700
EEMB 3460	Conservation Biology
EEMB 3466	Disease Ecology
EEMB 3600	Animal Behavior

Supporting Courses for Biology

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physics		
Physics 1		
Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
Physics 2		
Complete one of the following lecture/lab pairs. PHYS 1147/PHYS 1148 is recommended:		5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	

LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Integrative Courses

Code	Title	Hours
Integrative English Course		
Complete one of the following:		4
ENGL 2620	What Is Nature?	
ENGL 2650	Science Writing: Origins, Ethics, and Emerging Genres	
ENGL 2770	Writing to Heal	
ENGL 3340	Technologies of Text	
Integrative General Biological Sciences Course		
Complete the following:		4
PSYC 3464	Psychology of Language	

Capstone Requirement

Complete one of the following capstone options:

Code	Title	Hours
Biology Capstone		
Complete one of the options to fulfill the capstone requirement in biology:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994, which may be used toward Intermediate/Advanced Biology)	
BIOL 4971	Junior/Senior Honors Project 2	
English Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	

Biology and English Combined Major GPA Requirement

Minimum 2.000 GPA required in all BIOL courses
Minimum 2.000 GPA required in all ENGL courses

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or ENGL 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302			
BIOL 1108		CHEM 2312		English Writing Elective	4		
CHEM 1161	4	ENGL 1160 or 1410	4				
CHEM 1162		ENGL 1400	4				
CHEM 1163							
ENGW 1111	4						
MATH 1341	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	BIOL 3611	4	Intermediate/Advanced BIOL Elective with Lab	5	Co-op	
CHEM 2313	4	BIOL 3612		General Elective	4		
CHEM 2314		PHYS 1145	4				
EESC 2000	1	PHYS 1146					
ENGL 1700 or 1701	4	Literary Period 1	4				
English Diversity Elective	4	Organismal and Evolutionary Biology Elective	4				
	17		**16**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHYS 1147	4	ENGW 3307	4	Co-op	
English Comparative Course	4	PHYS 1148	1	English Theories and Methods Elective	4		
		Integrative Biology Course	4				
		Literary Period 2	4				
		English Elective	4				
	4		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR 2500	4

	ENVR 2501	1
	ENVR 2502	0
	BIOL or ENGL Capstone	4
	Integrative English Course	4
	English Elective	4
0		**17**

Total Hours: 129

Biology and Mathematics, BS

In the BS combined biology and mathematics degree program, science courses lay the groundwork for strong basic training in mathematics, chemistry, and physics that are relevant to biology. In biology courses, students broadly explore the organization and processes of life—from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. In mathematics courses, students pursue mathematical reasoning, differential equations, and linear algebra, as well as statistics and probability. The fields of biology and mathematics are integrated in a range of course offerings including bioinformatics, applied statistics, advanced genomics, and biological imaging.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or MATH 1000	Mathematics at Northeastern	
Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Intermediate/Advanced Biology		
Complete one of the following:		4-5
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
Organismal and Evolutionary Biology Elective		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	

BIOL 3413	Current Topics in Organismal and Population Biology
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 2400	Introduction to Evolution
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700
EEMB 3460	Conservation Biology
EEMB 3466	Disease Ecology
EEMB 3600	Animal Behavior

Mathematics Requirements

Code	Title	Hours
Calculus 1		
MATH 1341	Calculus 1 for Science and Engineering	4
Calculus 2 and Calculus 3		
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Physics		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	5
Required Mathematics Courses		
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Mathematics Electives		
Complete three of the following:		12
MATH 2331	Linear Algebra	
MATH 3001 to MATH 4899		

Additional Requirements

Code	Title	Hours
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
MATH 3000	Co-op and Experiential Learning Reflection Seminar 1	1
Capstone		
Complete one of the following to fulfill capstone requirement:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994, which may be used toward Intermediate/Advanced Biology)	
BIOL 4971	Junior/Senior Honors Project 2	
MATH 4020	Research Capstone	
MATH 4025	Applied Mathematics Capstone	
MATH 5131	Introduction to Mathematical Methods and Modeling	
Biology/Mathematics Integrative Courses		
Complete two of the following:		8-10
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOL 3405	Neurobiology	
BIOL 5581	Biological Imaging	
BIOL 5591	Advanced Genomics	
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
MATH 4581	Statistics and Stochastic Processes	

MATH 7343	Applied Statistics	
Writing Requirement		
ENGW 3307	Advanced Writing in the Sciences	4

Biology and Mathematics Combined-Major Credit/GPA Requirements

Complete 93 semester hours in the major with a cumulative GPA of 2.000.

Program Requirements

139 total semester hours required

Plan of Study
Sample Pattern:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or MATH 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107 and BIOL 1108	5	CHEM 2311	4	BIOL 2302	1		
CHEM 1161	4	CHEM 2312	1	SI NUpath elective	4		
CHEM 1162	1	MATH 1342	4				
CHEM 1163	0	MATH 1365	4				
ENGW 1111	4						
MATH 1341	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op		Co-op		MATH elective	4
CHEM 2313	4	Elective	4			Elective with lab	5
CHEM 2314	1						
EESC 2000	1						
MATH 2321	4						
MATH 2341	4						
	18		**4**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3611	4	Co-op		Co-op		ER NUpath elective	4
BIOL 3612	1			ENGW 3307	4	Elective	4
MATH 3000	1						
PHYS 1161	4						
PHYS 1162	1						
PHYS 1163	0						
MATH elective	4						
MATH elective	4						
	19		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
MATH 3081	4	Biology/mathematics integrative course	4
Biology/mathematics integrative course	4	Capstone option	4
DD NUpath elective	4	IC NUpath elective	4

Organismal and evolutionary biology elective	4	Intermediate/advanced biology elective	4
	16		**16**

Total Hours: 139

Biology and Political Science, BS

In the BS biology and political science program, science courses lay the groundwork for strong basic training in mathematics, chemistry, and physics that are relevant to biology. In biology courses, students broadly explore the organization and processes of life—from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. In political science courses, students pursue core concepts of American government, comparative politics, international relations and political thought. Coursework in quantitative techniques is also required. Students choose from a range of advanced subject electives. An appreciation of the intersection of biology and political science is provided through advanced courses in science, technology and public policy, and in environmental politics and policy.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or POLS 1000	Political Science at Northeastern	
Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Intermediate/Advanced Biology		
Complete one of the following:		4-5
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
Organismal and Evolutionary Biology Elective		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	

Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physics		
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	5

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Statistics		
Complete one of the following:		4-5
POLS 2400	Quantitative Techniques	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete five POLS courses 2000 and above.		20

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 1403)
- Campaigns and Elections (p. 1403)
- Comparative Politics (p. 1403)
- Identity, Culture, and Politics (p. 1404)
- International Relations and Diplomacy (p. 1404)
- Law and Legal Studies (p. 1404)
- Public Policy (p. 1404)
- Security Studies (p. 1405)

Integrative Requirement and Capstone

Note: Science, Technology, and Public Policy (POLS 2390) and Environmental Politics and Policy (POLS 2395) cannot be used both as an integrative course and as an elective above.

Code	Title	Hours
Integrative Requirement		
POLS 2390	Science, Technology, and Public Policy	4

or POLS 2395	Environmental Politics and Policy	
Capstone		
Complete one of the following to fulfill capstone requirement:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or 4994, which may be used toward Intermediate/Advanced Biology)	
BIOL 4971	Junior/Senior Honors Project 2	
POLS 4701	Political Science Senior Capstone	

Program Requirement

136 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	

POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Please note that these are sample plans of study. While the requirements are the same for all students, individual schedules may vary.

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or POLS 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	POLS upper-division elective	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	POLS 1155	4				
MATH 1341	4	POLS 1156	0				
POLS 1150	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op	0	Co-op	0	Intermediate/advanced BIOL elective with lab	5
CHEM 2313	4	Elective (can be taken online)	4			POLS elective	4
CHEM 2314	1						
EESC 2000	1						
POLS 1160	4						
IC NUpath elective	4						
	18		**4**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3611	4	Co-op	0	Co-op	0	Advanced writing	4
BIOL 3612	1					ER NUpath elective	4
PHYS 1145	4						
PHYS 1146	1						
Organismal and evolutionary biology elective	4						
Political thought elective	4						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHYS 1147	4	ENVR 2500	4
PHYS 1148	1	ENVR 2501	1

BIOL/POLS integrative course	4	Capstone	4
DD NUpath elective	4	POLS elective	4
POLS elective	4	POLS elective	4
	17		**17**

Total Hours: 136

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or POLS 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	POLS elective	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	POLS 1155	4				
CHEM 1163	0						
MATH 1341	4						
POLS 1150	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	BIOL 3611	4	Intermediate/advanced BIOL with lab	5	Co-op	0
CHEM 2313	4	BIOL 3612	1	POLS elective	4		
CHEM 2314	1	PHYS 1145	4				
EESC 2000	1	PHYS 1146	1				
POLS 1160	4	Organismal and evolutionary biology elective	4				
IC NUpath elective	4	Political thought elective	4				
	18		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHYS 1147	4	Advanced writing	4	Co-op	0
General elective (can be taken online)	4	PHYS 1148	1	ER NUpath elective	4		
		BIOL/POLS integrative course	4				
		DD NUpath elective	4				
		POLS elective	4				
	4		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENVR 2500	4
		ENVR 2501	1
		Capstone	4
		POLS elective	4
		POLS elective	4
	0		**17**

Total Hours: 136

Computer Science and Biology, BS

The computer science and biology combined major reflects how research in biology, especially genetics, has become a computational science. The program provides a strong foundation in biology, chemistry, and mathematics, as well as software development and algorithms.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar [1]	
CS 1210	Professional Development for Khoury Co-op [2]	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation (integrative course)	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

1 Students entering through the Department of Biology may take Biology at Northeastern (BIOL 1000).

2 Students entering through the Department of Biology may take Professional Development for Co-op (EESC 2000).

Biology Courses

Code	Title	Hours
Foundations of Biology		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Molecular Biology		

BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Biology Project Lab		
BIOL 2309	Biology Project Lab	4
Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Biology Capstone		
Choose one:		4
BIOL 4701	Biology Capstone	
BIOL 4971	Junior/Senior Honors Project 2	
BIOL 4900	Biology Research Capstone	
Intermediate/Advanced Biology Electives		**8-10**
Complete two biology courses (with corequisite labs if offered). Choose one of these two courses from the following list:		
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
Choose the second elective from the following list:		
BIOL 2311 to BIOL 4999		
EEMB 2290 to EEMB 5515		
EEMB 5548 to EEMB 5569		
Biology Integrative Course		
Complete one of the following:		4-5
BINF 6308	Bioinformatics Computational Methods 1	
BIOL 4707	Cell and Molecular Biology	
BIOL 5581	Biological Imaging	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
Probability and Statistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	

ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	
Intermediate or Advanced Science		
Complete one course from the following:		4
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
CHEM 2311 to CHEM 5999		
EEMB 2290 to EEMB 5999		
ENVR 2310 to ENVR 5999		
MATH 2280 to MATH 5999		
PHYS 2303 to PHYS 5999		
PSYC 2290 to PSYC 5999		

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 credits of general electives		20

NUpath Requirements Satisfied

- `Engaging with the Natural and Designed World`
- Conducting Formal and Quantitative Reasoning
- Exploring Creative Expression and Innovation
- `Analyzing and Using Data`
- `Writing in the First Year`
- `Advanced Writing in the Disciplines`
- `Writing-Intensive in the Major`
- `Demonstrating Thought and Action in a Capstone`

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

141 total semester hours required

Plan of Study
Sample Pattern:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	CS 2510 and CS 2511	5	BIOL 2301 and BIOL 2302	5	CS 3000	4
CS 1200	1	BIOL 2299	4	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4						
	20		**18**		**10**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CS 1210	1	BIOL 3611 and BIOL 3612	5	Co-op	
Khoury Elective	4	CHEM 2313 and CHEM 2314	5	Elective	4		
Computing and Social Issues	4	BIOL 2309	4				
Elective	4	Biology Elective 1 and lab	5				
		Elective	4				
	17		**19**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 4500 or 4530	4	ENGW 3302, 3307, or 3315	4	Co-op	
		ENVR 2500 and ENVR 2501	5	Elective	4		
		Biology Elective 2	4				
		Intermediate/Advanced Science	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Biology Capstone	4
		CS 3800	4
		CS 3200	4
		Biology Integrative	4
	0		**16**

Total Hours: 142

Four Years, Two Co-ops in Fall/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1200	1	BIOL 2299	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5				

CS 2500 and CS 2501	5	MATH 1341	4				
ENGW 1111	4						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		CHEM 2313 and CHEM 2314	5
CHEM 2311 and CHEM 2312	5					Elective	4
BIOL 2301 and BIOL 2302	5						
Computing and Social Issues	4						
Elective	4						
	19		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op		Co-op		ENGW 3302, 3307, or 3315	4
BIOL 3611 and BIOL 3612	5					Elective	4
Khoury Elective	4						
Biology Elective 1 and lab	5						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	Biology Capstone	4
ENVR 2500 and ENVR 2501	5	CS 3800	4
Intermediate/Advanced Science	4	CS 3200	4
Biology Elective 2	4	Biology Integrative	4
	17		**16**

Total Hours: 142

Data Science and Biology, BS

The data science and biology major provides a strong foundation in biology, chemistry, and mathematics, as well as software development and algorithms. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Students also explore the organization and processes of life across broad areas of the field, from molecules and cells through organs and organ systems to populations, ecosystems, and evolution.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or BIOL 1000	Biology at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Statistics Foundations		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5

Computer Science Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3307	Advanced Writing in the Sciences	

Biology Requirements

Code	Title	Hours
Biology Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 2309	Biology Project Lab	4
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Chemistry Foundations		
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Intermediate and Advanced Biology Elective		
Complete one of the following:		4
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
EEMB 2290 to EEMB 5515		
EEMB 5520 to EEMB5534		
EEMB 5548 to EEMB 5569		
Research:		
BIOL 4991	Research	
BIOL 4970	Junior/Senior Honors Project 1	
BIOL 4971	Junior/Senior Honors Project 2	
BIOL 4994	Internship	
Organismal and Evolutionary Biology Elective		
Complete one course and its corresponding lab, if indicated:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	

EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	
Physics Requirement		
Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152	Physics for Engineering 1 and Lab for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4

Integrative Requirements

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
BINF 6308	Bioinformatics Computational Methods 1	
BIOL 4707	Cell and Molecular Biology	
BIOL 5581	Biological Imaging	
BIOL 5587	Comparative Neurobiology	
BIOL 5591	Advanced Genomics	
Capstone		
Choose one:		4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone	
BIOL 4971	Junior/Senior Honors Project 2	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

138 total semester hours required

Plan of Study
Sample Plan of Study
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	BIOL 2301 and BIOL 2302	5	General Elective	4
CS 1200	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General Elective	4	General Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5				
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4						
	19		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	CHEM 2313 and CHEM 2314	5	BIOL 3611 and BIOL 3612	5	Co-op	
CHEM 2311 and CHEM 2312	5	CS 1210	1	General Elective	4		
DS 3000	4	CS 3200	4				
PHYS 1145 and PHYS 1146	5	DS 3500	4				
		DS 4200	4				
	18		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302	4	Co-op	
		DS 4400	4	Khoury Elective	4		
		ENVR 2500 and ENVR 2501	5				
		General Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOL 4701	4
		BIOL Intermediate/ Advanced Science	4
		Integrative course	4
		Organismal and Population BIOL Elective	4
	0		**16**

Total Hours: 140

Cell and Molecular Biology, Minor

The Department of Biology offers a minor in cell and molecular biology, which involves taking five biology courses, two of which must have a corequisite lab. The minor provides students with a foundation in biology and an emphasis in cell and molecular biology.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Restrictions

This minor is not available for students who major in biology, biochemistry, behavioral neuroscience, cell and molecular biology, marine biology, ecology and evolutionary biology, or any combined major that involves those listed above.

Required Biology Courses

Complete five biology courses for a total of at least 22 semester hours. At least two of the five courses must contain a lab corequisite.

Code	Title	Hours
Complete one introductory biology sequence:		9-10
Foundations of Biology		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	
BIOL 2299	Inquiries in Biological Sciences	
General Biology		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
General Biology (for Engineers)		
BIOL 1115 and BIOL 1116	General Biology 1 for Engineers and Lab for BIOL 1115	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Complete the following required courses:		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 4707	Cell and Molecular Biology	4
or BIOL 5591	Advanced Genomics	

INTERMEDIATE/ADVANCED ELECTIVES

Code	Title	Hours
Complete at least one of the following course options:		4-5
BIOL 3405	Neurobiology	
BIOL 3411	Current Topics in Cell and Molecular Biology	
BIOL 3421 and BIOL 3422	Microbiology and Lab for BIOL 3421	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	
BIOL 4705 to BIOL 4709		
BIOL 5301 to BIOL 5306		
BIOL 5499 to BIOL 5583		
BIOL 5587 to BIOL 5597		
EEMB 3001	Genetics and Evolution in Action	

CREDIT/GPA REQUIREMENT

Complete 22 semester hours

2.000 GPA required in the minor

Biology, Minor

The Department of Biology offers a minor in biology, which involves taking five biology courses, two of which must have a corequisite lab. The minor provides students with a foundation in the five core concepts of biology: evolution, energy transformations, biological structure from the molecular to the ecosystem scale, information flow, and systems biology.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Restrictions

This minor is not available for students who major in biology, biochemistry, behavioral neuroscience, cell and molecular biology, marine biology, ecology and evolutionary biology, or any combined major that involves those subjects listed above.

Required Biology Courses

Complete five biology courses for a total of at least 22 semester hours. Two of the five courses must contain a lab corequisite.

Code	Title	Hours
Complete one introductory biology sequence.		9-10
Introductory Biology		
Foundations of Biology		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	
BIOL 2299	Inquiries in Biological Sciences	
General Biology		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
General Biology (for Engineers)		
BIOL 1115 and BIOL 1116	General Biology 1 for Engineers and Lab for BIOL 1115	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Complete the following:		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5

Organismal and Evolutionary Biology Course List

Code	Title	Hours
Complete at least one of the following:		4
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
BIOL 5585	Evolution	
EEMB 2290 to EEMB 3450		
EEMB 3460 to EEMB 5130		
ENVR 5242	Ancient Marine Life	

Code	Title	Hours
The remaining courses can be selected from either the organismal and evolutionary biology list or from the list of intermediate/advanced biology electives.		4-5

Intermediate/Advanced Biology Electives

Code	Title	Hours
BIOL 2221 and BIOL 2222	Foundations of Microbiology and Lab for BIOL 2221	
BIOL 2329 to BIOL 3990		

BIOL 4705 to BIOL 4709	
BIOL 5301 to BIOL 5597	
EEMB 3001	Genetics and Evolution in Action

GPA Requirement

2.000 GPA required in the minor

Chemistry and Chemical Biology

Website (https://cos.northeastern.edu/chemistry-chemical-biology/)

Penny Beuning, **PhD**
Professor and Chair

617.373.2822

The Department of Chemistry and Chemical Biology provides education in basic chemistry and modern chemistry-related disciplines. The department offers an American Chemical Society–certified program leading to a Bachelor of Science in Chemistry and also offers a Bachelor of Science in Biochemistry jointly with the Department of Biology. The department offers two combined majors. In conjunction with the Department of Marine and Environmental Sciences, the department offers a combined Bachelor of Science in Environmental and Sustainability Sciences and Chemistry. Along with Khoury College of Computer Sciences, the department also offers a Bachelor of Science in Data Science and Chemistry. The overall objective of the Bachelor of Science in Chemistry major program is to provide the fundamental scientific background and laboratory training for students as they prepare for chemically related careers or advanced study in fields including the traditional chemical specialties, as well as biochemistry, materials science, forensic science, medicine, education, law, and other endeavors that draw upon an understanding of the chemical basis of the world around us.

Key general objectives are the development of qualitative and quantitative problem-solving skills and effective communication skills. Specific learning objectives for the chemistry major include developing conceptual understanding and problem-solving abilities in the fundamental chemical subfields of analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry; gaining a foundation of physics and mathematics and integrating these areas with chemical principles; performing quantitative measurements and analyzing the resulting data; synthesizing and characterizing compounds; learning proper laboratory practices, including safety; developing proficiency with modern instruments and computers for data acquisition and analysis; and making meaning of research results and learning the relevance of chemistry to biology, pharmacology, medicine, manufactured and natural materials, and the environment.

Most of our chemistry majors participate in the cooperative education program and thereby gain invaluable professional experience to augment their classroom and laboratory work. Not only does this experience add immensely to the overall education received, it also has the potential to provide contacts and references for later employment or graduate school admissions. Chemistry majors also undertake a research project for at least one semester under the supervision of a faculty member. The availability of elective courses in the program will allow a student to take more advanced courses or additional research in the department or to add courses from other programs, such as engineering, in the case of an interest in materials chemistry. Qualified students may also participate in a BS/MS program.

Programs

Bachelor of Science (BS)

- Chemistry (p. 1421)
- Data Science and Chemistry (p. 887)
- Environmental and Sustainability Sciences and Chemistry (p. 1430)

Minor

- Chemistry (p. 1434)
- Environmental Chemistry (p. 1060)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Chemistry, BS

The Bachelor of Science in Chemistry is designed to give students both breadth and depth in chemistry fundamentals. During their course of study, students have an opportunity to develop qualitative and quantitative problem-solving skills as well as effective communication skills. The overall objective of the program is to provide scientific background and laboratory experience for students as they prepare for chemically related careers or advanced study in fields that include both the traditional chemical specialties and other endeavors that draw upon an understanding of the chemical basis of the world around us such as biochemistry, materials science, forensic science, medicine, education, or law.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Chemistry Major Requirements

Code	Title	Hours
Introduction to College		
CHEM 1000	Chemistry/Chemical Biology at Northeastern	1
or INSC 1000	Science at Northeastern	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2161 and CHEM 2162 and CHEM 2163	Concepts in Chemistry and Lab for CHEM 2161 and Recitation for CHEM 2161	5
Organic Chemistry		
CHEM 2315 and CHEM 2316 and CHEM 2324	Organic Chemistry 1 for Chemistry Majors and Lab for CHEM 2315 and Recitation for CHEM 2315	6
CHEM 2317 and CHEM 2318 and CHEM 2325	Organic Chemistry 2 for Chemistry Majors and Lab for CHEM 2317 and Recitation for CHEM 2317	6
Analytical Chemistry		
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	5
Biochemistry		
CHEM 5621 and CHEM 5622	Principles of Chemical Biology for Chemists and Lab for CHEM 5621	4
Inorganic Chemistry		
Complete one of the following courses:		5
CHEM 3501 and CHEM 3502 and CHEM 3503	Inorganic Chemistry and Lab for CHEM 3501 and Recitation for CHEM 3501	
CHEM 3505 and CHEM 3506 and CHEM 3507	Introduction to Bioinorganic Chemistry and Lab for CHEM 3505 and Recitation for CHEM 3505	
Senior Research/Capstone		
CHEM 4750	Senior Research	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
Physics		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5

Concentrations

Students may add an optional concentration. Students working toward a concentration must declare it with their advisor for it to be added to their academic record.

Note: Opting to take a concentration may require additional coursework to be completed beyond the total program hours.

- No Concentration (p. 1422)
- Concentration in Chemical Biology (p. 1422)
- Concentration in Materials Chemistry (p. 1423)

NO CONCENTRATION

Code	Title	Hours
Physical Chemistry		
CHEM 3401 and CHEM 3402	Chemical Thermodynamics and Kinetics and Lab for CHEM 3401	5
CHEM 3403 and CHEM 3404	Quantum Chemistry and Spectroscopy and Lab for CHEM 3403	5
Advanced Chemistry		
Choose two of the following:		8-12
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
CHEM 4456 and CHEM 4457	Organic Chemistry 3: Organic Chemistry of Drug Design and Development and Lab for CHEM 4456	
CHEM 4628 and CHEM 4629	Introduction to Spectroscopy of Organic Compounds and Identification of Organic Compounds	
CHEM 5620	Protein Chemistry	

CONCENTRATION IN CHEMICAL BIOLOGY

Code	Title	Hours
Physical Chemistry		
CHEM 3431 and CHEM 3432	Physical Chemistry and Lab for CHEM 3431	5
Advanced Chemistry		
CHEM 4456 and CHEM 4457	Organic Chemistry 3: Organic Chemistry of Drug Design and Development and Lab for CHEM 4456	6
Choose one of the following:		3
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	
CHEM 5620	Protein Chemistry	
CHEM 5625	Chemistry and Design of Protein Pharmaceuticals	
CHEM 5630	Nucleic Acid Chemistry	
Additional Supporting Courses		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5

BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5

CONCENTRATION IN MATERIALS CHEMISTRY

Code	Title	Hours
Physical Chemistry		
CHEM 3401 and CHEM 3402	Chemical Thermodynamics and Kinetics and Lab for CHEM 3401	5
CHEM 3403 and CHEM 3404	Quantum Chemistry and Spectroscopy and Lab for CHEM 3403	5
Advanced Chemistry		
CHEM 4628 and CHEM 4629	Introduction to Spectroscopy of Organic Compounds and Identification of Organic Compounds	6
Choose one of the following:		3
CHEM 5610	Polymer Chemistry	
CHEM 5640	Biopolymeric Materials	
Choose one of the following:		3-4
CHEM 5651	Materials Chemistry of Renewable Energy	
CHME 5105	Materials Characterization Techniques	
Additional Supporting Courses		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5

Chemistry Major Credit Requirement

Complete a minimum of 76 semester hours in the major.

Program Requirement

134 total semester hours required

Plan of Study

Five Years, Three Co-ops in Summer 2/Fall

Please note that these are sample plans of study. While the requirements are the same for all students, individual schedules may vary.

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1000 or INSC 1000	1	CHEM 2315	4	Open		Open	
CHEM 1161	4	CHEM 2316	2				
CHEM 1162	1	CHEM 2324	0				
CHEM 1163	0	MATH 1342	4				
ENGW 1111	4	PHYS 1151	3				
MATH 1341	4	PHYS 1152	1				
Elective 1	4	PHYS 1153	1				
		Elective 2	4				
	18		**19**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2161	4	CHEM 2321	4	Open		Co-op	0
CHEM 2162	1	CHEM 2322	1				
CHEM 2163	0	CHEM 2323	0				
CHEM 2317	4	EESC 2000	1				
CHEM 2318	2	Elective 4	4				
CHEM 2325	0	Elective 5	4				
PHYS 1155	3	Elective 6	4				
PHYS 1156	1						
PHYS 1157	1						

Elective 3	4						
	20		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHEM 3401	4	Elective 8	4	Co-op	0
		CHEM 3402	1	Elective 9	4		
		CHEM 3501	4				
		CHEM 3502	1				
		CHEM 3503	0				
		ENGW 3307	4				
		Elective 7	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHEM 3403	4	Open		Co-op	0
		CHEM 3404	1				
		Chemistry Elective	3-6				
		Elective 10	4				
		Elective 11	4				
	0		**16-19**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CHEM 4750	4
		CHEM 5621	3
		CHEM 5622	1
		Chemistry Elective	5-6
		Elective 12	4
	0		**17-18**

Total Hours: 134-138

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1000 or INSC 1000	1	CHEM 2315	4	PHYS 1155	3	Open	
CHEM 1161	4	CHEM 2316	2	PHYS 1156	1		
CHEM 1162	1	CHEM 2324	0	PHYS 1157	1		
CHEM 1163	0	MATH 1342	4	Elective 3	4		
ENGW 1111	4	PHYS 1151	3				
MATH 1341	4	PHYS 1152	1				
Elective 1	4	PHYS 1153	1				
		Elective 2	4				
	18		**19**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2161	4	CHEM 2321	4	Elective 8	4	Co-op	
CHEM 2162	1	CHEM 2322	1	Elective 9	4		
CHEM 2163	0	CHEM 2323	0				
CHEM 2317	4	CHEM 3401	4				
CHEM 2318	2	CHEM 3402	1				
CHEM 2325	0	EESC 2000	1				
Elective 4	4	Elective 6	4				

Elective 5	4	Elective 7	4				
	19		**19**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 3403	4	Elective 10	4	Co-op	
		CHEM 3404	1	Elective 11	4		
		CHEM 3501	4				
		CHEM 3502	1				
		CHEM 3503	0				
		ENGW 3307	4				
		CHEM Elective	3-6				
	0		**17-20**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CHEM 4750	4
		CHEM 5621	3
		CHEM 5622	1
		CHEM Elective	5-6
		Elective 12	4
	0		**17-18**

Total Hours: 134-138

Data Science and Chemistry, BS

The data science and chemistry major combines chemistry, information science, and mathematics to give students both breadth and depth in chemistry and data science fundamentals. During their course of study, students have an opportunity to develop qualitative and quantitative problem-solving skills as well as effective communication skills. Students will study the collection, manipulation, storage, retrieval, and computational analysis of chemical and other scientific data in its various forms, including numeric, textual, image, and video data from small to large volumes. The program engages students in rigorous coursework designed to prepare students to interpret the ever-expanding knowledge base.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or CHEM 1000	Chemistry/Chemical Biology at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		

Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Statistics Foundations		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5

Chemistry Requirements

Code	Title	Hours
General Chemistry		
Choose one of the following paired course options:		10
Option 1		
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211	
CHEM 1214 and CHEM 1215	General Chemistry 2 and Lab for CHEM 1214	
Option 2		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	
CHEM 2161 and CHEM 2162 and CHEM 2163	Concepts in Chemistry and Lab for CHEM 2161 and Recitation for CHEM 2161	
Intermediate-Level Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	5
Advanced-Level Chemistry		
Complete one course from the following options:		4
CHEM 3410	Environmental Geochemistry	
CHEM 3501 to CHEM 4628		
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
Supporting Course		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5

Integrative Requirements

Code	Title	Hours
Integrative Courses		
CHEM 3401 and CHEM 3402	Chemical Thermodynamics and Kinetics and Lab for CHEM 3401	5
CHEM 4750	Senior Research	4

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CHEM 2161 and CHEM 2162 and CHEM 2163	5	General elective	4	Vacation	
CS 1200, CHEM 1000, or INSC 1000	1	DS 2500 and DS 2501	5	General elective	4		
CS 1800 and CS 1802	5	MATH 1341	4				
DS 2000 and DS 2001	4	General elective	4				
ENGW 1111	4						
	19		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CHEM 2313 and CHEM 2314	5	General elective	4	Co-op	
CS 3200	4	CS 1210 or EESC 2000	1	General elective	4		
DS 3000	4	DS 3500	4				
MATH 1342	4	DS 4200	4				
		ENVR 2500 and ENVR 2501	5				
	17		**19**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 2321 and CHEM 2322 and CHEM 2323	5	ENGW 3302, 3307, or 3315	4	Co-op	
		DS 4300	4	Khoury Elective	4		
		DS 4400	4				
		PHYS 1151 and PHYS 1152 and PHYS 1153	5				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CHEM 4750	4
		CHEM 3401 and CHEM 3402	5
		Advanced Level Chemistry	4
		General elective	4
	0		**17**

Total Hours: 132

Environmental and Sustainability Sciences and Chemistry, BS

The Departments of Marine and Environmental Sciences and Chemistry provide education in basic environmental and sustainability sciences and chemistry-related disciplines. The overall objective of this combined major is to provide the fundamental scientific background and practical training for students as they prepare for environmental and chemically related careers or advanced study in fields including the traditional specialties such as toxicology, pollution, bioremediation, environmental protection, education, law, and other endeavors that may draw upon an understanding of the chemical basis of the environment and the changes that will likely result from global environmental change.

Key general objectives are the development of qualitative and quantitative problem-solving skills and effective communication skills. This combined major includes the development of conceptual understanding and problem-solving abilities in the fundamental dynamics between the environment and its chemistry, be it analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. Students will have the opportunity to perform quantitative measurements; learn proper laboratory practices, including safety; develop proficiency with modern instruments and computers for data acquisition and analysis; and learn the relevance of chemistry within the context of the abiotic and biotic environments.

Students also have the opportunity to participate in the cooperative education program and thereby gain invaluable professional experience to augment their classroom and laboratory work. Not only does that experience add immensely to the overall education received, it also has the potential to provide contacts and references for later employment or graduate school admissions. Students in this major may also undertake research projects for at least one semester under the supervision of a faculty member. Sufficient electives are available in the program either to take more advanced courses or research within the department or to add courses in an area of special interest.

There are a number of interdisciplinary opportunities involving ESS. Due to curricular overlap, combinations of any ESS major, including combined majors, cannot occur with majors or minors in ecology and evolutionary biology or environmental studies or with the minor in geoscience. ESS and chemistry combined majors are also restricted from a minor in environmental chemistry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Science and Sustainability Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or CHEM 1000	Chemistry/Chemical Biology at Northeastern	
or INSC 1000	Science at Northeastern	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
Core Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2515	Sustainable Development	4
Complete one of the following:		4-5
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
Complete four of the following (three of four must be above the 3000 level):		16
EEMB 2400	Introduction to Evolution	

EEMB 3460	Conservation Biology
EEMB 4001	Landscape and Restoration Ecology
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310
ENVR 2340	Earth Landforms and Processes
ENVR 3125	Global Oceanic Change
ENVR 3150	Food Security and Sustainability
ENVR 3200	Water Resources
ENVR 3600	Oceanography
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500
ENVR 4505	Wetlands
ENVR 5150	Climate and Atmospheric Change
ENVR 5190	Soil Science
ENVR 5210	Environmental Planning
ENVR 5220	Ecosystem-Based Management
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5450	Applied Social-Ecological Systems Modeling
ENVR 5670	Global Biogeochemistry
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
POLS 2395	Environmental Politics and Policy
PPUA 5260	Ecological Economics
SOCL 2485	Environment, Technology, and Society

Chemistry Requirements

Code	Title	Hours
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2161 and CHEM 2162 and CHEM 2163	Concepts in Chemistry and Lab for CHEM 2161 and Recitation for CHEM 2161	5
Intermediate-Level Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	5
Advanced-Level Chemistry		
CHEM 3401 and CHEM 3402	Chemical Thermodynamics and Kinetics and Lab for CHEM 3401	5
Complete one of the following:		5
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
CHEM 3403 and CHEM 3404	Quantum Chemistry and Spectroscopy and Lab for CHEM 3403	
Math Requirements		
Complete two of the following:		8-9
MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1341	Calculus 1 for Science and Engineering	
MATH 1242	Calculus 2	

or MATH 1252	Calculus and Differential Equations for Biology 2	
or MATH 1342	Calculus 2 for Science and Engineering	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
or ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	
or SOCL 2321	Research Methods in Sociology	
Physics Requirement		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5

Integrative Requirements

Code	Title	Hours
Integrative Requirements		
Complete two of the following:		8
CHEM 3410	Environmental Geochemistry	
CHEM 4750	Senior Research	
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4504	Environmental Pollution	
ENVR 5190	Soil Science	

Major Credit Requirement

94 total semester hours required in the major

Program Credit Requirement

140 total semester hours required in the major

Plan of Study

Sample Plan of Study - Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CHEM 2161 and CHEM 2162 and CHEM 2163	5	General elective 2	4	General elective 4	4
ENVR 1000, CHEM 1000, or INSC 1000	1	EEMB 2302 and EEMB 2303	5	General elective 3	4	General elective 5	4
ENVR 1200 and ENVR 1201	5	ENGW 1111	4				
ENVR 1400 and ENVR 1401	5	ENVR 2515	4				
General elective 1	4						
	20		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CHEM 2313 and CHEM 2314	5	CHEM 2321 and CHEM 2322 and CHEM 2323	5	Co-op	
ENVR elective; 1 of 4	4	EESC 2000	1	Math requirement; 2 of 2	4		
Math requirement; 1 of 2	4	PHYS 1151 and PHYS 1152 and PHYS 1153	5				
General elective 6	4	ENVR skills requirement	4				
		ENVR elective; 2 of 4	4				
	17		**19**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 3401 and CHEM 3402	5	General elective 7	4	Co-op	
		ENGW 3307	4	General elective 8	4		
		Advanced CHEM elective	5				
		ENVR elective; 3 of 4	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR elective; 4 of 4	4
		Integrative course; 1 of 2	4
		Integrative course; 2 of 2	4
		General elective 9	4
	0		**16**

Total Hours: 141

Chemistry, Minor

The minor in chemistry is designed for the student who would like a sound foundation in the theory and laboratory practice of chemistry. It requires six courses in chemistry with their prerequisites and corequisites.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Due to curricular overlap, the chemistry minor is not available to biochemistry majors.

Required Courses

Students must take either General Chemistry 1 (CHEM 1211) and General Chemistry 2 (CHEM 1214) or General Chemistry for Science Majors (CHEM 1161).

Note: Engineering students may take General Chemistry for Engineers (CHEM 1151) in place of General Chemistry 1 (CHEM 1211) and General Chemistry 2 (CHEM 1214) or General Chemistry for Science Majors (CHEM 1161).

Excluded: Undergraduate Research (CHEM 4901) Junior/Senior Honors Project 1 (CHEM 4970), Junior/Senior Honors Project 2 (CHEM 4971) or other research courses from approved electives.

Code	Title	Hours
General Chemistry		
Choose one option.		4-10
General Chemistry		
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211	
CHEM 1214 and CHEM 1215	General Chemistry 2 and Lab for CHEM 1214	
Chemistry for Science Majors		
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	
Chemistry for Engineers		
CHEM 1151	General Chemistry for Engineers	
or other Chemistry and Chemical Biology approved course		
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Analytical Chemistry		
CHEM 2321 and CHEM 2322	Analytical Chemistry and Lab for CHEM 2321 (Analytical Chemistry)	5
Physical Chemistry		
CHEM 3431 and CHEM 3432	Physical Chemistry and Lab for CHEM 3431	5
Engineering students may substitute the following course:		
CHME 2320	Chemical Engineering Thermodynamics 1	
Advanced Lab		
Complete one of the following:		5
CHEM 3403 and CHEM 3404	Quantum Chemistry and Spectroscopy and Lab for CHEM 3403	
CHEM 4456 and CHEM 4457	Organic Chemistry 3: Organic Chemistry of Drug Design and Development and Lab for CHEM 4456	

GPA Requirement

2.000 GPA required in the minor

Environmental Chemistry, Minor

The minor in environmental chemistry offers an opportunity for students of any background interested in environmental sciences to better understand the chemistry of the environment. Students completing the minor in environmental chemistry have an opportunity to learn about the chemical processes of natural systems and environmental pollutants, while earning a credential that highlights their interest and expertise. This can be a useful course of study whether their primary degree and career will be in one of the traditional chemical, environmental, or engineering programs, or another allied field. No more than two courses (totaling 8 SH to 10 SH) may double count with any major degree requirements.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than two courses (totaling 8 SH to 10 SH) may double count with any major degree requirements.

Required Courses

Code	Title	Hours
Environmental Chemistry Core		
Complete one of the following:		4
CIVE 2335	Environmental Engineering Chemistry	
ENVR 3410	Environmental Geochemistry	
Chemistry Core		
Complete one of the following:		5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
Research Experience		
Complete one of the following:		4
CHEM 4750	Senior Research	
CHEM 4901	Undergraduate Research	
CHEM 4992	Directed Study	
CIVE 4991	Research	
CIVE 4992	Directed Study	
ENVR 4900	Earth and Environmental Science Capstone	
or ENVR 4997	Senior Thesis	
ENVR 4992	Directed Study	

Electives

Code	Title	Hours
Complete two of the following:		8-9
CIVE 2335	Environmental Engineering Chemistry (If not used to satisfy Environmental Chemistry Core)	
CIVE 3435	Environmental Pollution: Fate and Transport	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
ENVR 3125	Global Oceanic Change	
ENVR 3410	Environmental Geochemistry (If not used to satisfy Environmental Chemistry Core)	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 4504	Environmental Pollution	
ENVR 4505	Wetlands	
ENVR 5190	Soil Science	

GPA Requirement

Minimum 2.000 GPA required in all major courses

Credit Requirement

Minimum of 21 hours required

Marine and Environmental Sciences

Website (https://cos.northeastern.edu/marine-environmental-sciences/)

Geoffrey C. Trussell, PhD
Professor and Chair
Jennifer Bowen, PhD
Associate Professor and Associate Chair

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The academic programs of the Department of Marine and Environmental Sciences provide students a deep, multidisciplinary understanding of the chemical, physical, geological, socio-ecological, and biological processes that shape Earth's myriad ecosystems. This fundamental understanding, coupled with a focus on the many environmental challenges facing our planet, seeks to yield knowledge and solutions that promote sustainability. Our graduates leave Northeastern University prepared to address diverse issues including collapsing fisheries, the impacts of climate change (e.g., sea level rise), coastal erosion, and pollution. To address and solve today's complex environmental problems, environmental professionals are expected to work effectively as part of a multidisciplinary team containing natural and social scientists, engineers, and policymakers. Hence, our undergraduate program emphasizes experiential education in addition to traditional classroom learning. This approach better prepares students to engage in collaborative work and enhances their employment opportunities after Northeastern.

Our Bachelor of Science in Environmental and Sustainability Science degree is designed for students seeking a comprehensive understanding of the scientific implications of environmental problems and the multidisciplinary solutions that environmental scientists can produce to solve them. All students take foundational courses in Earth science, ecology, and sustainability. They then choose from one of four concentrations for deeper learning. For students interested in understanding how physical and geochemical processes shape existing and emerging environmental threats, they can pursue the Earth, Oceans, and Environmental Change concentration. Students interested in how ecological and evolutionary processes influence our ability to conserve, restore, and manage ecosystems can elect our Conservation, Restoration, and Management concentration. Our concentration in Sustainable Planning and Development is designed for students who want to examine how science informs the nexus of food, water, and energy to promote greater sustainability. Lastly, students interested in leveraging a strong scientific foundation to study coupled human and natural systems that are most threatened by environmental change can focus on our concentration in Environment and Society.

Students interested in merging a scientific foundation in environmental problem solving with skills from sociology, business, public health, law, and the arts might be interested in our Bachelor of Arts in Environmental Studies program. This major provides students a core foundation in both the scientific and human dimensions of environmental problem solving. Students then choose from one of five concentrations developed in connection with other colleges. These concentrations include Environmental and Human Health; Environmental Ethics and Social Justice; Environmental Law, Governance, and Management; Communication and Visualization of Environmental Problems and Solutions; and The Green Economy: Business, Entrepreneurship, and Environmental Sustainability.

Our Bachelor of Science in Marine Biology degree is designed to provide a strong foundation in marine biology and related disciplines. This major is strongly influenced by the Three Seas Marine Biology program that is largely based at Northeastern's Marine Science Center in Nahant, but many courses satisfying this major are also offered on the main campus in Boston. Students in this major study all aspects of marine systems from marine spatial planning to oceanography. For those students seeking a broader foundation that is not solely focused on marine systems, we also offer a Bachelor of Science in Ecology and Evolutionary Biology. Students majoring in EEB develop a strong theoretical foundation in ecology and evolution while also building practical skills in data science, genomics, and other areas at the cutting edge of science. Our core curriculum for both marine biology and EEB satisfy the vast majority of requirements for prehealth fields, including veterinary sciences and medical fields.

We offer a number of combined majors in both the BA track and the BS track.

Fieldwork is a critical component of training in our programs, and many of our courses use field sites throughout New England to explore environmental processes or problems in their more complex and natural state. In addition to sponsoring local trips, our students also participate in longer field excursions to places like Iceland, Antarctica, the Florida Keys, Israel, Romania, and Greece, among others. Students also have the option to complete undergraduate research experiences with a faculty member. Undergraduate research projects can involve fieldwork and/or lab work guided by faculty mentors, and many projects evolve into senior and honors theses.

Our graduates work across a wide range of disciplines. Student training in the foundations of each major, coupled with extensive training in data science and scientific communication, allows our students to succeed in a range of positions from hydrology to public policy to oceanography. We have graduates working as environmental lawyers; lobbyists; consultants; planners; data analysts; educators; soil, air, and water quality technicians; veterinarians; foresters; geneticists; bioinformaticians; research divers; aquaculturists; and many more fascinating fields.

Three Seas Program

Three Seas is an accelerated, research-focused, graduate-level program that allows advanced undergraduate and beginning graduate students in marine biology and related areas to spend a year of field study in three distinct marine environments. As a prime example of Northeastern's innovative teaching initiative, Three Seas emphasizes experiential learning by providing students with hands-on research experience to develop the critical skills needed to succeed in a career in science.

For more information, visit the Three Seas Program website (https://cos.northeastern.edu/marine-environmental-sciences/three-seas/).

Marine Science Center Summer Internship Program

This program provides a monthly stipend during the summer to students while they participate in intensive research with faculty members based at the Marine Science Center. Although students conduct independent research at the MSC laboratory primarily in the summer, these experiences can also extend throughout the year.

Academic Progression Standards

Same as college standards.

Programs

Core Majors

- Ecology and Evolutionary Biology (p. 1439) (BS)
- Environmental and Sustainability Sciences (p. 1443) (BS)
- Environmental Studies (p. 1450) (BA)
- Marine Biology (p. 1455) (BS)

Combined Majors

- Computer Science and Environmental and Sustainability Sciences (p. 796) (BS)
- Data Science and Ecology and Evolutionary Biology (p. 895) (BS)
- Data Science and Environmental and Sustainability Sciences (p. 903) (BS)
- Environmental and Sustainability Sciences and Chemistry (p. 1430) (BS)
- Environmental and Sustainability Sciences and Economics (p. 1477) (BS)
- Environmental and Sustainability Sciences and Journalism (p. 1481) (BS)
- Environmental and Sustainability Sciences and Landscape Architecture (p. 155) (BS)
- Environmental Studies and History (p. 1487) (BA)
- Environmental Studies and International Affairs (p. 1490) (BA)
- Environmental Studies and Philosophy (p. 1497) (BA)
- Environmental Studies and Political Science (p. 1500) (BA)
- Sociology and Environmental Studies (p. 1506) (BA)

Minors

- Ecology and Evolutionary Biology (p. 1509)
- Environmental and Sustainability Sciences (p. 1510)
- Environmental Studies (p. 1511)
- Geosciences (p. 1512)
- Marine Sciences (p. 1513)

Ecology and Evolutionary Biology, BS

The Bachelor of Science in Ecology and Evolutionary Biology degree is designed to provide a strong foundation in the fundamentals of ecology and evolutionary biology, including focal points in population, community, and ecosystem ecology; evolutionary ecology and biology; conservation biology; population genetics; behavior; and ecological and evolutionary genomics. Our major provides unique experiential learning opportunities for students interested in the fundamentals of evolution; the ecology of terrestrial, marine, and freshwater systems; and the application of both of these in the pursuit of the conservation and restoration of natural systems. Further, students in our major have the opportunity to focus on cutting-edge techniques in the use of molecular tools to answer fundamental questions in ecology and evolution. The interdisciplinary nature of our major fosters critical thinking and creativity in scientific problem solving while instilling skills that will result in scientifically literate global citizens. The curriculum for this major also satisfies premed and prevet requirements. Courses offered by this major fulfill several core competencies required by Northeastern University: Engaging with the Natural and Designed World, Exploring Created Expression and Innovation, Conducting Formal and Quantitative Reasoning, Analyzing and Using Data, Employing Ethical Reasoning, writing-intensive courses, and capstone.

Fieldwork is a valued component of training in our programs, and several of our courses use field sites, resources, and facilities of the Marine Science Center and throughout the greater Boston area. Students interested in having a foundational education in ecology and evolutionary biology, and also participating in the Northeastern Three Seas Program, will be able to meet the requirements for both programs. All students will also have the option to complete undergraduate research experiences with faculty members in the Department of Marine and Environmental Sciences and can take advantage of our faculty networks of scientists and practitioners for additional co-op and research opportunities.

Students graduating with an EEB major will be prepared for success in pursuing graduate degrees; for working in multiple areas of science and technology, including data science and biotech sectors; and for positions with consulting companies, nonprofits, and government agencies.

Ecology and evolutionary biology majors and associated combined majors cannot be combined with majors in biology, marine biology, or environmental and sustainability sciences, nor can those students minor in biology, marine science, or environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Due to overlap in course content, double majoring in ecology and evolutionary biology and marine biology is not permitted.

Ecology and Evolutionary Biology Major Requirements

Code	Title	Hours
Ecology and Evolutionary Biology		
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	5
Ecology and Evolutionary Genomics		
EEMB 1105 and EEMB 1106	Foundations in Ecological and Evolutionary Genomics and Lab for EEMB 1105	5
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Evolution		
EEMB 2400	Introduction to Evolution	4
Ecology		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
Conservation		
EEMB 3460	Conservation Biology	4
Data Skills		
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	5
Biostatistics		

ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Communication		
ENVR 4000	Science Communication and Professional Development	4
Capstone		
ENVR 4997	Senior Thesis	4
or ENVR 4900	Earth and Environmental Science Capstone	

Supporting Courses

Code	Title	Hours
Math		
Complete one of the following:		4
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1341	Calculus 1 for Science and Engineering	
Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic or Environmental Chemistry		
Complete one of the following:		4-5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	
ENVR 3410	Environmental Geochemistry	
ENVR 3435	Environmental Pollution: Fate and Transport	
ENVR 4504	Environmental Pollution	
Physics 1		
Complete one of the following:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	

Ecology and Evolutionary Biology Topical Requirement

Code	Title	Hours
Complete six of the following (at least one course must be taken from each list):		24
Evolution of Organisms		
BIOL 2327	Human Parasitology	
EEMB 2290	Ecology and Evolution of Behavior	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3001	Genetics and Evolution in Action	
EEMB 3250	Freshwater Ecology	
EEMB 3450	Physiological Adaptations to the Environment	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 3475	Wildlife Ecology	
EEMB 3600	Animal Behavior	
EEMB 3700	Desert Ecology	
Ecology and Conservation Biology		
EEMB 3455	Ecosystems Ecology	
EEMB 3466	Disease Ecology	
EEMB 3700	Desert Ecology	

EEMB 4000	Applied Conservation Biology
EEMB 4001	Landscape and Restoration Ecology
ENVR 3125	Global Oceanic Change
ENVR 3150	Food Security and Sustainability
ENVR 4505	Wetlands
ENVR 5210	Environmental Planning
ENVR 5220	Ecosystem-Based Management
ENVR 5700	Streams and Watershed Ecology
ENVR 5750	Urban Ecology
Analytical Skills	
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313
EEMB 5130	Population Dynamics
EEMB 5522	Experimental Design Marine Ecology
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300
ENVR 3410	Environmental Geochemistry
ENVR 5500	Advanced Biostatistics
ENVR 5563	Advanced Spatial Analysis
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147

Ecology and Evolutionary Biology Credit Requirement

Complete 88 semester hours in the major.

Ecology and Evolutionary Biology GPA Requirement

Complete all major courses with a cumulative GPA of 2.000.

Program Requirement

137 total semester hours required

Plan of Study

Four Years, Two Spring Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours		Summer Full Semester	Hours
EEMB 1101 and EEMB 1102	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5	Elective	4		Elective	4
ENVR 1000	1	EEMB 1105 and EEMB 1106	5	Elective	4		Elective	4
ENVR 1500 and ENVR 1501	5	PHYS 1145 and PHYS 1146	5					
MATH 1241 or 1251	4	Elective	4					
Elective	4							
	19		**19**		**8**			**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op		Co-op	0	Elective	4

CHEM 2311	4					Elective	4
EESC 2000	1						
ENVR 2500 and ENVR 2501	5						
Elective	4						
	19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEMB 2302 and EEMB 2303	5	Co-op	0	Co-op	0	Elective	4
EEMB 2400	4					Elective	4
EEB elective 1	4						
EEB elective 2	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
EEMB 3460	4	ENVR 4000	4
EEB elective 3	4	ENVR 4997	4
EEB elective 4	4	EEB elective 5	4
Elective	4	EEB elective 6	4
	16		**16**

Total Hours: 138

Environmental and Sustainability Sciences, BS

Our Bachelor of Science in Environmental and Sustainability Sciences is designed to provide students comprehensive and transdisciplinary skills needed to tackle the pressing environmental problems we face. Our core curriculum is grounded in a solid foundation in Earth systems, ecology, sustainable development, and required skills courses in data management and geographic information systems. Students then diverge into one of four concentrations. For students interested in the interface of social and ecological systems and who want to view environmental problem solving through a social science lens, we have a concentration in environment and society. For students interested in the nexus of food, water, and energy, our concentration in sustainable development and planning might be most appropriate. Is the conservation of organisms and their ecosystems the area you are most interested in? Our concentration in conservation, restoration, and management may be the best choice. Lastly, for students interested in understanding environmental problem solving from an Earth systems perspective, courses in our Earth, oceans, and environmental change concentration will satisfy your curiosity. In the final semester, our students build teams that bring the skills developed across the varied concentrations back together to learn from each other and to work with our partners to solve specific environmental challenges presented by our stakeholders. Combined, this degree seeks to prepare students to work across a wide array of disciplines to help solve the environmental challenges of the future.

There are a number of interdisciplinary opportunities involving Environmental and Sustainability Sciences. Due to curricular overlap, combinations of any Environmental and Sustainability Sciences major, including combined majors, cannot occur with majors or minors in Ecology and Evolutionary Biology or Environmental Studies, or with the minor in Geoscience.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental and Sustainability Sciences Major Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or INSC 1000	Science at Northeastern	
Core Curriculum		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4
or ENVR 2200	Earth's Changing Cycles	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	5
ENVR 2515	Sustainable Development	4
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
ENVR 4000	Science Communication and Professional Development	4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	4
or ENVR 4971	Junior/Senior Honors Project 2	
or ENVR 4997	Senior Thesis	
Mathematics Requirements		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	4
or ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	
or SOCL 2321	Research Methods in Sociology	

MATH 1241	Calculus 1	4
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1341	Calculus 1 for Science and Engineering	

Environmental and Sustainability Sciences Concentrations

Complete one of the following concentrations:

- Concentration in Conservation, Restoration, and Management (p. 1444)
- Concentration in Earth, Oceans, and Environmental Change (p. 1444)
- Concentration in Environment and Society (p. 1446)
- Concentration in Sustainable Planning and Development (p. 1446)

Environmental and Sustainability Sciences Major Credit Requirement

Complete 81 semester hours in the major.

Program Requirement

136 total semester hours required

Concentrations

CONCENTRATION IN CONSERVATION, RESTORATION, AND MANAGEMENT

Code	Title	Hours
Required Conservation, Restoration, and Management Courses		
EEMB 2400	Introduction to Evolution	4
EEMB 3455	Ecosystems Ecology	4
or CIVE 3430	Engineering Microbiology and Ecology	
EEMB 3460	Conservation Biology	4
EEMB 4001	Landscape and Restoration Ecology	4
ENVR 5220	Ecosystem-Based Management	4
Conservation, Restoration, and Management Electives		
Complete five of the following:		20-25
EEMB 3465	Ecological and Conservation Genomics	
EEMB 3466	Disease Ecology	
EEMB 3475	Wildlife Ecology	
EEMB 3700	Desert Ecology	
EEMB 4000 and ENVR 3151	Applied Conservation Biology and Food Sustainability in the Mediterranean - Abroad (course is pending)	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
ENVR 3701	Energy in the Desert Ecosystem	
ENVR 3800 and ENVR 3801	Plants and Society and Lab for ENVR 3800	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 4505	Wetlands	
ENVR 5190	Soil Science	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5563	Advanced Spatial Analysis	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	

CONCENTRATION IN EARTH, OCEANS, AND ENVIRONMENTAL CHANGE

Code	Title	Hours
Earth Systems		
Complete one of the following:		4-5

ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 2200	Earth's Changing Cycles	
Earth Materials and Landforms		
Complete one of the following:		5
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 2340 and ENVR 2341	Earth Landforms and Processes and Lab for ENVR 2340	
Freshwater		
Complete one of the following:		4-5
ENVR 3200	Water Resources	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
Oceans		
Complete one of the following:		4
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
Environmental Change		
Complete one of the following:		4
ENVR 3125	Global Oceanic Change	
ENVR 5150	Climate and Atmospheric Change	
Chemistry		
Complete one of the following:		5
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	
Physics		
Complete one of the following:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Earth, Oceans, and Environmental Change Electives		
Complete three of the following:		12-15
CIVE 5280	Remote Sensing of the Environment	
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 2340 and ENVR 2341	Earth Landforms and Processes and Lab for ENVR 2340	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3418	Geophysics	
ENVR 3435	Environmental Pollution: Fate and Transport	
ENVR 3600	Oceanography	

ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500
ENVR 4504	Environmental Pollution
ENVR 4505	Wetlands
ENVR 5190	Soil Science
ENVR 5201 and ENVR 5202	Geologic Field Seminar and Environmental Science Field Seminar Abroad
ENVR 5240 and ENVR 5241	Sedimentary Basin Analysis and Lab for ENVR 5240
ENVR 5242 and ENVR 5243	Ancient Marine Life and Lab for ENVR 5242
ENVR 5670	Global Biogeochemistry
ENVR 5700	Streams and Watershed Ecology

CONCENTRATION IN ENVIRONMENT AND SOCIETY

Code	Title	Hours
Required Environment and Society Courses		
ENVR 3540	Environmental Psychology	4
ENVR 3850 and ENVR 3851	Sustainable Agriculture and Lab for ENVR 3850	5
or ENVR 3800 and ENVR 3801	Plants and Society and Lab for ENVR 3800	
PPUA 5260	Ecological Economics	4
SOCL 1246	Environment and Society	4
SOCL 2485	Environment, Technology, and Society	4
or POLS 2395	Environmental Politics and Policy	
Environment and Society Electives		
Complete five of the following:		20-24
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
EEMB 3460	Conservation Biology	
EEMB 4000 and ENVR 3151	Applied Conservation Biology and Food Sustainability in the Mediterranean - Abroad	
ENVR 3150	Food Security and Sustainability	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
ENVR 3800 and ENVR 3801	Plants and Society and Lab for ENVR 3800	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5750	Urban Ecology	
INTL 2464	Natural Resources and Sustainable Development	
INTL 5100	Climate and Development	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
PPUA 5268	International Environmental Policy	

CONCENTRATION IN SUSTAINABLE PLANNING AND DEVELOPMENT

Code	Title	Hours
Required Sustainable Planning and Development Courses		
ENVR 3150	Food Security and Sustainability	4
ENVR 3200	Water Resources	4
ENVR 5210	Environmental Planning	4
ENVR 5350	Sustainable Energy and Climate Solutions	4
or ENVR 5800	Climate Adaptation and Nature-Based Solutions	
PPUA 5268	International Environmental Policy	4

Sustainable Planning and Development Electives

Complete five of the following:		20-28
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
EEMB 3460	Conservation Biology	
EEMB 4000 and ENVR 3151	Applied Conservation Biology and Food Sustainability in the Mediterranean - Abroad (course is pending)	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3701	Energy in the Desert Ecosystem	
ENVR 3800 and ENVR 3801	Plants and Society and Lab for ENVR 3800	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 4505	Wetlands	
ENVR 5190	Soil Science	
ENVR 5220	Ecosystem-Based Management	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5563	Advanced Spatial Analysis	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
INTL 2464	Natural Resources and Sustainable Development	
PPUA 5260	Ecological Economics	

Plan of Study

Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	EEMB 2302 and EEMB 2303	5	Vacation		Elective	4
ENVR 1000	1	ENVR 1200 and ENVR 1201	5			Elective	4
ENVR 1400 and ENVR 1401	5	MATH 1241	4				
ENVR 1500 and ENVR 1501	5	ESS concentration core or elective 1	4				
Elective	4						
	19		**18**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op	0	Co-op	0	Elective	4
ENVR 2500 and ENVR 2501	5					Elective	4
ENVR 2515	4						
ENVR 3300 and ENVR 3301	5						
ESS concentration core or elective 2	4						
	19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3307	4	ESS concentration core or elective 6	4	Vacation		Vacation	
ESS concentration core or elective 3	4	ESS concentration core or elective 7	4				

ESS concentration core or elective 4	4	ESS concentration core or elective 8	4				
ESS concentration core or elective 5	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
ESS concentration core or elective 9	4	ENVR 4000	4
ESS concentration core or elective 10	4	ENVR 4050	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 136

Four Years, One Co-op in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	EEMB 2302 and EEMB 2303	5	Vacation		Elective	4
ENVR 1000	1	ENVR 1200 and ENVR 1201	5			Elective	4
ENVR 1400 and ENVR 1401	5	MATH 1241	4				
ENVR 1500 and ENVR 1501	5	ESS concentration core or elective 1	4				
Elective	4						
	19		**18**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	ESS concentration core or elective 3	4	Elective	4	Co-op	0
ENVR 2500 and ENVR 2501	5	ESS concentration core or elective 4	4	Elective	4		
ENVR 2515	4	ESS concentration core or elective 5	4				
ENVR 3300 and ENVR 3301	5	Elective	4				
ESS concentration core or elective 2	4						
	19		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3307	4	Vacation		Vacation	
		ESS concentration core or elective 6	4				
		ESS concentration core or elective 7	4				
		ESS concentration core or elective 8	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
ESS concentration core or elective 9	4	ENVR 4000	4

ESS concentration core or elective 10	4	ENVR 4050	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 136

Environmental Studies, BA

The Bachelor of Arts in Environmental Studies degree is designed to provide students with a critical foundation in both the scientific and human foundation of environmental systems. It also prioritizes mastery of skills that will position students for future success as environmental professionals. In their first two years, all environmental studies majors complete introductory courses in critical scientific disciplines—including focusing on food, water, and climate resources—and in essential human dimensions—including sustainable development, environmental health, and environmental justice. Lastly, all students take required skill-building courses that are designed to promote success with desired co-op and career opportunities. Students then opt for one of five concentrations that build their training in courses from across the university. These concentrations are specifically designed to cover the breadth of areas where people and the environment intersect, including courses that draw on Northeastern's expertise in public health, environmental justice, environmental law, visualization and storytelling of environmental issues, and the green economy. Students interested in viewing environmental problems specifically through quantitative social and natural science lenses should consider the BS Environmental and Sustainability Sciences (p. 1443) program.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Major Requirements

Code	Title	Hours
College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or INSC 1000	Science at Northeastern	
Core Courses		
Introductory Courses		
ENVR 1101	Environmental Science	4
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
ENVR 1110	Global Climate Change	4
ENVR 3150	Food Security and Sustainability	4
ENVR 3200	Water Resources	4
Human Dimensions of Environmental Systems		
ENVR 2515	Sustainable Development	4
ENVR 3540	Environmental Psychology	4
or PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	4
Skills		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
ENVR 4000	Science Communication and Professional Development	4
Research Methods		

Complete one of the following:		4-5
ANTH 3410	Ethnographic Field Experience	
ECON 2350	Statistics for Economists	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
POLS 2400	Quantitative Techniques	
SOCL 2321	Research Methods in Sociology	
Capstone		
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4970	Junior/Senior Honors Project 1	
or ENVR 4971	Junior/Senior Honors Project 2	
ENVR 4997	Senior Thesis	

Concentrations

Complete one of the following concentrations:

- Environmental and Human Health (p. 1451)
- Environmental Ethics and Social Justice (p. 1451)
- Environmental Law, Governance, and Management (p. 1452)
- Communication and Visualization: Environmental Problems and Solutions (p. 1452)
- The Green Economy: Business, Entrepreneurship, and Environmental Sustainability (p. 1453)

Environmental Studies Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

CONCENTRATION IN ENVIRONMENTAL AND HUMAN HEALTH

Code	Title	Hours
Required Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
EEMB 3466	Disease Ecology	4
PHTH 1270	Introduction to Global Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
Electives		
Complete four of the following:		16
COMM 3500	Environmental Issues, Communication, and the Media	
EEMB 3460	Conservation Biology	
ENVR 4505	Wetlands	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5750	Urban Ecology	
INTL 5100	Climate and Development	
PHTH 4120	Global Perspectives on Discrimination and Health	
or PHTH 5120	Race, Ethnicity, and Health in the United States	
PHTH 5214	Environmental Health	
POLS 2395	Environmental Politics and Policy	
SOCL 2485	Environment, Technology, and Society	

CONCENTRATION IN ENVIRONMENTAL ETHICS AND SOCIAL JUSTICE

Code	Title	Hours
Required Courses		
COMM 3500	Environmental Issues, Communication, and the Media	4
PHIL 1180	Environmental Ethics	4

POLS 2395	Environmental Politics and Policy	4
SOCL 2485	Environment, Technology, and Society	4
Electives		
Complete four of the following:		16
BUSN 3110	The Consulting Environment	
COMM 3532	Theories of Conflict and Negotiation	
EEMB 4000	Applied Conservation Biology	
ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
ENVR 4504	Environmental Pollution	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	
INTL 5100	Climate and Development	
PHIL 2001	Ethics and Evolutionary Games	
PPUA 5268	International Environmental Policy	
PPUA 5270	Food Systems and Public Policy	
PPUA 5390	Special Topics in Public Policy and Urban Affairs	

CONCENTRATION IN ENVIRONMENTAL LAW, GOVERNANCE, AND MANAGEMENT

Code	Title	Hours
Required Courses		
LPSC 1101	Introduction to Law	4
LPSC 2301	Introduction to Law, Policy, and Society	4
Complete one of the following:		4
POLS 2395	Environmental Politics and Policy	
PPUA 5268	International Environmental Policy	
Complete one of the following:		4
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
Electives		
Complete four of the following:		16
EEMB 3460	Conservation Biology	
EEMB 3475	Wildlife Ecology	
EEMB 4000	Applied Conservation Biology	
ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
ENVR 4505	Wetlands	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5700	Streams and Watershed Ecology	
LPSC 3303	Topics in Law and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3307	Public Policy and Administration	
PPUA 5268	International Environmental Policy	

CONCENTRATION IN COMMUNICATION AND VISUALIZATION: ENVIRONMENTAL PROBLEMS AND SOLUTIONS

Code	Title	Hours
Required Courses		
ARTG 5110	Information Design History	4
COMM 3500	Environmental Issues, Communication, and the Media	4
Complete one of the following:		4
JRNL 3650	Science Writing	
JRNL 3700	Data Storytelling	
Complete one of the following:		4

ARTG 6330	Information Design Mapping Strategies	
CIVE 5280	Remote Sensing of the Environment	
ENVR 5563	Advanced Spatial Analysis	
Electives		
Complete four of the following:		16
ARTG 3451	Information Design 1	
ARTG 5130	Visual Communication for Information Design	
CIVE 5280	Remote Sensing of the Environment	
COMM 2555	Games for Change	
COMM 3532	Theories of Conflict and Negotiation	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5563	Advanced Spatial Analysis	
ENVR 5750	Urban Ecology	
GAME 2755	Games and Social Justice	
JRNL 3650	Science Writing	
JRNL 3700	Data Storytelling	

CONCENTRATION IN THE GREEN ECONOMY: BUSINESS, ENTREPRENEURSHIP, AND ENVIRONMENTAL SUSTAINABILITY

Code	Title	Hours
Required Courses		
BUSN 1101	Introduction to Business	4
FINA 2720	Sustainability in the Business Environment	4
Complete one of the following:		4
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
Complete one of the following:		4
BUSN 3110	The Consulting Environment	
INNO 2206	Global Social Enterprise	
INNO 3520	Impact Investing and Social Finance	
Electives		
Complete four of the following:		16
BUSN 3110	The Consulting Environment	
CIVE 5275	Life Cycle Assessment of Materials, Products, and Infrastructure	
ECON 3423	Environmental Economics	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
ENVR 3701	Energy in the Desert Ecosystem	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	
ME 5645	Environmental Issues in Manufacturing and Product Use	
MGMT 3530	Project Management	
MKTG 2301	Marketing and Society	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 1000	1	ENVR 1110	4	General elective 1	4	General elective 3	4
ENVR 1101	4	ENVR 3150	4	General elective 2	4	General elective 4	4
ENVR 2515	4	PHTH 2414	4				
PHIL 1180	4	Intermediate language requirement	4				
Elementary language requirement	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3200	4	Co-op	0	Co-op	0	General elective 5	4
ENVR 3300 and ENVR 3301	5					General elective 6	4
Concentration required course 1	4						
Concentration required course 2	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 4522	4	Co-op	0	Co-op	0	Concentration elective course 2	4
Required research methods course	4					General elective 7	4
Concentration required course 3	4						
Concentration elective course 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Concentration required course 4	4	ENVR 4000	4
Concentration elective course 3	4	ENVR 4050	4
Concentration elective course 4	4	General elective 9	4
General elective 8	4	General elective 10	4
	16		**16**

Total Hours: 130

Marine Biology, BS

Our Bachelor of Science in Marine Biology aims to provide students with a solid foundation in marine biology, with flexibility to explore ocean and coastal processes, marine biogeochemistry, the ecology and evolution of marine organisms, and the ocean's role and responses in global change. Core, skills-based courses are designed to prepare students for in-depth examination of the contemporary issues facing marine organisms and ecosystems, while helping to develop resumés that are strengthened by experiential learning. This major also provides options for students following a prevet or premed track.

Faculty teaching the courses are experts who are dedicated to marine research and experiential learning, providing students the opportunities to learn new, valuable skills and to expand their professional science network. Students may actively participate in field and lab work, internships at Northeastern University's Marine Science Center in Nahant, MA, study abroad through Dialogue of Civilizations programs or the long-standing Three Seas Program (see below). Additional opportunities exist for students in this strong, interdisciplinary program that prepares students for direct entry into the job market or a competitive graduate program.

Students majoring in Marine Biology cannot be combined with majors in Biology, Ecology and Evolutionary Biology, or Environmental and Sustainability Sciences, nor can they minor in Biology, Ecology and Evolutionary Biology, or Environmental and Sustainability Sciences.

Three Seas Program

The Three Seas Program delivers a unique combination of inquiry-based, global study, fieldwork, and research across three distinct locations: the Gulf of Maine, tropical coastal Panama, and the Pacific Northwest. This optional, two-semester program is designed to teach students to plan and execute marine field research to enhance their future opportunities, whether in top doctoral programs or careers with government agencies or private consulting firms. Students finish the program as active scientists who are certified in scientific diving, have an expanded skill set, and have a robust professional network.

For more information, please see the Three Seas Program website (https://cos.northeastern.edu/marine-environmental-sciences/three-seas/).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Marine Biology Major Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000 or INSC 1000	Marine and Environmental Sciences at Northeastern Science at Northeastern	1
Foundations Courses		
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	5
EEMB 1105 and EEMB 1106	Foundations in Ecological and Evolutionary Genomics and Lab for EEMB 1105	5
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Ecology		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
Evolution		
EEMB 2400	Introduction to Evolution	4
Marine Biology		
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	5
Conservation		

EEMB 3460	Conservation Biology	4
Scientific Communication		
ENVR 4000	Science Communication and Professional Development	4
Capstone		
Complete one of the following:		1-4
BIOL 4701	Biology Capstone	
ENVR 4900	Earth and Environmental Science Capstone	
ENVR 4997	Senior Thesis	

Marine Biology Options

Complete one of the following options:

- Requirements for Students (p. 1457)Not Participating in Three Seas (p. 1457)
- Requirements for Students (p. 1457)Participating in Three Seas (p. 1457)

Supporting Courses for Marine Biology

Code	Title	Hours
Mathematics		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1241	Calculus 1	
or MATH 1341	Calculus 1 for Science and Engineering	
Introduction to Data		
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	5
Biostatistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	4
or ENVR 3410	Environmental Geochemistry	
or ENVR 4504	Environmental Pollution	
Physics		
Complete a lecture/lab set for Physics 1:		5
Physics 1		
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145 (recommended)	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
PHYS 1171 and PHYS 1172 and PHYS 1173	Physics 1 for Bioscience and Bioengineering and Lab for PHYS 1171 and Interactive Learning Seminar for PHYS 1171	

Marine Biology Major Credit/GPA Requirements

Complete 89 semester hours in the major with a cumulative GPA of 2.000.

Program Requirement

137 total semester hours required

REQUIREMENTS FOR STUDENTS NOT PARTICIPATING IN THREE SEAS

Code	Title	Hours
ENVR 3125	Global Oceanic Change	4
or ENVR 3600	Oceanography	
Complete five of the following:		20-24
BIOL 5587	Comparative Neurobiology	
EEMB 2290	Ecology and Evolution of Behavior	
EEMB 3001	Genetics and Evolution in Action	
EEMB 3450	Physiological Adaptations to the Environment	
EEMB 3455	Ecosystems Ecology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	
EEMB 5130	Population Dynamics	
ENVR 3125	Global Oceanic Change (If not used to fulfill another requirement of this program)	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 4504	Environmental Pollution	
ENVR 4505	Wetlands	
ENVR 5220	Ecosystem-Based Management	
EEMB 5542	Marine Spatial Planning	
Elective courses available at Nahant campus:		
EEMB 5510	New England Marine Biomes	
EEMB 5522	Experimental Design Marine Ecology	
EEMB 5525	Advanced Field Methods in Marine Ecology	
EEMB 5546	Sustainability of the Land-Sea Interface	

THREE SEAS STUDENTS

Code	Title	Hours
Three Seas courses at Nahant/Northeastern campus:		
EEMB 5510	New England Marine Biomes	4
EEMB 5522	Experimental Design Marine Ecology	3-4
or EEMB 5525	Advanced Field Methods in Marine Ecology	
EEMB 5542	Marine Spatial Planning	4
EEMB 5546	Sustainability of the Land-Sea Interface	3
EEMB 5589	Diving Research Methods	2
Three Seas courses (abroad):		
EEMB 5504 and EEMB 5505	Biology of Corals and Lab for EEMB 5504	3
EEMB 5506 and EEMB 5507	Biology and Ecology of Fishes and Lab for EEMB 5506	3
EEMB 5508	Marine Birds and Mammals	3
EEMB 5518 and EEMB 5519	Ocean and Coastal Processes and Lab for EEMB 5518	3
EEMB 5520	Tropical Marine Ecology	2
EEMB 5538	Conservation and Restoration of Marine Systems	3
Select one of the following:		3
EEMB 5533 and EEMB 5535	Marine Invertebrate Zoology and Botany and Lab for EEMB 5533	
EEMB 5540 and EEMB 5541	Changing Global Oceans and Lab for EEMB 5540	

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEMB 1101 and EEMB 1102	5	CHEM 1161 and CHEM 1162 and CHEM 1163	5	Elective	4	Elective	4
ENVR 1000	1	EEMB 1105 and EEMB 1106	5	Elective	4	Elective	4
ENVR 1500 and ENVR 1501	5	PHYS 1161 and PHYS 1162 and PHYS 1163	5				
MATH 1251	4	Elective	4				
Elective	4						
	19		**19**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op	0	Co-op	0	Elective	4
CHEM 2311 and CHEM 2312	5					Elective	4
EESC 2000	1						
ENGW 3307	4						
ENVR 2500 and ENVR 2501	5						
	20		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEMB 2302 and EEMB 2303	5	Co-op	0	Co-op	0	Elective	4
EEMB 2400	4					Elective	4
EEMB 2700 and EEMB 2701	5						
Marine biology elective	4						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
EEMB 3460	4	BIOL 4701, ENVR 4900, or ENVR 4997	1-4
ENVR 3600 (Oceanography)	4	ENVR 3125	4
Marine biology elective	4	ENVR 4000	4
Marine biology elective	4	Marine biology elective	4
	16		**13-16**

Total Hours: 137-140

Marine Biology—Three Seas Program, Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEMB 1101 and EEMB 1102	5	CHEM 1161 and CHEM 1162	5	Vacation	0	Elective	4
ENVR 1000	1	EEMB 1105 and EEMB 1106	5			Elective	4
ENVR 1500 and ENVR 1501	5	EEMB 2400	4				

MATH 1251	4	PHYS 1161 and PHYS 1162 and PHYS 1163	5				
Elective	4						
	19		**19**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op	0	Co-op	0	Elective	4
CHEM 2311 and CHEM 2312	5					Elective	4
EESC 2000	1						
ENGW 3307	4						
ENVR 2500 and ENVR 2501	5						
	20		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEMB 2302 and EEMB 2303	5	Elective	4	Vacation	0	EEMB 5525	3
EEMB 2700 and EEMB 2701	5	Elective	4			EEMB 5546	3
EEMB 3460	4	Elective	4				
Elective	4	Elective	4				
	18		**16**		**0**		**6**

Year 4

Fall	Hours	Spring	Hours
EEMB 5504 and EEMB 5505	3	BIOL 4701, ENVR 4900, or ENVR 4997	1-4
EEMB 5506 and EEMB 5507	3	ENVR 4000	4
EEMB 5508	3	Elective	4
EEMB 5518 and EEMB 5519	3	Elective	4
EEMB 5520	2		
EEMB 5538	3		
EEMB 5540 and EEMB 5541	3		
	20		**13-16**

Total Hours: 147-150

Computer Science and Environmental and Sustainability Sciences, BS

The computer science and the environmental and sustainability sciences combined major focuses on the major environmental challenges facing our planet and provides broad training to understand how these challenges can be met through advances in computer science and artificial intelligence. Understanding these processes requires both the acquisition and computational analysis of large amounts of data—underscoring the synergistic relationship between computer science and environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000 and CS 3001	Algorithms and Data and Recitation for CS 3000	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With advisor approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Environmental and Sustainability Sciences Courses

Code	Title	Hours
Environmental and Sustainability Sciences Required Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	

ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2515	Sustainable Development	4
Skills		
Complete one of the following:		4-5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 5260	Geographical Information Systems	
Earth Oceans and Environmental Change		
Complete one of the following:		4-5
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		
Complete one of the following:		4
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	
Sustainable Planning and Development		
Complete one of the following:		4
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
Environment and Society		
Complete one of the following:		4
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	
PPUA 5268	International Environmental Policy	
SOCL 2485	Environment, Technology, and Society	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
MATH 1252	Calculus and Differential Equations for Biology 2	4
or MATH 1342	Calculus 2 for Science and Engineering	
MATH 3081	Probability and Statistics	4

Chemistry		
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	5
CHEM 1214 and CHEM 1215 and CHEM 1216	General Chemistry 2 and Lab for CHEM 1214 and Recitation for CHEM 1214	5
Computing and Social Issues		
Complete one of the following:		4
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 4528	Computers and Society	

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4971	Junior/Senior Honors Project 2	
ENVR 4997	Senior Thesis	
CS 4991	Research	

Required General Electives

Code	Title	Hours
Complete 20 credits of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, DS, CY, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- `Demonstrating Thought and Action in a Capstone`

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

136 total semester hours required

Plan of Study

Sample Plan of Study:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	ENVR Skills Coures	4				
ENGW 1111	4	EEMB 2302 and EEMB 2303	5				
ENVR 1400 and ENVR 1401	5						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		MATH 1251 or 1341	4
CHEM 1211 and CHEM 1212 and CHEM 1213	5					Elective	4
CS 3000	4						
ENVR 2515	4						
ENVR 2200 or 1200	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1214 and CHEM 1215 and CHEM 1216	5	Co-op		Co-op		MATH 3081	4
MATH 1252 or 1342	4					ENGW 3302, 3307, or 3315	4
ENVR Oceans Course	4						
Khoury Elective	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	CS 4530	4
ENVR Conservation Course	4	ENVR society course	4
ENVR Sustainable Course	4	Integrative course	4
Elective	4	Computing and social issues	4
	16		**16**

Total Hours: 138

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 3200	4	Elective	4	Elective	4

CS 2500 and CS 2501	5	ENVR Skills Coures	4				
ENGW 1111	4	EEMB 2302 and EEMB 2303	5				
ENVR 1400 and ENVR 1401	5						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1211 and CHEM 1212 and CHEM 1213	5	CHEM 1214 and CHEM 1215 and CHEM 1216	5	MATH 1252 or 1342	4	Co-op	
CS 3000	4	CS 1210	1	Elective	4		
ENVR 2515	4	MATH 1251 or 1341	4				
ENVR 2200 or 1200	4	ENVR Earth oceans course	4				
		Khoury elective	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	ENGW 3302, 3307, or 3315	4	Co-op	
		ENVR conservation course	4	MATH 3081	4		
		ENVR sustainable course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		ENVR society course	4
		Integrative course	4
		Computing and social issues	4
	0		**16**

Total Hours: 138

Data Science and Ecology and Evolutionary Biology, BS

The combined major in data science and ecology and evolutionary biology provides a strong foundation in the fundamentals of ecology and evolutionary biology, including focal points in population, community, and ecosystem ecology; evolutionary ecology and biology; conservation biology; population genetics; behavior; and ecological and evolutionary genomics. Data science allows students to study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The interdisciplinary nature of the major fosters critical thinking and creativity in scientific problem solving.

Students majoring in ecology and evolutionary biology and associated combined majors cannot combine majors in biology, marine biology, or environmental and sustainability sciences, nor can they minor in biology, marine science, or environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Coursework

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or ENVR 1000	Marine and Environmental Sciences at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the two options.		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective Courses		

With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.	
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Ecology and Evolutionary Biology Coursework

Code	Title	Hours
Ecology and Evolutionary Biology		
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	5
Ecology and Evolutionary Genomics		
EEMB 1105 and EEMB 1106	Foundations in Ecological and Evolutionary Genomics and Lab for EEMB 1105	5
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Evolution		
EEMB 2400	Introduction to Evolution	4
Ecology		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
Capstone		
ENVR 4997	Senior Thesis	4

Ecology and Evolutionary Biology Topical Requirement

Code	Title	Hours
Complete 16 semester hours of the following (at least one course must be taken from each list):		16
Evolution of Organisms		
EEMB 2290	Ecology and Evolution of Behavior	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3001	Genetics and Evolution in Action	
EEMB 3450	Physiological Adaptations to the Environment	
EEMB 3600	Animal Behavior	
EEMB 3700	Desert Ecology	
Ecology and Conservation Biology		
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 3475	Wildlife Ecology	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 3125	Global Oceanic Change	
ENVR 3150	Food Security and Sustainability	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	
Analytical Skills		
EEMB 3465	Ecological and Conservation Genomics	
EEMB 5130	Population Dynamics	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	

ENVR 5500	Advanced Biostatistics
ENVR 5563	Advanced Spatial Analysis

Supporting Courses

Code	Title	Hours
Calculus		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
Chemistry		
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	5
Physics		
Complete one of the following:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Requirement

Code	Title	Hours
Integrative Course		
DS 4420	Machine Learning and Data Mining 2	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200, ENVR 1000, or INSC 1000	1	DS 2500 and DS 2501	5	BIOL 2301 and BIOL 2302	5	General Elective	4
CS 1800 and CS 1802	5	EEMB 1105 and EEMB 1106	5	General Elective	4	General Elective	4
DS 2000 and DS 2001	4	ENVR 2500 and ENVR 2501	5				
EEMB 1101 and EEMB 1102	5	MATH 1251 or 1341	4				
ENGW 1111	4						
	19		**19**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1211 and CHEM 1212 and CHEM 1213	5	CS 1210 or EESC 2000	1	General Elective	4	Co-op	
CS 3200	4	DS 3500	4	Khoury Elective	4		
DS 3000	4	DS 4200	4				
EEB Topical Requirement	4	EEMB 2400	4				
		EEB Topical Requirement	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302, 3307, or 3315	4	Co-op	
		DS 4400	4				
		EEMB 2302 and EEMB 2303	5				
		EEB Topical Requirement	4				
	0		**17**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		ENVR 4997	4
		EEB Topical Requirement	4
		Physics Requirement	5
	0		**17**

Total Hours: 135

Data Science and Environmental and Sustainability Sciences, BS

The data science and environmental and sustainability sciences combined major focuses on major environmental challenges facing our planet and provides broad training to understand how these challenges can be met through advances in data science. Understanding these processes requires acquisition and analysis of large amounts of data—an ideal fit with data science, where students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ENVR 1000	Marine and Environmental Sciences at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500	Object-Oriented Design	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Environmental Science and Sustainability Courses

Code	Title	Hours
Environmental and Sustainability Sciences Major Requirements		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	
ENVR 2515	Sustainable Development	4
Skills Courses		
Complete one of the following:		4-5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 5260	Geographical Information Systems	
Earth Oceans and Environmental Change		
Complete one of the following:		4-5
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3600	Oceanography	
ENVR 3125	Global Oceanic Change	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		
Complete one of the following:		4
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5750	Urban Ecology	
Sustainable Planning and Development		
Complete one of the following:		4
ENVR 3200	Water Resources	
ENVR 3150	Food Security and Sustainability	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
Environment and Society		
Complete one of the following:		4
ENVR 5750	Urban Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	

PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
CHEM 1211 and CHEM 1212 and CHEM 1213	General Chemistry 1 and Lab for CHEM 1211 and Recitation for CHEM 1211	5
CHEM 1214 and CHEM 1215 and CHEM 1216	General Chemistry 2 and Lab for CHEM 1214 and Recitation for CHEM 1214	5

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4971	Junior/Senior Honors Project 2	
ENVR 4997	Senior Thesis	
CS 4991	Research	

Required General Electives

Code	Title	Hours
Complete 24 credits of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- `Demonstrating Thought and Action in a Capstone`

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

134 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3200	4	Elective	4
CS 1800 and CS 1802	5	EEMB 2302 and EEMB 2303	5	CS 3500	4	Elective	4
CS 2500 and CS 2501	5	ENVR 1400 and ENVR 1401	5				
ENGW 1111	4	ENVR 2515	4				
ENVR 2200	4						
	19		**19**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1211 and CHEM 1212 and CHEM 1213	5	CHEM 1214 and CHEM 1215 and CHEM 1216	5	MATH 1341 or 1251	4	Co-op	
DS 3000	4	CS 1210	1	Elective	4		
ENVR skills course	4	DS 4200	4				
ENVR Earth oceans course	4	DS 4300	4				
		ENVR 2500	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ENGW 3302	4	Co-op	
		ENVR conservation course	4	Elective	4		
		ENVR sustainable course	4				
		ENVR society course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		DS 4420	4
		Integrative course	4
		Khoury elective	4
		Elective	4
		Elective	4
	0		**20**

Total Hours: 141

Environmental and Sustainability Sciences and Chemistry, BS

The Departments of Marine and Environmental Sciences and Chemistry provide education in basic environmental and sustainability sciences and chemistry-related disciplines. The overall objective of this combined major is to provide the fundamental scientific background and practical training for students as they prepare for environmental and chemically related careers or advanced study in fields including the traditional specialties such as toxicology, pollution, bioremediation, environmental protection, education, law, and other endeavors that may draw upon an understanding of the chemical basis of the environment and the changes that will likely result from global environmental change.

Key general objectives are the development of qualitative and quantitative problem-solving skills and effective communication skills. This combined major includes the development of conceptual understanding and problem-solving abilities in the fundamental dynamics between the environment and its chemistry, be it analytical chemistry, biochemistry, inorganic chemistry, organic chemistry, and physical chemistry. Students will have the opportunity to perform quantitative measurements; learn proper laboratory practices, including safety; develop proficiency with modern instruments and computers for data acquisition and analysis; and learn the relevance of chemistry within the context of the abiotic and biotic environments.

Students also have the opportunity to participate in the cooperative education program and thereby gain invaluable professional experience to augment their classroom and laboratory work. Not only does that experience add immensely to the overall education received, it also has the potential to provide contacts and references for later employment or graduate school admissions. Students in this major may also undertake research projects for at least one semester under the supervision of a faculty member. Sufficient electives are available in the program either to take more advanced courses or research within the department or to add courses in an area of special interest.

There are a number of interdisciplinary opportunities involving ESS. Due to curricular overlap, combinations of any ESS major, including combined majors, cannot occur with majors or minors in ecology and evolutionary biology or environmental studies or with the minor in geoscience. ESS and chemistry combined majors are also restricted from a minor in environmental chemistry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Science and Sustainability Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or CHEM 1000	Chemistry/Chemical Biology at Northeastern	
or INSC 1000	Science at Northeastern	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
Core Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2515	Sustainable Development	4
Complete one of the following:		4-5
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
Complete four of the following (three of four must be above the 3000 level):		16
EEMB 2400	Introduction to Evolution	

EEMB 3460	Conservation Biology
EEMB 4001	Landscape and Restoration Ecology
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310
ENVR 2340	Earth Landforms and Processes
ENVR 3125	Global Oceanic Change
ENVR 3150	Food Security and Sustainability
ENVR 3200	Water Resources
ENVR 3600	Oceanography
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500
ENVR 4505	Wetlands
ENVR 5150	Climate and Atmospheric Change
ENVR 5190	Soil Science
ENVR 5210	Environmental Planning
ENVR 5220	Ecosystem-Based Management
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5450	Applied Social-Ecological Systems Modeling
ENVR 5670	Global Biogeochemistry
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
POLS 2395	Environmental Politics and Policy
PPUA 5260	Ecological Economics
SOCL 2485	Environment, Technology, and Society

Chemistry Requirements

Code	Title	Hours
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2161 and CHEM 2162 and CHEM 2163	Concepts in Chemistry and Lab for CHEM 2161 and Recitation for CHEM 2161	5
Intermediate-Level Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	5
Advanced-Level Chemistry		
CHEM 3401 and CHEM 3402	Chemical Thermodynamics and Kinetics and Lab for CHEM 3401	5
Complete one of the following:		5
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
CHEM 3403 and CHEM 3404	Quantum Chemistry and Spectroscopy and Lab for CHEM 3403	
Math Requirements		
Complete two of the following:		8-9
MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1341	Calculus 1 for Science and Engineering	
MATH 1242	Calculus 2	

or MATH 1252	Calculus and Differential Equations for Biology 2	
or MATH 1342	Calculus 2 for Science and Engineering	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
or ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	
or SOCL 2321	Research Methods in Sociology	
Physics Requirement		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5

Integrative Requirements

Code	Title	Hours
Integrative Requirements		
Complete two of the following:		8
CHEM 3410	Environmental Geochemistry	
CHEM 4750	Senior Research	
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4504	Environmental Pollution	
ENVR 5190	Soil Science	

Major Credit Requirement

94 total semester hours required in the major

Program Credit Requirement

140 total semester hours required in the major

Plan of Study

Sample Plan of Study - Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1161 and CHEM 1162 and CHEM 1163	5	CHEM 2161 and CHEM 2162 and CHEM 2163	5	General elective 2	4	General elective 4	4
ENVR 1000, CHEM 1000, or INSC 1000	1	EEMB 2302 and EEMB 2303	5	General elective 3	4	General elective 5	4
ENVR 1200 and ENVR 1201	5	ENGW 1111	4				
ENVR 1400 and ENVR 1401	5	ENVR 2515	4				
General elective 1	4						
	20		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311 and CHEM 2312	5	CHEM 2313 and CHEM 2314	5	CHEM 2321 and CHEM 2322 and CHEM 2323	5	Co-op	
ENVR elective; 1 of 4	4	EESC 2000	1	Math requirement; 2 of 2	4		
Math requirement; 1 of 2	4	PHYS 1151 and PHYS 1152 and PHYS 1153	5				
General elective 6	4	ENVR skills requirement	4				
		ENVR elective; 2 of 4	4				
	17		**19**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 3401 and CHEM 3402	5	General elective 7	4	Co-op	
		ENGW 3307	4	General elective 8	4		
		Advanced CHEM elective	5				
		ENVR elective; 3 of 4	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR elective; 4 of 4	4
		Integrative course; 1 of 2	4
		Integrative course; 2 of 2	4
		General elective 9	4
	0		**16**

Total Hours: 141

Environmental and Sustainability Sciences and Economics, BS

Through this combined major, students develop an awareness of the intrinsic connection between the environment and economics and understand how long-run economic growth is crucially dependent on policies that account for the sustainability and well-being of the environment and that are grounded on environmental science.

There are a number of interdisciplinary opportunities involving environmental and sustainability sciences. Due to curricular overlap, combinations of any environmental and sustainability sciences major, including combined majors, cannot occur with majors or minors in ecology and evolutionary biology or environmental studies or with the minor in geoscience.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental and Sustainability Sciences Requirements

Code	Title	Hours
Core Courses		
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 2515	Sustainable Development	4
Complete one of the following skills courses:		4-5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 5260	Geographical Information Systems	
Complete four courses from these lists:		16
Earth Oceans and Environmental Change		
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
Sustainable Planning and Development		
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	

ENVR 5150	Climate and Atmospheric Change
ENVR 5210	Environmental Planning
ENVR 5800	Climate Adaptation and Nature-Based Solutions
Environment and Society	
ENVR 5450	Applied Social-Ecological Systems Modeling
ENVR 5750	Urban Ecology
POLS 2395	Environmental Politics and Policy
PPUA 5260	Ecological Economics
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

Economics Requirements

Code	Title	Hours
Core Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ECON 3423	Environmental Economics	4
Supporting Courses		
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Electives		
Complete two courses in the following ranges, with only one at the 1000 level:		8
ECON 1200–ECON 1999		
ECON 2990 –ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		

Integrative Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or ECON 1000	Economics at Northeastern	
or INSC 1000	Science at Northeastern	
Environmental and Sustainability Sciences Integrative Course		
Complete one of the following (courses used as electives may not overlap with courses used as integrative):		4
ENVR 3150	Food Security and Sustainability	
ENVR 5350	Sustainable Energy and Climate Solutions	

ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5563	Advanced Spatial Analysis	
Economics Integrative Course		
Complete one of the following (courses used as electives may not overlap with courses used as integrative):		4
ECON 1711	Economics of Sustainability	
ECON 3404	International Food Policy	
ECON 3425	Energy Economics	
Capstone		
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4997	Senior Thesis	
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	

English Requirements (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Major GPA/Credit Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4

83 semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111 or 1102	4	ECON 1116	4	Elective	4	Elective	4
ENVR 1000 or ECON 1000	1	ENVR 2200 or 1200	4				
ENVR 1400 and ENVR 1401	5	ENVR elective 1	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Elective	4	Co-op	
EEMB 2302	4	ECON 2350	4	Elective	4		
EEMB 2303	1	ENVR 2515	4				
ECON elective 1	4	ENVR elective 3	4				

ENVR elective 2	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ENVR elective 4	4	Co-op	
		ECON 3423	4	Elective	4		
		ENGW 3308, 3307, or 3315	4				
		ENVR 3150, 5350, 5450, or 5563	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR 4050, 4997, ECON 4692, or ECON 4997	4
		ECON 1711, 3404, or 3425	4
		ECON elective 2	4
		ENVR elective 5	4
	0		**16**

Total Hours: 131

Environmental and Sustainability Sciences and Journalism, BS

Overview

The climate crisis and other staggering environmental challenges render it essential that we train a new generation of journalists with a strong scientific foundation in environmental science. Clearheaded and scientifically grounded reporting on environmental issues will be essential for tackling these and other future challenges. This combined major is designed to provide training that merges the basic and applied science underlying environmental change with the best principles and journalistic practices to enable students to pursue careers across a wide range of science communication fields.

Due to curricular overlap, students enrolled in this program cannot declare a double major with or declare a minor in ecology and evolutionary biology, environmental studies, or geoscience.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Restrictions

Due to curricular overlap, students enrolled in this program cannot declare a double major with or declare a minor in ecology and evolutionary biology, environmental studies, or geoscience.

Environmental and Sustainability Sciences Requirements

Code	Title	Hours
Core Courses		
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2200	Earth's Changing Cycles	4
or ENVR 1200	Dynamic Earth	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 2515	Sustainable Development	4
Complete one of the following:		5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
Complete four courses from the following lists:		16
Earth Oceans and Environmental Change		
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 5150	Climate and Atmospheric Change	
Conservation, Restoration, and Management		
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 5220	Ecosystem-Based Management	
Sustainable Planning and Development		
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	

ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5210	Environmental Planning
Environment and Society	
POLS 2395	Environmental Politics and Policy
PPUA 5260	Ecological Economics
SOCL 2485	Environment, Technology, and Society
ENVR 5450	Applied Social-Ecological Systems Modeling

Journalism Requirements

Code	Title	Hours
Foundation Courses		
JRNL 1150	Understanding Today's News	4
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
Law and Ethics		
Complete one of the following:		4
JRNL 3550	The First Amendment and the Media	
JRNL 4650	Ethics and Issues in Journalism	
Electives		
Complete any four journalism electives with two at the 3000-level or above.		16

Integrative Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or JRNL 1000	Journalism at Northeastern	
Co-op		
EESC 2000	Professional Development for Co-op	1
or EEAM 2000	Professional Development for Co-op	
Integrative Course		
Courses used as electives may not overlap with the following:		
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	4
or ENVR 4997	Senior Thesis	
JRNL 3650	Science Writing	4
or JRNL 3700	Data Storytelling	

English Requirements (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or JRNL 2301	Visual Storytelling in Journalism	

Major GPA/Credit Requirement

Grades in the following must average to a minimum of C (2.000):

Code	Title	Hours
JRNL 1101	Journalism 1: Fundamentals of Reporting and Writing	
JRNL 2201	Journalism 2: Intermediate Reporting	
JRNL 2301	Visual Storytelling in Journalism	

83 semester hours required in the major

Program Requirement

132 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 1000 or JRNL 1000	1	ENVR 2200 or 1200	4	Elective	4	Elective	4
ENGW 1111 or 1102	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
ENVR 1400 and ENVR 1401	5	ENVR elective 1	4				
JRNL 1150	4	Elective	4				
Elective	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEMB 2302 and EEMB 2303	5	ENVR 2515	4	Elective	4	Co-op	
JRNL 2201	4	ENVR 1500 and ENVR 1501 (or ENVR 3300 and ENVR 3301)	5	Elective	4		
ENVR elective 2	4	JRNL 2301, 5309, 5310, or 5314	4				
JRNL elective 1	4	EESC 2000 or EEAM 2000	1				
		ENVR elective 3	4				
		JRNL elective 2					
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENVR 4050, 4997, JRNL 3650, or JRNL 3700	4	Elective	4	Co-op	
		JRNL 3550 or 4650	4	Elective	4		
		ENVR elective 4	4				
		JRNL elective 3	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR 4997, 4050, JRNL 3650, or JRNL 3700	4
		JRNL elective 4	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 134

Environmental and Sustainability Sciences and Landscape Architecture, BS

The Department of Marine and Environmental Sciences and the program in landscape architecture provide an education in basic environmental and sustainability sciences and landscape-architecture-related disciplines. This combined major provides students the opportunity to obtain the fundamental scientific background and practical training to tackle environmental and landscape-related issues. The program seeks to prepare students for advanced studies or careers in fields of urban planning, urban design, sustainable development, environmental consulting, and/or other fields focusing on the interactions among landscapes, the built environment, human societies, and overall climate impacts.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental and Sustainability Sciences Requirements

Code	Title	Hours
Environmental and Sustainability Sciences Required Courses		
Core Courses		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4
or ENVR 2200	Earth's Changing Cycles	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 2515	Sustainable Development	4
Complete one course from each category:		
Skills		*4-5*
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
Earth, Oceans, and Environmental Change		*4-5*
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		*4*
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 5220	Ecosystem-Based Management	
ENVR 5700	Streams and Watershed Ecology	
Sustainable Planning and Development		*4*
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	

ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5800	Climate Adaptation and Nature-Based Solutions	
Environment and Society		*4*
ENVR 5750	Urban Ecology	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	
SOCL 2485	Environment, Technology, and Society	

Landscape Architecture Requirements

Code	Title	Hours
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
LARC 2130	Sustainable Urban Site Design	6
LARC 2230	Introduction to Sustainable Site Planning and Design	4
LARC 2330	Cities, Landscape, and Modern Culture	4
LARC 2340	Cities, Landscape, and Contemporary Culture	4
LARC 2430	Plants, People, and Landscape Change	4

Landscape Architecture Electives

Code	Title	Hours
Complete three of the following:		12-14
ARCH 3351	Architecture Topics Abroad: Theory	
ARCH 3352	Architecture Topics Abroad: Drawing	
ARCH 3370	Advanced Topics in Architectural History	
ARCH 3450	Advanced Architectural Communication	
ARCH 4850	Urban and Architectural History Abroad	
LARC 2240	Sustainable Site Construction and Detailing	
LARC 2440	Planting Design	
LARC 3170	Landscape Planning and Urbanism Studio	
LARC 5210	Landscape Ecology	
LARC 5220	Sustainable Landscape Practices	
LARC 5310	Urban Landscape Seminar	
SUEN 6210	Implementation and Visualization for Urban Environments 1	
SUEN 6220	Implementation and Visualization for Urban Environments 2	

Capstone/Integrative Course

Code	Title	Hours
Complete one of the following:		4
ENVR 4997	Senior Thesis	
LARC 5120	Comprehensive Design Studio	
LARC 5210	Landscape Ecology	
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	

Environmental and Sustainability Sciences and Landscape Architecture Major Credit Requirement

Complete a minimum of 84 semester hours in the major.

Program Requirements

132 total semester hours required

Plan of Study

Four-Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LARC 2430	4	ARCH 1110	4	Elective	4	Elective	4
ENVR 1400 and ENVR 1401	5	ARCH 1120	6	ENGW 1111	4	Elective	4

ENVR 2200	4	EEMB 2302 and EEMB 2303	5				
Elective	4	EEAM 2000	1				
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LARC 2130	6	LARC 2340	4	Elective	4	Co-op	0
LARC 2230	4	ENVR 3300 and ENVR 3301	5	Elective	4		
LARC 2330	4	LARC elective	4				
ENVR elective	4	Elective	4				
	18		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENVR elective	4	ENGW 3314	4	Co-op	0
		ENVR elective	4	Elective	4		
		ENVR elective	4				
		LARC elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENVR 2515	4
		Capstone	4
		ENVR elective	4
		LARC elective	4
	0		**16**

Total Hours: 132

Environmental Studies and History, BA

Through this combined major, successful undergraduates will develop an awareness of the scientific, cultural, and political aspects of the world's environmental problems through historical perspectives and backgrounds. Due to overlap in course content, students majoring in environmental studies or any environmental studies combined majors may not complete a minor in environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Complete one of the following:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or higher:		16
ARTG 5110	Information Design History	
BUSN 3110	The Consulting Environment	
CIVE 5280	Remote Sensing of the Environment	
COMM 3500	Environmental Issues, Communication, and the Media	

EEMB 3466	Disease Ecology
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
PHTH 4202	Principles of Epidemiology in Medicine and Public Health
POLS 2395	Environmental Politics and Policy
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

History Requirements

Code	Title	Hours
History Requirements		
HIST 1130	Introduction to the History of the United States	4
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	4
HIST 1201	First-Year Seminar	4
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	4
History Seminar		
HIST 2301 and HIST 2302	The History Seminar and Historical Writing	5
History/Geographic-Area Electives		
Complete two of the following:		8
ASNS 1150	East Asian Studies	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
History-Area Electives		
Complete four HIST courses, approved by a faculty advisor, focused on an idea or geographic area. A minimum of one course must be numbered 2000 to 2999 (Excluding HIST 2301 and HIST 2032). A minimum of one course must be numbered 3000 to 4999 (Excluding HIST 4701).		16

Integrative Courses

Code	Title	Hours
Complete two of the following (may not overlap with courses used as electives):		8
EEMB 4000	Applied Conservation Biology	
ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
ENVR 4504	Environmental Pollution	
ENVR 5210	Environmental Planning	
JRNL 3700	Data Storytelling	

Experiential Learning and Capstone

Code	Title	Hours
Experiential Learning		
Complete an approved activity from either department, combined with reflection in capstone.		
Capstone Course		
Complete one of the following:		1-4
ENVR 4900	Earth and Environmental Science Capstone	
ENVR 4970	Junior/Senior Honors Project 1	
ENVR 4997	Senior Thesis	
HIST 4701	Capstone Seminar	

Combined-Major Credit Requirement

Complete 91 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ENVR 1110	4	ENVR elective 1 of 4	4	ENVR elective 2 of 4	4
ENVR 1000	1	HIST 1170	4	Elective	4	Elective	4
ENVR 1101	4	HIST 1201	4				
HIST 1130	4	ENVR 2515	4				
SOCL 1246	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3300 and ENVR 3301	5	EESC 2000	1	HIST elective	4	Co-op	0
HIST 1215	4	ENVR elective 3 of 4	4	Elective	4		
HIST geographic elective	4	HIST geographic elective	4				
Foreign language course	4	HIST elective	4				
		Foreign language course	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENVR elective 4 of 4	4	Integrative elective	4	Co-op	0
		HIST elective	4	Integrative elective	4		
		Integrative elective	4				
		Foreign language course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENGW 3308 or 3315	4
		HIST 2301 and HIST 2302	5
		Capstone requirement	1-4
		HIST elective	4
	0		**14-17**

Total Hours: 129-132

Environmental Studies and International Affairs, BA

Through this combined major, successful undergraduates will develop an awareness of the international issues that influence the scientific, cultural, societal, political, and economic aspects of the world's environmental problems and the ways in which such environmental challenges can be ameliorated and/or solved.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Choose one introductory science course:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Choose one introductory social science course:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or higher:		16
ARTG 5110	Information Design History	
BUSN 3110	The Consulting Environment	
CIVE 5280	Remote Sensing of the Environment	
COMM 3500	Environmental Issues, Communication, and the Media	

EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 3466	Disease Ecology
EEMB 3700	Desert Ecology
ENVR 3701	Energy in the Desert Ecosystem
ENVR 5210	Environmental Planning
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
PHTH 4202	Principles of Epidemiology in Medicine and Public Health
POLS 2395	Environmental Politics and Policy
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title
INTL 2480	Women and World Politics
INTL 2500	Race and Global Human Mobility
INTL 3150	Global Philanthropy
INTL 3200	Cities in a Global Context
INTL 3406	International Law
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
INTL 3520	Global Political Economy
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following courses. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements.		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3430	Revolution, Civil War, and Insurrection	
or INTL 3430	Revolution, Civil War, and Insurrection	
POLS 4918	Model NATO	
Globalization		
AFAM 2600	Issues in Race, Science, and Technology	
ANTH 2305	Global Markets and Local Culture	

ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two regional analysis courses, both of which must be in one region, from the following lists. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1502	Introduction to Arabic Culture	
CLTR 1505	Latin American Culture, History, and Politics	

CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Integrative Courses

Code	Title	Hours
Integrative Courses		
ECON 1711	Economics of Sustainability	4
or ECON 3290	History of the Global Economy	
or ECON 3423	Environmental Economics	
INTL 4700	Senior Capstone Seminar in International Affairs	4
or ENVS 4997	Senior Thesis	
PHTH 4120	Global Perspectives on Discrimination and Health	4
or INTL 5100	Climate and Development	
or ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
or ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
or ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
or ENVR 4000	Science Communication and Professional Development	
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	

Environmental Studies and International Affairs Combined Major Credit Requirement

Complete 81 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ENVR 1110	4	Foreign Language Course 1	4	INAF Global Dynamics 1	4
ENVR 1101	4	ENVR 2515	4	Foreign Language Course 2	4		
INTL 1101	4	POLS 1160	4				
SOCL 1246	4	ENVR elective; 1 of 4	4				
ENVR 1000	1						
	17		**16**		**8**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2211	4	EESC 2000	1	Foreign language course 3	4	Co-op	0
ENVR 3300 and ENVR 3301	5	ENVR elective; 3 of 4	4	INAF Global Dynamics 2	4		
ENVR Elective; 2 of 4	4	ENVR 3300 and ENVR 3301	5				
INAF regional analysis course 1	4	ENVR elective; 4 of 4	4				
		INAF regional analysis course 2	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	International experiential learning	16	INAF Global Dynamics 3	4	Co-op	0
				Quantitative methods course	4-5		
	0		**16**		**8-9**		**0**

Year 4

Fall	Hours	Spring	Hours
		ECON 3423	4
		ENGW 3308 or 3315	4
		INTL 3400	4
		INTL 4700	4
	0		**16**

Total Hours: 128-129

Environmental Studies and Philosophy, BA

Through this combined major, successful undergraduates will develop an awareness of the scientific, cultural, and political aspects of the world's environmental problems while considering the philosophical, moral, and ethical impacts that such decisions have on human-environment interactions. Due to overlap in course content, students majoring in Environmental Studies or any Environmental Studies combined majors may not complete a minor in Environmental and Sustainability Sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Science		
Choose one introductory science course:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Social Science		
Choose one introductory social science course:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or higher:		16
ARTG 5110	Information Design History	

BUSN 3110	The Consulting Environment
CIVE 5280	Remote Sensing of the Environment
COMM 3500	Environmental Issues, Communication, and the Media
EEMB 3466	Disease Ecology
EEMB 3700	Desert Ecology
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine
ENVR 3701	Energy in the Desert Ecosystem
ENVR 4504	Environmental Pollution
ENVR 5210	Environmental Planning
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
POLS 2395	Environmental Politics and Policy
PPUA 5268	International Environmental Policy

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 1180	Environmental Ethics	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy of Science/Environment		
Complete one of the following:		4
PHIL 1105	Science and Pseudoscience	
PHIL 3050	Information and Uncertainty	
PHIL 4510	Philosophy of Science	
PHIL 4555	Philosophy of Biology	
Advanced Electives		
Complete two PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Philosophy Electives		
Complete two additional PHIL electives, not used to satisfy another requirement.		8

Integrative Courses

Code	Title	Hours
Complete two of the following. Courses used for electives may not be used as integrative courses:		8
COMM 3532	Theories of Conflict and Negotiation	
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4997	Senior Thesis	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	

Environmental Studies and Philosophy Combined Major Credit Requirement

Complete 78 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 1101	4	ENVR 2515	4	Elective	4	Elective	4
PHIL 1115	4	ENVR 3150	4	Elective	4	Elective	4
PHIL 1180	4	PHIL 2325 or POLS 2325	4				
Elective	4	Elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3300 and ENVR 3301	5	ENVR elective; 2 of 4	4	Critical Philosophy Elective	4	Co-op	
PHIL 1105 or 4510	4	PHIL Restricted Elective	4	Elective	4		
PHIL 2330	4	Elective	4				
ENVR elective; 1 of 4	4	Elective	4				
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENVR elective; 3 of 4	4	Integrative Course #1	4	Co-op	
		ENVR elective; 4 of 4	4	Integrative Course #2	4		
		PHIL 4000/5000 Elective	4				
		PHIL Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHIL Elective	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 129

Environmental Studies and Political Science, BA

In this combined major, students develop an awareness of the scientific, cultural, societal, and political aspects of the world's environmental problems through the lens of geopolitical decisions, public policy, and environmental regulations. Due to overlap in course content, students majoring in Environmental Studies or any Environmental Studies combined majors may not complete a minor in Environmental and Sustainability Sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Introductory Science		
Choose one of the following:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Introductory Social Science		
Choose one of the following:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Choose one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Choose one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Choose four courses from the list. At least three must be at 3000 level or higher.		16
ARTG 5110	Information Design History	
BUSN 3110	The Consulting Environment	

CIVE 5280	Remote Sensing of the Environment
COMM 3500	Environmental Issues, Communication, and the Media
EEMB 3466	Disease Ecology
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine
ENVR 3701	Energy in the Desert Ecosystem
ENVR 4504	Environmental Pollution
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
PHTH 4202	Principles of Epidemiology in Medicine and Public Health
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Choose one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Choose four POLS Electives 2000 level or above.		16

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 1502)
- Campaigns and Elections (p. 1502)
- Comparative Politics (p. 1502)
- Identity, Culture, and Politics (p. 1503)
- International Relations and Diplomacy (p. 1503)
- Law and Legal Studies (p. 1503)
- Public Policy (p. 1503)
- Security Studies (p. 1504)

Integrative Courses

Code	Title	Hours
Political Science Integrative Course		
Choose one of the following:		4
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	

Environmental Science Integrative Course		
Choose one of the following:		4
ENVR 4504	Environmental Pollution	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
Capstone Requirement		
Choose one of the following:		1-4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4900	Earth and Environmental Science Capstone	
ENVR 4997	Senior Thesis	
POLS 4701	Political Science Senior Capstone	

Environmental Studies and Political Science Combined Major Credit Requirement

Complete 84 semester hours in the major.

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4

POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	

POLS 2345	Urban Policies and Politics
POLS 2350	State and Local Politics
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1155	4	Foreign Language course	4	Elective	4
ENVR 1101	4	Foreign language course	4	ENVR elective 1 of 4	4	Elective	4
POLS 1150	4	ENVR 2515	4				
SOCL 1246	4	ENVR 3150	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	POLS 2400	4	Elective	4	Co-op	0
ENVR elective; 2 of 4	4	ENVR elective, 3 of 4	4	Elective	4		
ENVR 3300 and ENVR 3301	5	Political thought course	4				
Foreign language course	4	Foreign language course	4				
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315 or 3308	4	Elective	4	Co-op	0
		POLS undergraduate elective	4	POLS elective	4		
		Quantitative methods course	4-5				
		Integrative course #1	4				
	0		**16-17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone[1]	4
		Integrative course #2	4
		POLS undergrad elective	4
		ENVR elective, 4 of 4	4
	0		**16**

Total Hours: 129-130

[1] Earth and Environmental Science Capstone (ENVR 4900) is also an option to fulfill the capstone requirement of this program. Students who complete 1 SH Earth and Environmental Science Capstone (ENVR 4900) must still complete a minimum of 128 SH to meet degree requirements.

Sociology and Environmental Studies, BA

This combined major will lead to undergraduates that have a broad awareness of the sociological and scientific foundations of environmental problem solving. They will have the opportunity to develop concrete skills in GIS and scientific communication that will facilitate student success. Due to overlap in course content, students majoring in environmental studies or any environmental studies combined majors may not complete a minor in environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
or INSH 3101	Research Methods in the Social Sciences	
SOCL 2485	Environment, Technology, and Society	4
SOCL 3300	Social Theory	4
Statistics		
Complete one of the following:		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500 (Adding in co-requirement lab portion)	
SOCL 2320	Statistical Analysis in Sociology	
Capstone		
Complete one of the following:		4
ENVR 4900	Earth and Environmental Science Capstone	
ENVS 4997	Senior Thesis	
SOCL 4600	Senior Seminar	
Sociology Elective A		**4**
Please note that SOCL 2485 may not be used to fulfill this requirement as it is required in the major. Complete one course in the following range:		
SOCL 1000 to SOCL 2999		
Sociology Elective B		**8**
Complete two additional sociology courses in the following range:		
SOCL 3000 to SOCL 5999		

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Complete one introductory science course:		4-5
ENVR 1101	Environmental Science	

ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Complete one introductory social science course:		4
ANTH 1101	Peoples and Cultures	
HUSV 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or above:		16
ARTG 5110	Information Design History	
BUSN 1101	Introduction to Business	
BUSN 3110	The Consulting Environment	
CIVE 5280	Remote Sensing of the Environment	
COMM 3500	Environmental Issues, Communication, and the Media	
EEMB 3466	Disease Ecology	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
ENVR 3701	Energy in the Desert Ecosystem	
ENVR 4504	Environmental Pollution	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5563	Advanced Spatial Analysis	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions (Course is pending)	
FINA 2720	Sustainability in the Business Environment	
INNO 3520	Impact Investing and Social Finance	
JRNL 3650	Science Writing	
PHIL 1180	Environmental Ethics	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
PPUA 5268	International Environmental Policy	

Integrative Requirements

Code	Title	Hours
ENVR 5450	Applied Social-Ecological Systems Modeling	4
SOCL 4522	Environmental Justice	4

Sociology Major Grade Requirement

2.000 GPA required for major courses

Sociology and Environmental Studies Combined Major Credit Requirement

Complete 75 semester hours in the major.

Program Requirements

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	ENVR 1110	4	Elective	4	Elective	4
ENVR 1000	1	ENVR 2500	4	Elective	4	Elective	4

ENVR 1101	4	ENVR 2515	4				
SOCL 1101	4	SOCL 2321	4				
SOCL 1246	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3300 and ENVR 3301	5	ENVR elective; 1 of 4	4	Elective	4	Co-op	0
SOCL 2485	4	ENVR elective; 2 of 4	4	Elective	4		
SOCL 3300	4	Sociology elective	4				
Sociology elective	4	Sociology elective	4				
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENVR elective; 3 of 4	4	Elective	4	Coop	
		ENVR elective; 4 of 4	4	Elective	4		
		Integrative req #1	4				
		Sociology elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone requirement	4
		Integrative requirement #2	4
		Sociology elective	4
		Sociology elective	4
	0		**16**

Total Hours: 130

Ecology and Evolutionary Biology, Minor

The ecology and evolutionary biology minor is designed to provide students a foundation in the principles of ecology and evolutionary biology, as well as to provide concrete skills that will help students achieve their career goals.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Restrictions

Minor not available for students who major in ecology and evolutionary biology, marine biology, biology, or cell and molecular biology, and all combined majors with these programs.

Required Courses

Code	Title	Hours
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	5
EEMB 1105 and EEMB 1106	Foundations in Ecological and Evolutionary Genomics and Lab for EEMB 1105	5

Elective Courses

Code	Title	Hours
Complete four courses from the lists below. At least one course needs to come from each list:		16-20
Evolution of Organisms		
BIOL 2327	Human Parasitology	
EEMB 2290	Ecology and Evolution of Behavior	
EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3465	Ecological and Conservation Genomics	
Ecology and Conservation Biology		
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 3460	Conservation Biology	
EEMB 3475	Wildlife Ecology	
EEMB 4001	Landscape and Restoration Ecology	
Analytical Skills		
EEMB 3465	Ecological and Conservation Genomics	
EEMB 5130	Population Dynamics	
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	

GPA Requirement

2.000 GPA required in the minor

Environmental and Sustainability Sciences, Minor

The environmental and sustainability sciences minor provides undergraduates with a strong foundation in a variety of scientific, technical, institutional, economic, behavioral, and conservation-oriented solutions to environmental problems caused by either natural phenomena and/or human activity.

There are a number of interdisciplinary opportunities involving environmental and sustainability sciences. Due to curricular overlap, combinations of any environmental and sustainability sciences major, including combined majors, cannot occur with majors or minors in ecology and evolutionary biology, environmental studies, or with the minor in geoscience.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Coursework

Code	Title	Hours
Foundational Classes		
Complete two of the following:		8-9
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
or ENVR 2200	Earth's Changing Cycles	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
ENVR 2515	Sustainable Development	
Advanced Coursework		
Complete four courses from this list (at least three courses need to be at the 3000 level or above):		16-19
EEMB 1450	Introduction to Marine Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 1110	Global Climate Change	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 2200	Earth's Changing Cycles	
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
ENVR 3200	Water Resources	
ENVR 3600	Oceanography	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	
POLS 2395	Environmental Politics and Policy	
PPUA 5260	Ecological Economics	
PPUA 5268	International Environmental Policy	
SOCL 2485	Environment, Technology, and Society	

GPA Requirement

2.000 GPA required in the minor

Environmental Studies, Minor

Students pursuing a minor in environmental studies will complete a blend of courses that bridge the scientific foundations and human dimensions of environmental systems. Students will also take a skills course that is designed to improve their marketability in environmental fields. A successful student will broaden their understanding of the science and policy of the Earth's environmental challenges through this program, which complements any undergraduate major.

The goals of the environmental studies minor are threefold:

- To help undergraduates develop an awareness of the scientific, cultural, and political aspects of the world's environmental problems
- To better prepare students for careers in the expanding field of environmental professions
- To prepare students for further study at the graduate or professional school level

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Introductory Courses

Code	Title	Hours
ENVR 1101	Environmental Science	4
or ENVR 1200	Dynamic Earth	
or ENVR 1400	Foundations in Environmental and Sustainability Sciences	
SOCL 1246	Environment and Society	4
or ANTH 1101	Peoples and Cultures	
or PHIL 1180	Environmental Ethics	
or HUSV 2401	Food Justice and Community Development	

Scientific Foundations of Environmental Systems

Code	Title	Hours
Complete one of the following:		4-5
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	

Human Dimensions of Environmental Systems

Code	Title	Hours
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	

Skills Courses

Code	Title	Hours
Complete one of the following:		4-5
ANTH 3410	Ethnographic Field Experience	
ECON 2350	Statistics for Economists	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
POLS 2395	Environmental Politics and Policy	
SOCL 2321	Research Methods in Sociology	

GPA Requirement

2.000 GPA required in the minor

Geosciences, Minor

The geosciences minor is designed to provide students with a comprehensive understanding of the breadth of topics in the geosciences. Core foundational classes in Earth science are followed by student-directed electives across a range of course options.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	5
ENVR 2200	Earth's Changing Cycles	4
Complete one of the following:		5
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 2340 and ENVR 2341	Earth Landforms and Processes and Lab for ENVR 2340	

Geology Elective

Code	Title	Hours
Complete three of the following:		12-14
ENVR 2340 and ENVR 2341	Earth Landforms and Processes and Lab for ENVR 2340	
ENVR 3125	Global Oceanic Change	
ENVR 3200	Water Resources	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 3410	Environmental Geochemistry	
ENVR 3600	Oceanography	
ENVR 5150	Climate and Atmospheric Change	
ENVR 5190	Soil Science	
ENVR 5202	Environmental Science Field Seminar Abroad	
ENVR 5210	Environmental Planning	
ENVR 5350	Sustainable Energy and Climate Solutions	

GPA Requirement

2.000 GPA required in the minor

Marine Sciences, Minor

The marine science minor is designed to provide Northeastern undergraduates with a strong foundation in the marine sciences, while offering the opportunity to obtain concrete skills that will enhance employability. Our minor curriculum also offers the flexibility to take classes in the area of greatest interest to the student and provides hands-on training in foundation marine science courses.

Minor Requirements

Required Courses

Code	Title	Hours
EEMB 1101 and EEMB 1102	Foundations in Ecology and Evolutionary Biology and Lab for EEMB 1101	5
ENVR 3600	Oceanography	4
or ENVR 3125	Global Oceanic Change	

Skills Course

Code	Title	Hours
Complete one of the following:		4-5
ENVR 1500 and ENVR 1501	Introduction to Environmental, Social, and Biological Data and Lab for ENVR 1500	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	

Elective Courses

Code	Title	Hours
Complete three of the following:		11-15
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
ENVR 3125	Global Oceanic Change	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
EEMB 3450	Physiological Adaptations to the Environment	
ENVR 3600	Oceanography	
Courses offered in Nahant, MA:		
EEMB 5510	New England Marine Biomes	
EEMB 5522	Experimental Design Marine Ecology	
EEMB 5542	Marine Spatial Planning	
EEMB 5546	Sustainability of the Land-Sea Interface	

GPA Requirement

2.000 GPA required in the minor

Mathematics

Website (https://cos.northeastern.edu/mathematics/)

Egon Schulte, PhD
Professor and Chair

617.373.2450
617.373.5658 (fax)

Mathematics is of ever-increasing importance to our society and everyday life. It has long been the language of science and technology and provides a rich source of methods for analyzing and solving problems encountered in the physical world. Today, mathematics is essential in virtually all fields of human endeavor, including business, the arts, and the social sciences.

The Bachelor of Arts degree requires at least 11 mathematics courses and two physics courses, in addition to the study of a foreign language; this program is appropriate for students who wish a broader liberal arts education. The Bachelor of Science degree requires at least 14 mathematics courses and two physics courses but no foreign language study; it is more specialized, and it is recommended for those strongly interested in mathematics and science. The department also offers a minor degree in mathematics.

The major programs provide flexibility with elective courses. Students may take advantage of a range of interdisciplinary programs and may join a major in mathematics with one in such fields as computer science, physics, and biology.

Exceptional students are accepted into the Honors Program and have the option to enroll in honors sections of several of their mathematics courses. All math majors may benefit from co-op opportunities in the scientific and business communities in Boston and elsewhere.

Many of the mathematics courses that we offer use computers for visualization, modeling, and numerical approximation.

Students planning to teach secondary school mathematics must major in mathematics and take a specific minor in education, which includes coursework and student teaching.

Mathematical training may lead to opportunities in applied research (natural sciences, engineering, economics, management, computer science) as well as in mathematical research, teaching, or industry.

Programs

Bachelor of Arts (BA)

- Mathematics (p. 1515)

Bachelor of Science (BS)

- Mathematics (p. 1519)
- Biology and Mathematics (p. 1397)
- Computer Science and Mathematics (p. 817)
- Data Science and Mathematics (p. 926)
- Economics and Mathematics (p. 1533)
- Graphic and Information Design and Mathematics (p. 236)
- Mathematics and Business Administration (p. 641)
- Mathematics and Philosophy (p. 1542)
- Mathematics and Physics (p. 1545)
- Mathematics and Political Science (p. 1548)
- Mathematics and Psychology (p. 1552)
- Mathematics and Sociology (p. 1555)

Minor

- Mathematics (p. 1557)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Mathematics, BA

The Bachelor of Arts degree requires at least 11 mathematics courses and two physics courses, in addition to the study of a foreign language. This program is appropriate for students who wish a broader liberal arts education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Major Grade Requirement

A grade of C or higher is required in all mathematics courses numbered 3000 and below and in MATH 4000.

Mathematics Major Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
History of Mathematics		
MATH 2201	History of Mathematics	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2331	Linear Algebra	4
MATH 3150	Real Analysis	4
or MATH 4565	Topology	
MATH 3175	Group Theory	4
MATH 3560	Geometry	4
or MATH 3527	Number Theory 1	
Co-op Reflections		
MATH 3000	Co-op and Experiential Learning Reflection Seminar 1	1
Mathematics Elective		
Complete one course in the following range:		4
MATH 3001 to MATH 4899		
Required Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		

Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Capstone		
Complete one of the following:		4
MATH 4025	Applied Mathematics Capstone	
MATH 5131	Introduction to Mathematical Methods and Modeling	
MATH 4020	Research Capstone	

Mathematics Major Credit Requirement

Complete 54 semester hours in the major.

Upper-Division Electives

Note: Courses used as upper-division electives do not count toward the major or NUpath.

Code	Title	Hours
Complete three general electives numbered 3000 or above.		12

Program Requirement

128 total semester hours required

Plan of Study
Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1341	4	MATH 1342	4	Vacation	0	Vacation	0
MATH 1365	4	PHYS 1165	4				
Elective	4	PHYS 1166	1				
PHYS 1161	4	Elective	4				
PHYS 1162	1	ENGW 1111	4				
MATH 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2201	4	Vacation	0	Co-op	0
MATH 2331	4	Elective	4				
Elective	4	Elective	4				
Foreign language core course	4	Foreign language core course	4				
		EESC 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MATH 3560 or 3527	4	MATH elective	4	Co-op	0
		ENGW 3315	4	Elective	4		
		Foreign language core course	4				
		Elective	4				
		MATH 3000	1				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MATH 3150	4	Upper-division elective	4	Co-op	0
		Elective	4	Upper-division elective	4		
		Elective	4				
		Upper-division elective	4				
		MATH 4000	1				
	0		**17**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	MATH 3175	4
		MATH elective	4
		MATH 4025	4
		Elective	4
	0		**16**

Total Hours: 134

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1161	4	MATH 1342	4	Vacation	0	Vacation	0
PHYS 1162	1	PHYS 1165	4				
MATH 1365	4	PHYS 1166	1				
MATH 1341	4	ENGW 1111	4				
MATH 1000	1	Elective	4				
Elective	4						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	Co-op	0	Co-op	0	Vacation	0
MATH 2331	4						
Elective	4						
Foreign language core course	4						
EESC 2000	1						
	17		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2201	4	Co-op	0	Co-op	0	MATH elective	4
Elective	4					Elective	4
Elective	4						
Foreign language core course	4						
MATH 3000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op	0	Co-op	0	Elective	4
MATH 3560 or 3527	4					Elective	4
MATH 4000	1						
Foreign language core course	4						

Elective	4			
	17	**0**	**0**	**8**

Year 5

Fall	Hours	Spring	Hours
MATH 3150	4	MATH 3175	4
MATH elective	4	MATH 4025	4
Elective	4	Upper-division elective	4
Upper-division elective	4	Upper-division elective	4
	16		**16**

Total Hours: 134

Mathematics, BS

The Bachelor of Science degree requires 14 mathematics courses and 2 physics courses. It is the degree most commonly pursued by math majors and is the one recommended for those strongly interested in mathematics and science.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Major Grade Requirement

A grade of C or higher is required in all mathematics courses numbered 3000 and below and in MATH 4000.

Mathematics Major Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
A grade of C or higher is required:		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
MATH 3150	Real Analysis	4
MATH 3175	Group Theory	4
Co-op Reflections		
MATH 3000	Co-op and Experiential Learning Reflection Seminar 1	1
Mathematics Electives		
Complete four courses in the following range:		16
MATH 3101 to MATH 4899		
Required Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Capstone		
Complete one of the following:		4

MATH 4025	Applied Mathematics Capstone
MATH 5131	Introduction to Mathematical Methods and Modeling
MATH 4020	Research Capstone

Mathematics Major Credit Requirement

Complete 66 semester hours in the major.

Upper-Division Electives

Note: Courses used as upper-division electives do not count toward the major or NUpath.

Code	Title	Hours
Complete three general electives numbered 3000 or above.		12

Program Requirement

128 total semester hours required

Plan of Study

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1341	4	MATH 1342	4	Vacation	0	Vacation	0
MATH 1365	4	PHYS 1165	4				
Elective	4	PHYS 1166	1				
PHYS 1161	4	ENGW 1111	4				
PHYS 1162	1	Elective	4				
MATH 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation	0	Co-op	0
MATH 2331	4	Elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
		EESC 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MATH elective	4	MATH elective	4	Co-op	0
		ENGW 3315	4	Elective	4		
		MATH 3081	4				
		Upper-division elective	4				
		MATH 3000	1				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MATH 3150	4	MATH elective	4	Co-op	0
		MATH elective	4	Elective	4		
		Elective	4				
		Upper-division elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	MATH 3175	4
		MATH elective	4

	MATH 4025	4	
	Upper-division elective	4	
0		**16**	

Total Hours: 133

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1161	4	MATH 1342	4	Vacation	0	Vacation	0
PHYS 1162	1	PHYS 1165	4				
MATH 1365	4	PHYS 1166	1				
MATH 1341	4	ENGW 1111	4				
MATH 1000	1	Elective	4				
Elective	4						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	Co-op	0	Co-op	0	Vacation	0
MATH 2331	4						
Elective	4						
Elective	4						
EESC 2000	1						
	17		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2341	4	Co-op	0	Co-op	0	MATH elective	4
MATH 3175	4					Elective	4
Elective	4						
Elective	4						
MATH 3000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op	0	Co-op	0	MATH elective	4
MATH 3081	4					Elective	4
MATH 3150	4						
Upper-division elective	4						
	16		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
MATH elective	4	Elective	4
MATH elective	4	MATH 4025	4
Upper-division elective	4	Upper-division elective	4
Elective	4	MATH elective	4
	16		**16**

Total Hours: 133

Biology and Mathematics, BS

In the BS combined biology and mathematics degree program, science courses lay the groundwork for strong basic training in mathematics, chemistry, and physics that are relevant to biology. In biology courses, students broadly explore the organization and processes of life—from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. In mathematics courses, students pursue mathematical reasoning, differential equations, and linear algebra, as well as statistics and probability. The fields of biology and mathematics are integrated in a range of course offerings including bioinformatics, applied statistics, advanced genomics, and biological imaging.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or MATH 1000	Mathematics at Northeastern	
Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Intermediate/Advanced Biology		
Complete one of the following:		4-5
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
Organismal and Evolutionary Biology Elective		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	

BIOL 3413	Current Topics in Organismal and Population Biology
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 2400	Introduction to Evolution
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700
EEMB 3460	Conservation Biology
EEMB 3466	Disease Ecology
EEMB 3600	Animal Behavior

Mathematics Requirements

Code	Title	Hours
Calculus 1		
MATH 1341	Calculus 1 for Science and Engineering	4
Calculus 2 and Calculus 3		
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Physics		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	5
Required Mathematics Courses		
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Mathematics Electives		
Complete three of the following:		12
MATH 2331	Linear Algebra	
MATH 3001 to MATH 4899		

Additional Requirements

Code	Title	Hours
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
MATH 3000	Co-op and Experiential Learning Reflection Seminar 1	1
Capstone		
Complete one of the following to fulfill capstone requirement:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994, which may be used toward Intermediate/Advanced Biology)	
BIOL 4971	Junior/Senior Honors Project 2	
MATH 4020	Research Capstone	
MATH 4025	Applied Mathematics Capstone	
MATH 5131	Introduction to Mathematical Methods and Modeling	
Biology/Mathematics Integrative Courses		
Complete two of the following:		8-10
BINF 6308	Bioinformatics Computational Methods 1	
BINF 6309	Bioinformatics Computational Methods 2	
BIOL 3405	Neurobiology	
BIOL 5581	Biological Imaging	
BIOL 5591	Advanced Genomics	
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
MATH 4581	Statistics and Stochastic Processes	

MATH 7343	Applied Statistics	
Writing Requirement		
ENGW 3307	Advanced Writing in the Sciences	4

Biology and Mathematics Combined-Major Credit/GPA Requirements

Complete 93 semester hours in the major with a cumulative GPA of 2.000.

Program Requirements

139 total semester hours required

Plan of Study
Sample Pattern:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or MATH 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107 and BIOL 1108	5	CHEM 2311	4	BIOL 2302	1		
CHEM 1161	4	CHEM 2312	1	SI NUpath elective	4		
CHEM 1162	1	MATH 1342	4				
CHEM 1163	0	MATH 1365	4				
ENGW 1111	4						
MATH 1341	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op		Co-op		MATH elective	4
CHEM 2313	4	Elective	4			Elective with lab	5
CHEM 2314	1						
EESC 2000	1						
MATH 2321	4						
MATH 2341	4						
	18		**4**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3611	4	Co-op		Co-op		ER NUpath elective	4
BIOL 3612	1			ENGW 3307	4	Elective	4
MATH 3000	1						
PHYS 1161	4						
PHYS 1162	1						
PHYS 1163	0						
MATH elective	4						
MATH elective	4						
	19		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
MATH 3081	4	Biology/mathematics integrative course	4
Biology/mathematics integrative course	4	Capstone option	4
DD NUpath elective	4	IC NUpath elective	4

Organismal and evolutionary biology elective	4	Intermediate/advanced biology elective	4
	16		**16**

Total Hours: 139

Computer Science and Mathematics, BS

The computer science and mathematics combined major was the first dual major created by the college. The mathematics requirements focus on courses that have computing applications or form the basis for further studies in mathematical theory. The program emphasizes the strong ties between computer science and mathematics that date back to the origins of machine computation in the 1930s and 1940s—and persist to this day.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800 (Integrative course)	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4300	Computer Graphics	4
or CS 4100	Artificial Intelligence	
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective Courses		
With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete eight semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Mathematics Courses

Code	Title	Hours
Calculus Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Mathematics Courses		

MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
MATH 3175	Group Theory	4
MATH 3527	Number Theory 1	4
Mathematics Electives		
Complete three courses in the following range:		12
MATH 3001 to MATH 4999 but not MATH 4000		

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

132 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		MATH 2321	4
CS 3000	4					Elective	4
MATH 3081	4						
MATH 2341	4						
Computing and social issues	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4500 or 4530	4	Co-op		Co-op		Khoury elective	4
ENGW 3302 or 3315	4					Elective	4
MATH 2331	4						
MATH elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	CS 4300 or 4100	4
MATH 3527	4	MATH 3175	4
Khoury elective	4	Math elective	4
MATH elective	4	Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210	1	Khoury elective	4	Co-op	

MATH 2321	4	MATH 2331	4	Elective	4		
MATH 2341	4	MATH 3081	4				
Computing and social issues	4	MATH elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	ENGW 3302 or 3315	4	Co-op	
		CS 4530	4	Elective	4		
		MATH 3527	4				
		Math elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4300 or 4100	4
		MATH 3175	4
		Math elective	4
		Khoury elective	4
	0		**16**

Total Hours: 134

Data Science and Mathematics, BS

The data science and mathematics combined major combines computer science, data science, and mathematics into an integrated curriculum. The program provides the rigorous theoretical background necessary for success in the data science field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or MATH 1000	Mathematics at Northeastern	
or INSC 1000	Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500	Object-Oriented Design	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS,CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Mathematics Courses

Code	Title	Hours
Problem-Solving Requirement		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus Requirements		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Math Requirements		
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
MATH 3175	Group Theory	4
MATH 3527	Number Theory 1	4
Mathematics Elective Requirements		
Complete four courses in the following range:		16
MATH 3001 to MATH 4999 but not MATH 4000		

Integrative Requirements

Code	Title	Hours
Integrative Courses		
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4

Computer Science Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	MATH 3081	4	Elective	4
CS 1800 and CS 1802	5	MATH 1342	4	Elective	4	Elective	4
DS 2000 and DS 2001	4	MATH 1365	4				
ENGW 1111	4	Elective	4				
MATH 1341	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210	1	MATH 3527	4	Co-op	0
DS 3000	4	DS 3500	4	Khoury elective	4		
MATH 2321	4	DS 4200	4				
MATH 2341	4	MATH 2331	4				
		MATH elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	DS 4300	4	ENGW 3302 or 3315	4	Co-op	0
		DS 4400	4	Elective	4		
		MATH 3175	4				
		MATH elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	DS 4420	4
		Khoury elective	4
		MATH elective	4
		Elective	4
	0		**16**

Total Hours: 132

Economics and Mathematics, BS

Given the mathematical and graphical models used extensively in economics, economics and mathematics are natural partners. Our combined major with mathematics is designed for students who want to further develop their mathematics skills to enhance their understanding and interest in economics. This combined major is strongly recommended for students with an interest in pursuing graduate studies in economics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or MATH 1000	Mathematics at Northeastern	
Required Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete 4 economics electives found in the following ranges, with no more than two in the ECON 1200 to ECON 1999 range:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Mathematics Requirements

Code	Title	Hours
Required Mathematics		
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Mathematics Electives		
Complete two courses in the following range:		8
MATH 3001 to MATH 4999		
The following courses are recommended:		
MATH 3150	Real Analysis	
MATH 4581	Statistics and Stochastic Processes	

Breadth Course

Code	Title	Hours
Computer Science		
Choose one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 *	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

* Selecting this 5 SH option will add one additional semester hour to your degree program.

Integrative Requirements

Code	Title	Hours
Advanced Writing in the Disciplines		
ENGW 3308	Advanced Writing in the Social Sciences	4
Integrative Course		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
MATH 4025	Applied Mathematics Capstone	
MATH 5131	Introduction to Mathematical Methods and Modeling	

Combined Major GPA/Credit Requirement

Code	Title	Hours
Grades in the following 4 courses must average to a minimum of C (2.000):		
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2560	Applied Econometrics	
MATH 3081	Probability and Statistics	

A cumulative GPA of 2.000 is required in all math courses.
A grade of C or higher is required in all math courses numbered MATH 2999 or below; grades below C will not count toward the degree.

Economics and Mathematics Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required.

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON 1116	4	MATH 2321	4	Elective	4
ECON 1115	4	ENGW 3308	4	Elective	4	Elective	4
MATH 1000 or ECON 1000	1	MATH 1342	4				
MATH 1341	4	Elective	4				
MATH 1365	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	MATH 3081	4	Co-op	0
MATH 2341	4	MATH 2331	4	Elective	4		
Elective	4	ECON elective 1	4				

Elective	4	Math elective 1	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	Elective	4	Co-op	0
		ECON elective 2	4	Elective	4		
		Math elective 2	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692, MATH 4025, MATH 5131, or ECON 4997	4
		ECON elective 3	4
		ECON elective 4	4
		Elective	4
	0		**16**

Total Hours: 129

Graphic and Information Design and Mathematics, BS

The Department of Mathematics and the Department of Art + Design offer a combined major in mathematics and graphic and information design. Students interested in the combined major integrate the study of mathematical reasoning including methods for analyzing and solving problems encountered in the physical world with the design of message and meaning, integrating text and image to visualize concepts and data to enhance human understanding of complex and vital knowledge.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Difference and Diversity (DD), and Ethical Reasoning (ER) must be met through electives.

Graphic and Information Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
or MATH 1000	Mathematics at Northeastern	
Art and Design Fundamentals		
Complete one course in the following range. ARTF 1143 is recommended.		4
ARTF 1141 to ARTF 1149		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art and Design History		
ARTH 2210	Modern Art and Design History	4
ARTH 2215	History of Graphic Design	4
Design		
ARTG 1250	Design Process Context and Systems	4
ARTG 2250	Typography 1 (with optinal ARTG 2251)	4
ARTG 2252	Graphic Design Principles	4
ARTG 3350	Typography 2	4
ARTG 3451	Information Design 1	4
Degree Project		
ARTG 4550	Design Degree Project	4
Art and Design Elective		
Complete one of the following:		4
ARTD 2360	Introduction to Photography (with optional ARTD 2361)	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTG 2260	Programming Basics	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	
ARTG 2400	Interaction Design Principles (with optinal ARTG 2401)	
ARTG 3450	Graphic Design 2	

ARTG 3460	Identity and Brand Design
ARTG 4554	Typography 3

Mathematics Requirements

Code	Title	Hours
Math Reasoning		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
A grade of C or higher is required:		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate Math		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Advanced Elective		
Complete one of the following:		4
MATH 3150	Real Analysis	
MATH 3175	Group Theory	
MATH 3560	Geometry	
Mathematics Elective		
MATH 4025 can count as an upper-level math elective as well as a capstone.		
Complete one course in the following range:		4
MATH 3101 to MATH 4899		

Integrative Requirement

Code	Title	Hours
ARTG 3451	Information Design 1	4

Combined-Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample 5-Year Plan of Study , 2 Co-op

Year 1

Fall	Hours	Spring	Hours
ARTF 1000	1	MATH 1342	4
Art and Design Fundamentals	4	ARTF 1122 (with optional ARTF 1123)	4
MATH 1365	4	ARTG 1250	4
MATH 1341	4	ARTH 2210	4
ENGW 1111	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours
MATH 2321	4	MATH 2341	4
ARTG 2250	4	ARTG 2252	4
ARTH 2215	4	Math elective	4
Elective	4	Elective	4
	16		**16**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours
MATH 2331	4	Co-op		Co-op	
ARTG 3350	4				
Elective	4				
Elective	4				
EEAM 2000	1				
	17		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
MATH 3081	4	Co-op		Co-op	
ARTG 3451	4				
Elective	4				
Elective	4				
	16		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
ARTG 4550	4	Capstone	4
Art and Design Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Mathematics and Business Administration, BS

In the BS Mathematics and Business Administration program, business and mathematics courses lay the groundwork for strong basic training in finance.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Required Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 3081	Probability and Statistics	4
Calculus and Linear Algebra (Required) and Differential Equations (Recommended)		
Complete either Option 1 or Option 2 below:		8
Option 1 (Recommended)		
MATH 2321	Calculus 3 for Science and Engineering	
MATH 2341	Differential Equations and Linear Algebra for Engineering	
Option 2		
MATH 2321	Calculus 3 for Science and Engineering	
MATH 2331	Linear Algebra	
Mathematics Electives		
Complete three courses in the range MATH 3001 to MATH 5999. The following courses are recommended:		12
MATH 4681	Probability and Risks	
MATH 4682	Theory of Interest and Basics of Life Insurance 1	
MATH 4581	Statistics and Stochastic Processes	

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4
Strategy in Action		
STRT 4501	Strategy in Action	4

Integrative Course

Code	Title	Hours
MATH 4581	Statistics and Stochastic Processes	4

Business Concentration

Complete one of the following business concentrations. One concentration is required. A second concentration is optional.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (only available as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supplemental Courses

Code	Title	Hours
Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESC 2000	Professional Development for Co-op	

Business Cooperative Education

Complete one cooperative education experience.

Mathematics GPA Requirement

Minimum 2.000 GPA required in all mathematics courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ENGW 1111	4	MATH 1342	4	MKTG 2201	4	NU Path	4
ECON 1115	4	MATH 1365	4	Open Elective	4	Open Elective	4
MATH 1341	4	ECON 1116	4				
ACCT 1201	4	ACCT 2301	4				
BUSN 1102 or MATH 1000	1						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
FINA 2201	4	Co-op		Co-op		ORGB 3201	4
INTB 1203	4					NU Path	4
MATH 3081	4						
MATH 2321	4						
BUSN 1103 or EESC 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Concentration Course 1	4	Co-op		Co-op		Concentration Course 2	4
MATH 2341 or 2331	4					Open Elective	4
Math Elective (3001-5999)	4						
ENGW 3304 or 3307	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Concentration Course 3	4	NU Path	4
Math Elective (3001-5999)	4	Open Elective	4
MATH 4581	4	Concentration Course 4	4
STRT 4501	4	Math Elective (3001-5999)	4
	16		**16**

Total Hours: 130

Mathematics and Philosophy, BS

Overview

The mathematics and philosophy combined major integrates the tools, concepts, and skills of mathematics and philosophy. This major explores the philosophical foundations of mathematics, including questions about the nature of mathematical knowledge and the status of the axioms of mathematics and probability theory, while also applying key tools from mathematics to philosophical problems such as those that arise in evolutionary game theory, philosophy of economics, and philosophy of science.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Required Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Mathematics Electives		
Complete two courses in the following range: MATH 3001 to MATH 4999		8

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
PHIL 2330	Modern Philosophy	4
Complete one of the following:		4
PHIL 2001	Ethics and Evolutionary Games	
PHIL 3050	Information and Uncertainty	
Philosophy Advanced Electives		
Complete one of the following:		4
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
Open Electives		
Complete three additional PHIL courses.		12

Integrative Requirement

Code	Title	Hours
PHIL 4515	Advanced Logic	4

Capstone

Code	Title	Hours
Complete one of the following not used to satisfy another requirement:		4
MATH 4020	Research Capstone	
MATH 4025	Applied Mathematics Capstone	
MATH 5131	Introduction to Mathematical Methods and Modeling	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
PHIL 4901	Topics in Philosophy Seminar	

Mathematics and Philosophy Combined Major Credit Requirement

Students must maintain a minimum GPA of 2.000 in their mathematics and philosophy courses.

68 semester hours required

Program Requirement

128 semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1365	4	MATH 1341	4	Elective	4	Elective	4
PHIL 1115	4	PHIL 2325	4	Elective	4	Elective	4
PHIL elective	4	PHIL elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1342	4	MATH 2331	4	Elective	4	Co-op	
MATH 2321	4	PHIL advanced elective	4	Elective	4		
PHIL 2330	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MATH 2341	4	Elective	4	Co-op	
		MATH 3081	4	Elective	4		
		PHIL 2001 or 3050	4				
		Course in the following range: MATH 3001 to Math 4999	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHIL 4515	4
		Capstone in PHIL or MATH	4
		Course in the following range: MATH 3001 to MATH 4999	4

Elective	4
0	**16**

Total Hours: 128

Mathematics and Physics, BS

Mathematics and physics have been linked since antiquity. By combining physics and mathematics you can take closely related courses in each discipline, such as statistical mechanics and stochastic processes, mechanics and dynamical systems, thermodynamics and Fourier Series, and quantum mechanics and partial differential equations. The two departments jointly offer a course in mathematical methods in physics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Calculus		
A grade of C or higher is required:		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Math		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
MATH 3150	Real Analysis	4
MATH 3175	Group Theory	4
Co-op Reflections		
MATH 3000	Co-op and Experiential Learning Reflection Seminar 1	1
Mathematics Elective		
Complete one course in the following range:		4
MATH 3101 to MATH 4899		

Physics Requirements

Code	Title	Hours
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4

Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Elective Courses		
Complete two courses in the following range:		8
PHYS 3000 to PHYS 7999		

Integrative Courses

Code	Title	Hours
PHYS 3601	Classical Dynamics	4
MATH 4545	Fourier Series and PDEs	4
or MATH 4525	Applied Analysis	

Combined Major Credit Requirement

Complete 83 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Notes on Physics courses in Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, depending on the year of entry for that student.

Please contact your academic adviser for additional information and plans of study.

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1341	4	MATH 1342	4	Vacation	0	Vacation	0
ENGW 1111	4	PHYS 1165	4				
Elective	4	PHYS 1166	1				
PHYS 1161	4	Elective	4				
PHYS 1162	1	Elective	4				
MATH 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation	0	Co-op	0
Elective	4	MATH 2331	4				
PHYS 2303	4	Elective	4				
PHYS 2371	3	EESC 2000	1				
PHYS 2372	1	PHYS 3601	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHYS 3602	4	PHYS 3600	4	Co-op	0
		MATH 3150	4	MATH 3081	4		
		Elective	4				
		MATH 3000	1				
		PHYS 4305	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MATH 3175	4	Elective	4	Co-op	0
		MATH elective	4	Elective	4		
		PHYS undergraduate elective	4				
		ENGW 3315	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	PHYS undergraduate elective	4
		PHYS undergraduate elective	4
		MATH 4025	4
		MATH 4545	4
	0		**16**

Total Hours: 133

Mathematics and Political Science, BS

The Mathematics and Political Science combined major provides training to prepare students to use quantitative training and methods to understand political trends and events.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Math Electives		
Complete two courses in the following range that are not required in the requirements above:		8
MATH 3001 to MATH 5999		

Political Science Requirements

Code	Title	Hours
Political Science Required Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three POLS courses numbered 2000 and above.		12

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below.

- American Political Institutions (p. 1549)
- Campaigns and Elections (p. 1549)
- Comparative Politics (p. 1549)

- Identity, Culture, and Politics (p. 1550)
- International Relations and Diplomacy (p. 1550)
- Law and Legal Studies (p. 1550)
- Public Policy (p. 1550)
- Security Studies (p. 1551)

Integrative Requirement

Code	Title	Hours
POLS 2390	Science, Technology, and Public Policy	4

Mathematics and Political Science Combined-Major Credit Requirement

Complete 68 semester hours in the major.

Program Requirement

128 total semester hours required

Optional Political Science Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	

POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	

POLS 2350	State and Local Politics
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
POLS 1155	4	POLS 1150	4	Elective	4
ENGW 1111	4	POLS Political Thought Course	4	Elective	4
MATH 1365	4	MATH 1342	4		
MATH 1341	4	Elective	4		
	16		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	POLS 2399	4	Co-op		Co-op	
POLS Elective	4	MATH 2341	4				
MATH 2321	4	MATH Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	POLS Elective	4	Elective	4	Co-op	
POLS 2390	4	Elective	4	Elective	4		
MATH 2331	4	Elective	4				
MATH Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		POLS 4701 or 4703	4
		POLS Elective	4
		MATH 3081	4
		Elective	4
	0		**16**

Total Hours: 128

Mathematics and Psychology, BS

In the mathematics and psychology combined-major BS program, psychology and mathematics courses help lay the groundwork for strong basic training that seeks to prepare the student toward developing psychological models using mathematics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Math Electives		
Complete two courses in the following range that are not required in the requirements above:		8
MATH 3001 to MATH 5999		

Psychology Requirements

Code	Title	Hours
Introductory Course		
PSYC 1101	Foundations of Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Area A (Personality/Social Basis of Behavior)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Area B (Biological/Cognitive Basis of Behavior)		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Laboratory		
Complete one of the following:		4

PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Capstone Requirement		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Elective		
Any PSYC course in the 3000 range and up		4

Integrative Requirement

Code	Title	Hours
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience	4

Mathematics and Psychology Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1341	4	Vacation		Vacation	
MATH 1365	4	PSYC Area A	4				
PSYC 1101	4	NUpath IC	4				
MATH 1000 or PSYC 1000	1	Open elective	4				
NUpath EI	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1342	4	EESC 2000	1	Vacation		Co-op	
PSYC 2320	4	MATH 2321	4				
PSYC Area B	4	PSYC Area A	4				
NUpath DD	4	MATH elective	4				
		Open elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MATH 2331	4	MATH 2341	4	Co-op	
		PSYC Area B	4	Adv writing	4		
		PSYC elective	4				
		Open elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MATH 3081	4	Open elective	4	Co-op	
		PSYC 4540	4	Open elective	4		
		PSYC lab	4				
		NUpath ER	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		PSYC seminar	4
		MATH elective	4
		Open elective	4
		Open elective	4
	0		**16**

Total Hours: 130

Mathematics and Sociology, BS

In the mathematics and sociology combined-major BS program, sociology and mathematics courses help lay the groundwork for strong basic training that seeks to prepare students for developing sociological models using mathematics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Math Electives		
Complete two courses in the following range that are not required in the requirements above:		8
MATH 3001 to MATH 5999		

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Sociology Electives		
Complete one course from each course range:		
Introductory Elective		*4*
SOCL 1101 to SOCL 1999		
Intermediate Elective		*4*
SOCL 2000 to SOCL 3999		
Advanced Elective		*4*
SOCL 4000 to SOCL 4999		
Capstone Requirement		
SOCL 4600	Senior Seminar	4

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
MATH 4025	Applied Mathematics Capstone	

MATH 5131	Introduction to Mathematical Methods and Modeling
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Mathematics and Sociology Combined Major Credit Requirement

Complete 68 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	MATH 1342	4	Vacation		Vacation	
ENGW 1111	4	SOCL 2320	4				
MATH 1341	4	SOCL 3300	4				
MATH 1365	4	Elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	MATH 2341	4	Vacation		Vacation	
MATH 2321	4	MATH elective	4				
SOCL 2321	4	SOCL elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2331	4	Co-op		Co-op		Vacation	
MATH elective	4						
SOCL elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 3081	4	Co-op		Co-op		Vacation	
SOCL elective	4						
Elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Elective	4	Capstone	4
Elective	4	Integrative course	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Mathematics, Minor

A math minor can be combined with any other major at Northeastern and can be obtained by completing six math courses: two calculus courses, two intermediate courses, and two upper-level courses.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
Biology majors may substitute the following two courses:		
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1252	Calculus and Differential Equations for Biology 2	

Intermediate-Level Courses

Code	Title	Hours
Complete two of the following:		8
MATH 2321	Calculus 3 for Science and Engineering	
MATH 2341	Differential Equations and Linear Algebra for Engineering	
MATH 2331	Linear Algebra	

Mathematics Electives

Code	Title	Hours
Complete two courses in the following range:		8
MATH 3001 to MATH 4699 [1]		

[1] MATH 4000 is excluded.

GPA Requirement

2.000 GPA required in the minor

Physics

Website (http://www.northeastern.edu/cos/physics/)

Mark C. Williams, PhD
Professor and Chair

110 Dana Research Center
617.373.2902
617.373.2943 (fax)
physics@northeastern.edu

Physics examines the fundamental principles that govern natural phenomena, ranging in scale from collisions of subatomic particles; through the behavior of solids, liquids, and biomolecules; to exploding stars and colliding galaxies.

The program aims to help students experience the intellectual stimulation of studying physics and the excitement of frontline research, understand the basic principles and techniques of physics-related careers, and prepare for graduate study in physics or related fields.

Programs

The department offers several degree programs:

- BS in physics, applied physics, or biomedical physics
- BS in applied physics/MS in electrical engineering
- MS and PhD in physics

Four levels of courses are offered:

- Descriptive courses for nonscience majors with limited mathematical background
- General survey courses for students in scientific and engineering fields
- Advanced courses primarily intended for physics, biomedical physics, and applied physics majors
- Highly advanced courses primarily intended for prospective graduate students

A BS, MS, or PhD degree in physics offers many career opportunities in industrial, government, and academic high-technology laboratories as scientists or engineers.

COMBINED MAJORS

Students also have the opportunity to combine physics with another discipline through a combined major. Current combined majors with physics include mathematics, computer science, music with concentration in music technology, philosophy, chemical engineering, computer engineering, electrical engineering, and mechanical engineering.

Research Opportunities for Undergraduates

Students are encouraged to participate in the excitement of cutting-edge research in particle physics, biophysics, and nanotechnology with world-renowned faculty.

Programs

Bachelor of Science (BS)

- Physics (p. 1560)
- Applied Physics (p. 1564)
- Biomedical Physics (p. 1568)
- Computer Science and Physics (p. 834)
- Data Science and Physics (p. 932)
- Mathematics and Physics (p. 1545)
- Physics and Music with Concentration in Music Technology (p. 498)
- Physics and Philosophy (p. 1589)

Bachelor of Science in Chemical Engineering (BSChE)

- Chemical Engineering and Physics (p. 1009)

Bachelor of Science in Computer Engineering (BSCmpE)

- Computer Engineering and Physics (p. 1071)

Bachelor of Science in Electrical Engineering (BSEE)

- Electrical Engineering and Physics (p. 1090)

Bachelor of Science in Mechanical Engineering (BSME)

- Mechanical Engineering and Physics (p. 1144)

Minor

- Astrophysics (p. 1614)
- Physics (p. 1615)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Physics, BS

The physics program provides a strong foundation in classical and modern physics, including studies of the various physical phenomena such as electromagnetism, dynamics, building blocks of matter, energy, and radiation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 3603	Electricity and Magnetism 2	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Elective Course		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 3500 to PHYS 7999		
Experiential Learning		
Complete one course in experiential learning. See department for approved courses. Note: The experiential learning requirement is waived following a student presentation connected with a co-op and/or research experience. The requirement is often fulfilled by a talk at a Society of Physics Students meeting but can be fulfilled by an adequately documented presentation at a professional meeting or at an appropriate campus event. Contact your faculty advisor for additional information.		
Senior Capstone		
PHYS 5318	Principles of Experimental Physics	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Computational Methods		
PHYS 1211	Computational Problem Solving in Physics	4
or PHYS 1130	Computing, Data, and Science	
or GE 1111	Engineering Problem Solving and Computation	
Chemistry		
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211	5
Technical Electives		
Complete 8 semester hours from the following:		8
MATH 2280	Statistics and Software	
MATH 2321 to MATH 5999		
PHYS 2303 to PHYS 7999		
CHEM 2311 to CHEM 5999		
BIOL 2301 to BIOL 5999		
ENVR 2300 to ENVR 5999		
CS 2990 to CS 4900		
CHME 2001 to CHME 4699		
CIVE 2001 to CIVE 4699		
EECE 2001 to EECE 5999		
ME 2001 to ME 4699		
IE 2001 to IE 4699		

Physics Major Credit Requirement

Complete 91 semester hours in the major.

Astrophysics Concentration (Optional)

Students working toward this concentration must declare it with their advisor for it to be added to their academic record.

Note: Opting to take this concentration may require additional coursework to be completed beyond the total program hours.

Code	Title	Hours
Astrophysics Core		
PHYS 1111	Introduction to Astronomy	4
The following courses may be counted toward major electives, if they are listed as applicable options in the approved curriculum:		
PHYS 3111	Astrophysical Processes: Decoding the Universe	4
PHYS 4111	Multimessenger Astrophysics	4
PHYS 5117	Advanced Astrophysics Topics	4
or PHYS 5118	General Relativity and Cosmology	

Program Requirement

133 total semester hours required

Plan of Study

Note on Physics Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, **depending on the year of entry for that student.** *See course offering schedule at the end of the plan of study.*

1562 Physics, BS

Please contact your academic advisor for additional information and plans of study.

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1000	1	PHYS 1165	4	Vacation		Vacation	
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1	PHYS 1167	0				
PHYS 1163	0	PHYS 1211	4				
MATH 1341	4	MATH 1342	4				
ENGW 1111	4	Elective	4				
Elective	4						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 2303	4	PHYS 3601	4	Vacation		Co-op	
PHYS 2371	3	MATH 2331	4				
PHYS 2372	1	MATH 2341	4				
MATH 2321	4	Elective	4				
CHEM 1211	4	EESC 2000	1				
CHEM 1212	1						
CHEM 1213	0						
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHYS 3602	4	PHYS 3600	4	Co-op	
		MATH 3081	4	PHYS 3603	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHYS 4115	4	Technical elective	4	Co-op	
		PHYS 4305	4	Elective	4		
		ENGW 3307	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		PHYS 5318	4
		PHYS advanced elective	4
		Technical elective	4
		Elective	4
	0		**16**

Total Hours: 133

Odd-Numbered Year One
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1000	1	PHYS 1165	4	MATH 2321	4	MATH 2331	4
PHYS 1161	4	PHYS 1166	1	Elective	4	MATH 2341	4

PHYS 1162	1	PHYS 1167	0
PHYS 1163	0	MATH 1342	4
MATH 1341	4	PHYS 1211	4
ENGW 1111	4	CHEM 1211	4
Elective	4	CHEM 1212	1
		CHEM 1213	0
	18		**18**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 2303	4	Co-op		Co-op		PHYS 3600	4
PHYS 2371	3					Elective	4
PHYS 2372	1						
PHYS 3602	4						
Elective	4						
EESC 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 3601	4	Co-op		Co-op		MATH 3081	4
PHYS 3603	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHYS 4115	4	PHYS 5318	4
PHYS 4305	4	PHYS advanced elective	4
ENGW 3307	4	Technical elective	4
Technical elective	4	Elective	4
	16		**16**

Total Hours: 133

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring
- PHYS 4305 offered every spring and summer 2 (even years)
- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring
- PHYS 5318 offered every spring

Applied Physics, BS

The applied physics BS degree is a flexible, interdisciplinary-oriented program designed to provide students with a solid background in basic physics, in conjunction with the opportunity to sample courses from a wide range of disciplines, including engineering, biology, chemistry, math, environmental studies, and computer science. This program seeks to enable students to prepare for a variety of careers in, for example, nanotechnology, a medical field, environmental research, or even finance.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Applied Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 3603	Electricity and Magnetism 2	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Advanced Physics Electives		
Complete three of the following:		12
PHYS 3601	Classical Dynamics	
PHYS 4115	Quantum Mechanics	
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5117	Advanced Astrophysics Topics	
PHYS 5118	General Relativity and Cosmology	
PHYS 5125	Advanced Quantum Mechanics	
PHYS 4621	Biological Physics 1	
PHYS 4623	Medical Physics	
PHYS 4651	Medical Physics Seminar 1	

PHYS 4652	Medical Physics Seminar 2	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
MATH 4606	Mathematical and Computational Methods for Physics	
Experiential Learning		
Note: The experiential learning requirement is waived following a student presentation connected with a co-op and/or research experience. The requirement is often fulfilled by a talk at a Society of Physics Students meeting but can be fulfilled by an adequately documented presentation at a professional meeting or at an appropriate campus event. Contact your faculty advisor for additional information.		
PHYS 4996	Experiential Education Directed Study	4
Senior Capstone		
PHYS 5318	Principles of Experimental Physics	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Computational Methods		
PHYS 1211	Computational Problem Solving in Physics	4
or PHYS 1130	Computing, Data, and Science	
or GE 1111	Engineering Problem Solving and Computation	
Chemistry		
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211	5
Technical Electives		
Complete 16 semester hours of technical electives from the following:		16
MATH 2280	Statistics and Software	
MATH 2321 to MATH 5999		
PHYS 2303 to PHYS 7999		
CHEM 2311 to CHEM 5999		
BIOL 2301 to BIOL 5999		
ENVR 2300 to ENVR 5999		
CS 2990 to CS 4900		
CHME 2001 to CHME 4699		
CIVE 2001 to CIVE 4699		
EECE 2001 to EECE 5999		
ME 2001 to ME 4699		
IE 2001 to IE 4699		

Applied Physics Major Credit Requirement

Complete 91 semester hours in the major.

Astrophysics Concentration (Optional)

Students working toward this concentration must declare it with their advisor for it to be added to their academic record.

Note: Opting to take this concentration may require additional coursework to be completed beyond the total program hours.

Code	Title	Hours
Astrophysics Core		
PHYS 1111	Introduction to Astronomy	4
The following courses may be counted toward major electives, if they are listed as applicable options in the approved curriculum:		
PHYS 3111	Astrophysical Processes: Decoding the Universe	4
PHYS 4111	Multimessenger Astrophysics	4

PHYS 5117	Advanced Astrophysics Topics	4
or PHYS 5118	General Relativity and Cosmology	

Program Requirement

133 total semester hours required

Plan of Study

Note on Applied Physics Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, **depending on the year of entry for that student.** *See course offering schedule at the end of the plan of study.*

Please contact your academic advisor for additional information and plans of study.

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1000	1	PHYS 1165	4	Vacation	0	Vacation	0
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1	PHYS 1167	0				
PHYS 1163	0	PHYS 1211	4				
MATH 1341	4	MATH 1342	4				
ENGW 1111	4	Elective	4				
Elective	4						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 2303	4	Co-op	0	Co-op	0	MATH 2341	4
PHYS 2371	3					PHYS 4305	4
PHYS 2372	1						
MATH 2321	4						
CHEM 1211	4						
CHEM 1212	1						
CHEM 1213	0						
EESC 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 3602	4	Co-op	0	Co-op	0	PHYS 3600	4
MATH 2331	4					Elective	4
Technical elective	4						
Technical elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3307	4	Co-op	0	Co-op	0	Vacation	0
Technical elective	4						
Technical elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
PHYS 3603	4	PHYS 5318	4
Elective	4	PHYS advanced elective	4

Elective	4	PHYS advanced elective	4
Elective	4	PHYS advanced elective	4
	16		**16**

Total Hours: 133

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring
- PHYS 4305 offered every spring and summer 2 (even years)
- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Biomedical Physics, BS

The biomedical physics program seeks to understand the role of physical processes occurring on molecular, cellular, or macroscopic scales; in vital biological functions, ranging from the interaction of chemicals with DNA, to the extraction of oxygen from red blood cells, to the generation of complex electrical signals in the brain and nervous system; and physical principles of medical devices. The biomedical physics program also offers a premed (prehealth) specialized track.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biomedical Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 3603	Electricity and Magnetism 2	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Biomedical Physics		
PHYS 4621	Biological Physics 1	4
PHYS 4623	Medical Physics	4
PHYS 4651	Medical Physics Seminar 1	4
PHYS 4652	Medical Physics Seminar 2	4
Advanced Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 2300 to PHYS 7999		
Experiential Learning		

Note: The experiential learning requirement is waived following a student presentation connected with a co-op and/or research experience. The requirement is often fulfilled by a talk at a Society of Physics Students meeting but can be fulfilled by an adequately documented presentation at a professional meeting or at an appropriate campus event. Contact your faculty advisor for additional information.		4
PHYS 4996	Experiential Education Directed Study	4
Senior Capstone		
PHYS 5318	Principles of Experimental Physics	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Computational Methods		
PHYS 1211	Computational Problem Solving in Physics	4
or PHYS 1130	Computing, Data, and Science	
or GE 1111	Engineering Problem Solving and Computation	
Biology		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
Chemistry		
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211	5
Technical Electives		
Complete two of the following:		8
MATH 2280	Statistics and Software	
MATH 2321 to MATH 5999		
PHYS 2303 to PHYS 7999		
CHEM 2311 to CHEM 5999		
BIOL 2301 to BIOL 5999		
ENVR 2300 to ENVR 5999		
CS 2990 to CS 4900		
CHME 2001 to CHME 4699		
CIVE 2001 to CIVE 4699		
EECE 2001 to EECE 5999		
ME 2001 to ME 4699		
IE 2001 to IE 4699		

Biomedical Physics Major Credit Requirement

Complete 97 semester hours in the major.

Program Requirement

135 total semester hours required

Plan of Study

Additional Recommended Courses for Premedical School Track

In addition to the required courses for the BS in Biomedical Physics, students who are pursuing the premed/health track are encouraged to enroll in the following courses, utilizing available elective slots:

Code	Title	Hours
CHEM 1214 and CHEM 1215 and CHEM 1216	General Chemistry 2 and Lab for CHEM 1214 and Recitation for CHEM 1214	5

CHEM 2311 and CHEM 2312 and CHEM 2319	Organic Chemistry 1 and Lab for CHEM 2311 and Recitation for CHEM 2311	5
CHEM 2313 and CHEM 2314 and CHEM 2320	Organic Chemistry 2 and Lab for CHEM 2313 and Recitation for CHEM 2313	5
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
MATH 2280	Statistics and Software	4

Note on Biomedical Physics Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, depending on the year of entry for that student.

See course offering schedule at the end of the plans of study.

Please contact your academic adviser for additional information and plans of study.

FIVE YEARS, THREE CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 1000	1	PHYS 1165	4	Vacation	0	Vacation	0
ENGW 1111	4	PHYS 1166	1				
MATH 1341	4	PHYS 1167	0				
PHYS 1161	4	MATH 1342	4				
PHYS 1162	1	PHYS 1211	4				
PHYS 1163	0	BIOL 1113	4				
BIOL 1111	4	BIOL 1114	1				
BIOL 1112	1						
	19		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 2303	4	Co-op	0	Co-op	0	Vacation	0
PHYS 2371	3						
PHYS 2372	1						
MATH 2321	4						
CHEM 1211	4						
CHEM 1212	1						
CHEM 1213	0						
EESC 2000	1						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 4621	4	Co-op	0	Co-op	0	MATH 2341	4
PHYS 4623	4					PHYS 3600	4
Technical elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 3602	4	Co-op	0	Co-op	0	PHYS 4305	4
PHYS 4651	4					Elective	4
Technical elective	4						

Elective		4					
		16		**0**		**0**	**8**

Year 5

Fall	**Hours**	**Spring**	**Hours**
PHYS 3603	4	PHYS 4652	4
ENGW 3307	4	PHYS 5318	4
Elective	4	PHYS advanced elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 135

PHYS 2303 offered every fall & spring

PHYS 2305 offered every spring & summer 2 (even years)

PHYS 2371/2372 offered every fall

PHYS 3600 offered every summer 1 & summer 2

PHYS 3601 offered spring & fall (even years)

PHYS 3602 offered every fall & spring

PHYS 3603 offered fall (even years) & summer 1 (odd years)

PHYS 5115 offered every fall & spring

PHYS 5318 offered every spring

PHYS 4621 offered fall (even years) & spring (odd years)

PHYS 4623 offered fall & summer 1 (even years)

PHYS 4651 offered fall & spring (odd years)

PHYS 4652 offered every spring

Mathematics and Physics, BS

Mathematics and physics have been linked since antiquity. By combining physics and mathematics you can take closely related courses in each discipline, such as statistical mechanics and stochastic processes, mechanics and dynamical systems, thermodynamics and Fourier Series, and quantum mechanics and partial differential equations. The two departments jointly offer a course in mathematical methods in physics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Calculus		
A grade of C or higher is required:		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Math		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
MATH 3150	Real Analysis	4
MATH 3175	Group Theory	4
Co-op Reflections		
MATH 3000	Co-op and Experiential Learning Reflection Seminar 1	1
Mathematics Elective		
Complete one course in the following range:		4
MATH 3101 to MATH 4899		

Physics Requirements

Code	Title	Hours
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4

Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Elective Courses		
Complete two courses in the following range:		8
PHYS 3000 to PHYS 7999		

Integrative Courses

Code	Title	Hours
PHYS 3601	Classical Dynamics	4
MATH 4545	Fourier Series and PDEs	4
or MATH 4525	Applied Analysis	

Combined Major Credit Requirement

Complete 83 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Notes on Physics courses in Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, depending on the year of entry for that student.

Please contact your academic adviser for additional information and plans of study.

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1341	4	MATH 1342	4	Vacation	0	Vacation	0
ENGW 1111	4	PHYS 1165	4				
Elective	4	PHYS 1166	1				
PHYS 1161	4	Elective	4				
PHYS 1162	1	Elective	4				
MATH 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation	0	Co-op	0
Elective	4	MATH 2331	4				
PHYS 2303	4	Elective	4				
PHYS 2371	3	EESC 2000	1				
PHYS 2372	1	PHYS 3601	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHYS 3602	4	PHYS 3600	4	Co-op	0
		MATH 3150	4	MATH 3081	4		
		Elective	4				
		MATH 3000	1				
		PHYS 4305	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MATH 3175	4	Elective	4	Co-op	0
		MATH elective	4	Elective	4		
		PHYS undergraduate elective	4				
		ENGW 3315	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	PHYS undergraduate elective	4
		PHYS undergraduate elective	4
		MATH 4025	4
		MATH 4545	4
	0		**16**

Total Hours: 133

Computer Science and Physics, BS

The computer science and physics combined major brings together three disciplines: computer science, physics, and mathematics. The mathematics requirements serve as a foundation for both computer science and physics. From hands-on experience with sophisticated physics instruments, to mathematical theory, to the latest computational innovations, our interdisciplinary approach will prepare students for the myriad challenges in today's rapidly changing world.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	

Physics Courses

Code	Title	Hours
Required Courses		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	5
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371 (Integrative course)	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4

Capstone and Electives

Code	Title	Hours
Capstone		
Complete either one computer science capstone or the physics capstone:		4
Computer Science Capstone		
CS 4100	Artificial Intelligence	
CS 4150	Game Artificial Intelligence	
CS 4300	Computer Graphics	
CS 4410	Compilers	
CS 4550	Web Development	
Physics Capstone		
PHYS 5318	Principles of Experimental Physics	
Khoury Elective		
The computer science elective is not required if the student has completed the computer science capstone (above). With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Physics Elective		
Only one physics elective is required if the student has completed the physics capstone (above).		
Complete two courses in the following range:		8
PHYS 3000 to PHYS 5999		

Integrative Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Additional Mathematics Requirements		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

135 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	ENGW 1111	4	MATH 2321	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
MATH 1341	4	PHYS 1165	4				
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1						
	20		**18**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
MATH 2341	4						
PHYS 2371	3						
PHYS 2372	1						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2800	4	Co-op		Co-op		PHYS 3600	4
PHYS 3602	4					PHYS 4305	4
PHYS 2303	4						
PHYS Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	ENGW 3302, 3307, or 3315	4
CS 4500 or 4530	4	CS or PHYS Capstone	4
MATH 3081	4	CS or PHYS Elective[1]	4
Computing and Social Issues	4	PHYS Elective	4
	16		**16**

Total Hours: 136

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	ENGW 1111	4	MATH 2321	4	Elective	4
CS 2500 and CS 2501	5	MATH 1342	4				
MATH 1341	4	PHYS 1165	4				
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1						
	20		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	Elective	4	Co-op	
MATH 2341	4	CS 2800	4	Elective	4		
PHYS 2371	3	PHYS 2303	4				
PHYS 2372	1	PHYS 3602	4				
Elective	4	Computing and Social Issues	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	PHYS 3600	4	Co-op	
		MATH 3081	4	ENGW 3302, 3307, or 3315	4		
		PHYS 4305	4				
		Physics Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		CS or PHYS Capstone	4
		Elective	4

	CS or PHYS Elective[1]	4
	0	**16**

Total Hours: 136

[1] Take a CS course if taking PHYS capstone or a PHYS course if taking CS Capstone

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2
- Classical Dynamics (PHYS 3601) offered spring and fall (even years)
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years)
- Quantum Mechanics (PHYS 4115) offered every fall and spring
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years)
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years)
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years)
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years)
- Medical Physics Seminar 2 (PHYS 4652) offered every spring
- Principles of Experimental Physics (PHYS 5318) offered every spring

Data Science and Physics, BS

The data science and physics combined major brings together computer and data science, physics, and mathematics. The computer science and mathematics requirements serve as a foundation for both data science and physics. From hands-on experience with sophisticated physics instruments, to mathematical theory, to the latest computational innovations, our interdisciplinary approach is designed to prepare students for the myriad challenges in today's rapidly changing world.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or INSC 1000	Science at Northeastern	
or PHYS 1000	Physics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4

Physics Courses

Code	Title	Hours
Required Courses		
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	5
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	5
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 3603	Electricity and Magnetism 2	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 4115	Quantum Mechanics	4
or PHYS 5116	Network Science 1	
PHYS 4305	Thermodynamics and Statistical Mechanics	4

Electives

Code	Title	Hours
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		
Physics Elective		
Complete one course not already required in the following range:		4
PHYS 3000 to PHYS 5999		

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Additional Mathematics Requirements		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4

Integrative Course and Capstone

Code	Title	Hours
PHYS 5318	Principles of Experimental Physics	4

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

132 total semester hours required

Plan of Study

Sample Plan of Study:

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	MATH 2321	4	MATH 2341	4
CS 1800 and CS 1802	5	ENGW 1111	4	General elective	4	General elective	4
DS 2000 and DS 2001	4	MATH 1342	4				
MATH 1341	4	PHYS 1165 and PHYS 1166 and PHYS 1167	5				
PHYS 1161 and PHYS 1162 and PHYS 1163	5						
	19		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210	1	MATH 3081	4	Co-op	0
PHYS 2303	4	DS 3500	4	PHYS 3600	4		
PHYS 3602	4	DS 4200	4				
General elective	4	PHYS 3601	4				
		General elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	PHYS 3603	4	Co-op	
		PHYS 4305	4	PHYS Elective	4		
		CS 3200	4				

		ENGW 3302, 3307, or 3315	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		DS 4400	4
		PHYS 5318	4
		PHYS 4115 or 5116	4
		Khoury Elective	4
	0		**16**

Total Hours: 134

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2
- Classical Dynamics (PHYS 3601) offered spring and fall (even years)
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years)
- Quantum Mechanics (PHYS 4115) offered every fall and spring
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years)
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years)
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years)
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years)
- Medical Physics Seminar 2 (PHYS 4652) offered every spring
- Principles of Experimental Physics (PHYS 5318) offered every spring

Physics and Music with Concentration in Music Technology, BS

The combined major in physics and music provides a strong foundation in classical and modern physics, along with the physics of acoustic and digital audio-related phenomena, and studies of the various physical phenomena including electromagnetism, dynamics, building blocks of matter, energy, and radiation. It also provides students with a solid background in the interdisciplinary application of creative audio technologies to a broad range of outcomes, including analog/digital systems, hardware and software design, musical instrument design, audio synthesis and signal processing, human-computer interaction, and innovative artistic applications of music technology. The combined major allows students to learn how physical principles influence sound production and propagation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	5
Physics 2		
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	5
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
PHYS 5318	Principles of Experimental Physics	4

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

Music Requirements

Code	Title	Hours
Music Theory and Composition		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4
Complete one of the following:		4
MUSC 2111	Algebra and Geometry of Music	
MUSC 3300	Music Perception and Cognition	

MUSC 3541	Music Analysis Seminar	
MUST 2102	Composing with Digital Technologies	
Music in Context		
Complete one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Contemporary/Popular Music		
Complete one of the following:		4
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	
MUSC 2336	The Festival Experience	
MUSC 2340	Divas, DJs, and Double Standards	
MUSC 2351	Music, Sound, and the Screen	
MUSC 2380	The World of Choral Music	
MUSC 3352	Sounding Human	
MUSC 3353	Music and the Racial Imagination	
MUSC 3354	Sound and the Sacred	
MUSI 3360	Global Music Industries in Context	
MUSI 3401	Hip Hop in the Music Industry	
Music Technology		
MUSC 2350	Acoustics and Psychoacoustics of Music	4
MUST 1220	Introduction to Music Technology	4
MUST 2431	Computer Music Fundamentals	4
Music Technology Electives		
Complete two of the following:		8
MUSC 4510	Music and the Brain Research	
MUST 3540	Special Topics in Music Technology	
MUST 3601	Digital Audio Signal Processing	
MUST 3602	Electronics for Music	
MUST 3603	Embedded Audio Programming	
MUST 4610	Composition for Electronic Instruments	
Music Technology Capstone		
MUST 4611	Music Technology Capstone/Senior Recital	4

Physics/Music Integrative Requirement

Code	Title	Hours
Integrative Course Requirement		
MUSC 2350	Acoustics and Psychoacoustics of Music	4

Physics and Music Combined Major Credit Requirement

Complete a minimum of 98 semester hours in the major.

Music Technology Major Grade Requirement

Students must maintain at least a 2.667 GPA (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

131 total semester hours required

Plan of Study

Note on Physics Courses in Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, **depending on the year of entry for that student.**

See course offering schedule at the end of the plans of study.

Please contact your academic advisor for additional information and plans of study.

FIVE YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	Vacation		Vacation	
MATH 1341	4	MUST 1220	4				
Select one of the following:	4	PHYS 1165	4				
MUSC 1001		PHYS 1166	1				
MUSC 1002 and MUSC 1003		PHYS 1167	0				
PHYS 1000	1	Elective	4				
PHYS 1161	4						
PHYS 1162	1						
PHYS 1163	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation		Vacation on ODD years. See offering schedule for EVEN years.	
MUSC 1201	4	MUSC 1202	4				
PHYS 2303	4	MUSC 2350	4				
Elective	4	PHYS 3602	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op		Co-op		PHYS 3600	4
MUSC 3541, 2111, or 3300	4					PHYS 4305	4
MUST 2102	4						
MUST 2431	4						
PHYS 2371	3						
PHYS 2372	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 3541, 2111, or 3300	4	Co-op		Co-op		Vacation	
MUST 3540	4						
PHYS 4115	4						
Music elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
ENGW 3307	4	MUST 4611	4
MUST 4610	4	PHYS 5318	4
Elective	4		

Elective	4		
	16	**8**	

Total Hours: 132

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	Vacation		Vacation	
MATH 1341	4	MUST 1220	4				
Select one of the following:	4	PHYS 1165	4				
MUSC 1001		PHYS 1166	1				
MUSC 1002 and MUSC 1003		PHYS 1167	0				
PHYS 1000	1	Elective	4				
PHYS 1161	4						
PHYS 1162	1						
PHYS 1163	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	MATH 2341	4	Vacation		PHYS 3600	4
MUSC 1201	4	MUSC 1202	4			Elective in ODD years, PHYS 4305 in EVEN years	4
PHYS 2303	4	MUSC 2350	4				
PHYS 2371	3	PHYS 3602	4				
PHYS 2372[3]	1						
	16		**16**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op		Co-op		ENGW 3307	4
MUSC 3541, 2111, or 3300	4					PHYS 4305 (in EVEN years, elective in ODD years)	4
MUST 2102	4						
MUST 2431	4						
PHYS 4115	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
MUSC 3541, 2111, or 3300	4	MUST 4611	4
MUST 3540	4	PHYS 5318	4
MUST 4610	4	Elective	4
Music elective	4	Elective	4
	16		**16**

Total Hours: 132

Offerings Schedule (Subject to Changes)

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2 (**take in year 2 or 3, whichever is even**)
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring

- PHYS 4305 offered every spring and summer 2 (**take in year 2 or 3, whichever is even**)
- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Physics and Philosophy, BS

The combined major in physics and philosophy provides a strong foundation in classical and modern physics, including studies of the various physical phenomena including electromagnetism, dynamics, building blocks of matter, energy, and radiation. It also provides students with an understanding of the methods and traditions of philosophical thought, as well as with opportunities to critically and collaboratively reflect on the nature of the world and the human situation in it. Students will be able to describe the method by which physical "law" is made manifest in the sciences, how this knowledge compares with other epistemological models studied in other contexts, and philosophical views on the status and source of physical "law."

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 4621	Biological Physics 1	
PHYS 4623	Medical Physics	
PHYS 4651	Medical Physics Seminar 1	
PHYS 4652	Medical Physics Seminar 2	
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	

Philosophy Major Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 4500	Theory of Knowledge	4
or PHIL 3050	Information and Uncertainty	
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		**8**
Complete two additional PHIL courses not used to satisfy other requirements.		8

Physics/Philosophy Integrative Requirements

Code	Title	Hours
Integrative Course Requirements		
PHIL 4510	Philosophy of Science	4
or PHIL 3360	Scientific Approaches to Philosophy	
PHYS 3601	Classical Dynamics	4

Breadth Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

Physics and Philosophy Major Credit Requirement

Complete 98 semester hours in the major.

Program Requirement

132 total semester hours required

Plan of Study

Notes on Physics Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, depending on the year of entry for that student.

See course offering schedule at the end of the plans of study.

Please contact your academic advisor for additional information and plans of study.

Even-Numbered Year One

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	Vacation		Vacation	
MATH 1341	4	PHIL 2325	4				
PHIL 1115	4	PHYS 1165	4				
PHYS 1000	1	PHYS 1166	1				
PHYS 1161	4	PHYS 1167	0				
PHYS 1162	1	Elective	4				
PHYS 1163	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	EESC 2000	1	Vacation		Co-op	0
PHIL 2330	4	MATH 2341	4				
PHYS 2303	4	PHYS 3601	4				
PHYS 2371	3	PHIL elective	4				
PHYS 2372	1	PHIL elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHIL 4500	4	PHYS 3600	4	Co-op	0
		PHYS 4115	4	Elective	4		
		PHIL elective	4				
		PHYS elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3307	4	Critical Philosophy Elective	4	Co-op	0
		PHIL 4510	4	Elective	4		
		PHYS 3602	4				
		PHIL elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	PHYS 4305	4
		PHIL advanced elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	MATH 2321	4	MATH 2341	4
MATH 1341	4	PHIL 2325	4	Elective	4	Elective	4
PHIL 1115	4	PHIL 2330	4				
PHYS 1000	1	PHYS 1165	4				
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1	PHYS 1167	0				

PHYS 1163	0						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 2303	4	EESC 2000	1	PHYS 3600	4	Co-op	0
PHYS 2371	3	PHYS 3601	4	Elective	4		
PHYS 2372	1	PHYS 3602	4				
PHIL elective	4	PHIL elective	4				
PHIL elective	4	PHIL elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHIL 4500	4	ENGW 3307	4	Co-op	0
		PHIL 4510	4	Elective	4		
		PHYS 4115	4				
		PHYS elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	PHYS 4305	4
		PHIL advanced elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

OFFERING SCHEDULE (SUBJECT TO CHANGES)

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2
- Classical Dynamics (PHYS 3601) offered spring and fall (even years)
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years)
- Quantum Mechanics (PHYS 4115) offered every fall and spring
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years)
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years)
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years)
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years)
- Medical Physics Seminar 2 (PHYS 4652) offered every spring
- Principles of Experimental Physics (PHYS 5318) offered every spring

Chemical Engineering and Physics, BSChE

This intercollege combined major serves students who would like to explore their interest in physics while earning the benefit of a Bachelor of Science degree in chemical engineering. Upon completion, the successful student will understand the fundamental physics behind many chemical-based processes, resulting in the ability to design and practice in the field of engineering that deals with the movement of mass, heat transfer, and reactions involved in the processing of various materials.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Engineering		
CHME 2308	Conservation Principles in Chemical Engineering	4
CHME 2310	Transport Processes 1	4
CHME 2320	Chemical Engineering Thermodynamics 1	4
CHME 3305 and CHME 3306	Chemical Engineering Laboratory and Recitation for CHME 3305	4
CHME 3312	Transport Processes 2	4
CHME 3322	Chemical Engineering Thermodynamics 2	4
CHME 4510	Chemical Engineering Kinetics	4
CHME 4512	Chemical Engineering Process Control	4
CHME 4701	Separations and Process Analysis	4
PHYS 3600	Advanced Physics Laboratory	4
Chemical Engineering Capstone		
CHME 4703 and CHME 4705	Chemical Process Design Capstone and Recitation for CHME 4703	4
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science Requirement

Complete all Mathematics/Science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 5318	Principles of Experimental Physics	4
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Advanced Science Requirement

Code	Title	Hours
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
PHYS 2303	Modern Physics	4
PHYS 4115	Quantum Mechanics	4
Complete one of the following:		5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	
CHEM 2317 and CHEM 2318	Organic Chemistry 2 for Chemistry Majors and Lab for CHEM 2317	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 SH of academic, nonremedial, nonrepetitive courses.		8

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum required in CHME coursework

Program Requirement

135 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	0
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311	4	CHEM 2313	4	Vacation	0	Vacation	0
CHEM 2312	1	CHEM 2314	1				
CHME 2320	4	CHME 2310	4				
MATH 2341	4	CHME 3322	4				
PHYS 2371 (ND)	3	PHYS 2303 (ND)	4				
PHYS 2372 (EI)	1						
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHME 3312	4	CHME 4510	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
ENGW 3302 or 3315 (WD)	4	CHME 4512	4	General Elective	4		
CHME 3305	4	CHME 4701	4				
CHME 3306	0	ENCP 2000	1				
General Elective	4	PHYS 3601 (ND)	4				
	16		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		ENCP 3000	1
		PHYS 3602 (ND)	4
		PHYS 4115 (ND, FQ)	4
		PHYS 5318 (ND, AD, WI, CE)	4
	0		**17**

Total Hours: 135

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	CHME 2308	4	MATH 2321 (FQ)	4	Vacation	0
CHEM 1153	0	GE 1502 (ER)	4	PHYS 1155 (ND)	3		
ENGW 1111 (WF)	4	MATH 1342 (FQ)	4	PHYS 1156 (AD)	1		
GE 1000	1	PHYS 1151 (ND)	3	PHYS 1157	1		
GE 1501	4	PHYS 1152 (AD)	1				
MATH 1341 (FQ)	4	PHYS 1153	1				
	17		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 2311	4	CHEM 2313	4	Vacation	0	Co-op	0
CHEM 2312	1	CHEM 2314	1				
CHME 2320	4	CHME 2310	4				
MATH 2341	4	CHME 3322	4				
PHYS 2371 (ND)	3	ENCP 2000	1				
PHYS 2372 (EI)	1	PHYS 2303 (ND)	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 3312	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
		ENGW 3302 or 3315 (WD)	4	General Elective	4		
		CHME 3305	4				
		CHME 3306	0				
		PHYS 3601 (ND)	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CHME 4510	4	Vacation	0	Co-op	0
		CHME 4512	4				
		CHME 4701	4				
		ENCP 3000	1				
		PHYS 3602 (ND)	4				
	0		**17**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	CHME 4703 (EI, CE, WI)	4
		CHME 4705	0
		PHYS 4115 (ND, FQ)	4
		PHYS 5318 (ND, AD, WI, CE)	4
		General Elective	4
	0		**16**

Total Hours: 135

Notes

Physics courses are offered on the following schedule:

- Modern Physics (PHYS 2303) offered every fall, spring and summer 2.
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall.
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2.
- Classical Dynamics (PHYS 3601) is offered fall and spring semesters of even years only. Please meet with your academic advisor to discuss scheduling options for Year 4 of odd years.
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring.
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years).
- Quantum Mechanics (PHYS 4115) offered every fall and spring.
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years).
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years).
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years).

- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years).
- Medical Physics Seminar 2 (PHYS 4652) offered every spring.
- Principles of Experimental Physics (PHYS 5318) offered every spring.

Computer Engineering and Physics, BSCmpE

This intercollege combined major serves students who would like to explore their interest in physics while earning the benefit of an accredited Bachelor of Science in Computer Engineering degree. The combined major integrates study within the College of Engineering's Department of Electrical and Computer Engineering with study within the College of Science's Department of Physics.

Because of the large body of shared knowledge between computer engineering and physics, an integrated combined major between these two disciplines is a logical course of study and can be accomplished within either a four-year plan of study or a five-year plan of study (including three co-op placements in the latter), without requiring course overloads in any semester. A student graduating from this program will have studied both physics fundamentals and computer systems.

Students interested in this program should contact the Department of Electrical and Computer Engineering or the Department of Physics as early as possible, preferably prior to registering for first-year courses.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Computer Engineering Fundamentals		
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	5
EECE 2540	Fundamentals of Networks	4
EECE 2560	Fundamentals of Engineering Algorithms	4
Electrical Engineering Fundamentals		
If more than one electrical engineering fundamentals course is taken, it can count as a technical elective.		
Complete one of the following:		4
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	
EECE 2520	Fundamentals of Linear Systems	
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	
Computer Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
Technical Electives		

Students can register for EECE 4991/EECE 4992/EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most, one of these courses (4 semester hours) can be taken in a semester.

Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following:		8
EECE 2412 to EECE 2530		
EECE 2750	Enabling Engineering	
EECE 3324 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
One CS/CY/IS course from the following approved list may be taken toward the EECE technical elective requirement:		
CS 3200	Database Design	
CS 3500	Object-Oriented Design	
CS 3540 to CS 3800		
CS 4100 to CS 4770		
CS 4850	Building Game Engines	
CS 5100	Foundations of Artificial Intelligence	
CS 5200	Database Management Systems	
CS 5310	Computer Graphics	
CS 5400	Principles of Programming Language	
CS 5500	Foundations of Software Engineering	
CS 5520	Mobile Application Development	
CS 5600	Computer Systems	
CS 5610	Web Development	
CS 5700	Fundamentals of Computer Networking	
CY 2550	Foundations of Cybersecurity	
IS 4200 to IS 4700		
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Complete one of the following:		5

PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	
PHYS 2303	Modern Physics	4
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Advanced Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 3600 to PHYS 7999		
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
GE 1000	First-Year Seminar	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitve courses.		8

Integrative Requirement

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement:		
EECE 4791	Electrical and Computer Engineering Capstone 1	1

Major GPA Requirement

A 2.000 minimum GPA is required in EECE courses.

Program Requirement

133 total semester hours required

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	MATH 2341	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 or 1155 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 or 1156 (AD)	1				
PHYS 1161 or 1151 (ND)	4	PHYS 1167 or 1157	0				
PHYS 1162 or 1152 (AD)	1						
PHYS 1163 or 1153	0						
	18		**17**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	CS 1800 (FQ)	4	Vacation		Vacation	
EECE 2160	4	CS 1802	1				
ENCP 2000	1	EECE 2150 (AD)	5				
MATH 2321 (FQ)	4	PHYS 4305 (ND)	4				
PHYS 2303 (ND)	4	CE fundamentals	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 3602 (ND)	4	Co-op		Co-op		EECE 4791 (EI, WI, CE)[2]	1
CE fundamentals	5					ENGW 3302 or 3315 (WD)	4
CE fundamentals	4					PHYS 3600 (ND, AD, WI)	4
General elective	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 4792 (EI, WI, CE)[2]	4	EE fundamentals	4
ENCP 3000	1	EECE technical elective	4
MATH 3081 (AD)	4	General elective	4
PHYS 4115 (ND, FQ)	4	PHYS advanced elective	4
EECE technical elective	4		
	17		**16**

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 or 1155 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 or 1156 (AD)	1				
PHYS 1161 or 1151 (ND)	4	PHYS 1167 or 1157	0				
PHYS 1162 or 1152 (AD)	1						
PHYS 1163 or 1153	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	CS 1800 (FQ)	4	Vacation		Co-op	0
MATH 2321 (FQ)	4	CS 1802	1				
MATH 2341	4	EECE 2150 (AD)	5				
PHYS 2303 (ND)	4	EECE 2160	4				
		ENCP 2000	1				
		PHYS 3602 (ND)	4				
	16		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHYS 4115 (ND, FQ)	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
		CE fundamentals	5				
		CE fundamentals	4				
		CE fundamentals	4				
	0		**17**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	EECE 4791 (EI, WI, CE)[2]	1	Co-op	0
		MATH 3081 (AD)	4	ENGW 3302 or 3315 (WD)	4		
		PHYS 4305 (ND)	4	EECE technical elective	4		
		EE fundamentals	4				
		General elective	4				
	0		**17**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	EECE 4792 (EI, WI, CE)[2]	4
		EECE technical elective	4
		General elective	4
		PHYS advanced elective	4
	0		**16**

Total Hours: 133

[2] The capstone design courses are taken as follows:
- Electrical and Computer Engineering Capstone 1 (EECE 4791) in summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in spring OR
- Electrical and Computer Engineering Capstone 1 (EECE 4791) in summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in fall

Physics courses are offered on the following schedule:

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring
- PHYS 4305 offered spring and summer 2 (even years)

- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Electrical Engineering and Physics, BSEE

This intercollege combined major serves students who would like to explore their interest in physics while earning the benefit of an accredited Bachelor of Science degree in engineering. The major combines a major in physics from the Department of Physics in the College of Science with the Bachelor of Science in Electrical Engineering degree from the Department of Electrical and Computer Engineering.

Because of the large body of shared knowledge between electrical engineering and physics, a combined major between these two disciplines is a logical course of study and can be accomplished within a student's usual five-year program (including three co-op placements) without requiring course overloading in any semester. A student graduating from this program will have studied both the physical fundamentals and the applications of electronic devices and systems. The program is a particularly appropriate course of study for students who wish to pursue a career in solid-state devices, microelectromechanical systems, or nanotechnology.

Students interested in this program should contact the Department of Electrical and Computer Engineering or the Department of Physics as early as possible, preferably prior to registering for freshman courses.

Visit the department website (https://ece.northeastern.edu/academics/undergraduate-studies/ece-accreditation/) for educational program objectives.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirements

Code	Title	Hours
Required Courses		
EECE 2140	Computing Fundamentals for Engineers	4
EECE 2150	Circuits and Signals: Biomedical Applications	5
EECE 2160	Embedded Design: Enabling Robotics	4
Electrical Engineering Fundamentals		
EECE 2412 and EECE 2413	Fundamentals of Electronics and Lab for EECE 2412	5
EECE 2520	Fundamentals of Linear Systems	4
EECE 2530 and EECE 2531	Fundamentals of Electromagnetics and Lab for EECE 2530	5
Computer Engineering Fundamentals		
If more than one computer engineering fundamentals course is taken, it can count as a technical elective.		
Complete one of the following:		4-5
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540	Fundamentals of Networks	
EECE 2560	Fundamentals of Engineering Algorithms	
Electrical Engineering Capstone Courses		
EECE 4791	Electrical and Computer Engineering Capstone 1	1
EECE 4792	Electrical and Computer Engineering Capstone 2	4
EECE Technical Electives		
Students can register for EECE 4991/EECE 4992/EECE 4993 more than once. For these courses combined, a maximum of 8 semester hours will be allowed to satisfy the requirement of technical electives. An additional 4 semester hours will be allowed as a general elective. At most, one of these courses (4 semester hours) can be taken in a semester.		

Though students may register for EECE 2750 more than once, only 4 semester hours will be allowed to satisfy the requirements of technical electives. An additional 4 semester hours will be allowed as a general elective.		
Complete two of the following:		8-9
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322	
EECE 2540 to EECE 2750		
EECE 3324 to EECE 3410		
EECE 4512 to EECE 4698		
EECE 4991	Research	
EECE 4992	Directed Study	
EECE 4993	Independent Study	
EECE 5115 to EECE 5698		
EECE 5670	Sustainable Energy: Materials, Conversion, Storage, and Usage	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
EECE 3468	Noise and Stochastic Processes	
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
Complete one of the following:		5
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
Complete one of the following:		5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	
PHYS 2303	Modern Physics	4
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Advanced Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 3600 to PHYS 7999		
Supplemental Credit		
2 semester hours from the following course count toward the mathematics/science requirement:		2

EECE 3468	Noise and Stochastic Processes	
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Required Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 12 semester hours of academic, nonremedial, nonrepetitive courses.		12

[1] Students can substitute GE 1110 and GE 1111 for GE 1501 and GE 1502 in approved situations.

Major GPA Requirement

2.000 minimum GPA required in EECE courses

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	MATH 2341	4	Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 or 1155 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 or 1156 (AD)	1				
PHYS 1161 or 1151 (ND)	4	PHYS 1167 or 1157	0				
PHYS 1162 or 1152 (AD)	1						
PHYS 1163 or 1153	0						
	18		**17**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2160	4	Vacation		Vacation	
EECE 2150 (AD)	5	PHYS 4305 (ND)	4				
MATH 2321 (FQ)	4	EE fundamentals	5				

PHYS 2303 (ND)	4	EE fundamentals	5				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op		Co-op		EECE 4791 (EI, WI, CE)[2]	1
ENGW 3302 or 3315 (WD)	4					PHYS 3600 (ND, AD, WI)	4
PHYS 3602 (ND)	4					General elective	4
EE fundamentals	4						
CE fundamentals	4						
	17		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
EECE 3468	4	EECE technical elective	4
EECE 4792 (EI, WI, CE)[2]	4	EECE technical elective	4
ENCP 3000	1	General elective	4
PHYS 4115 (ND, FQ)	4	PHYS advanced elective	4
General elective	4		
	17		**16**

Total Hours: 133

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111 (WF)	4	CHEM 1151 (ND)	4	Vacation	0	Vacation	0
GE 1000	1	CHEM 1153	0				
GE 1501	4	GE 1502 (ER)	4				
MATH 1341 (FQ)	4	MATH 1342 (FQ)	4				
PHYS 1161 or 1151 (ND)	4	PHYS 1165 or 1155 (ND)	4				
PHYS 1162 or 1152 (AD)	1	PHYS 1166 or 1156 (AD)	1				
PHYS 1163 or 1153	0	PHYS 1167 or 1157	0				
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EECE 2140	4	EECE 2150 (AD)	5	Vacation	0	Co-op	0
MATH 2321 (FQ)	4	EECE 2160	4				
MATH 2341	4	ENCP 2000	1				
PHYS 2303 (ND)	4	PHYS 3602 (ND)	4				
		General elective	4				
	16		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	PHYS 3600 (ND, AD, WI)	4	Co-op	0
		PHYS 4115 (ND, FQ)	4	General elective	4		
		EE fundamentals	4				
		EE fundamentals	5				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	EECE 3468	4	EECE 4791 (EI, WI, CE)[2]	1	Co-op	0
		ENCP 3000	1	EECE technical elective	4		
		PHYS 4305 (ND)	4	General elective	4		
		CE fundamentals	4				

		EE fundamentals	5		
	0		**18**	**9**	**0**

Year 5

Fall	**Hours**	**Spring**	**Hours**
Co-op	0	EECE 4792 (EI, WI, CE)[2]	4
		EECE technical elective	4
		PHYS advanced elective	4
	0		**12**

Total Hours: 133

[2] Note:
The capstone design courses are taken as follows:
- Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 1 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Spring, or...
- ... Electrical and Computer Engineering Capstone 1 (EECE 4791) in Summer 2 and Electrical and Computer Engineering Capstone 2 (EECE 4792) in Fall

Physics courses are offered on the following schedule:

- PHYS 2303 offered every fall, spring, and summer 2
- PHYS 2371/2372 offered every fall
- PHYS 3600 offered every summer 1 and summer 2
- PHYS 3601 offered spring and fall (even years)
- PHYS 3602 offered every fall and spring
- PHYS 3603 offered fall (even years) and summer 1 (odd years)
- PHYS 4115 offered every fall and spring
- PHYS 4305 offered every spring and summer 2 (even years)
- PHYS 4621 offered spring (odd years) and fall (even years)
- PHYS 4623 offered summer 1 and fall (even years)
- PHYS 4651 offered spring and fall (odd years)
- PHYS 4652 offered every spring
- PHYS 5318 offered every spring

Mechanical Engineering and Physics, BSME

This undergraduate program takes advantage of the physical similarities between mechanical engineering and physics, providing students with the opportunity to pursue studies that explore both topics. The program culminates with mechanical engineering capstone design.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements: Interpreting Culture (IC), Understanding Societies and Institutions (SI), Engaging Differences and Diversity (DD), and Integrating Knowledge and Skills Through Experience (EX) are not explicitly satisfied by required engineering coursework. Successful completion of a cooperative education experience fulfills the EX requirement. Students are responsible for satisfying unfulfilled NUpath requirements with general elective coursework.

Engineering Requirement

Code	Title	Hours
Required Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
ME 4508	Mechanical Engineering Computation and Design	4
or ME 4565	Introduction to Computational Fluid Dynamics	
ME 4550	Mechanical Engineering Design	4
ME 4555	System Analysis and Control	4
ME 4570	Thermal Systems Analysis and Design	4
Mechanical Engineering Capstone		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Supplemental Credit		
2 semester hours from the following course counts toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course counts toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

Mathematics/Science Requirement

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4

MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	5
PHYS 1165 and PHYS 1166 and PHYS 1167	Physics 2 and Lab for PHYS 1165 and Recitation for PHYS 1165	5
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3601	Classical Dynamics	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 5318	Principles of Experimental Physics	4
Advanced Physics Elective		
Complete one 4-semester-hour course from the following:		4
PHYS 4606	Mathematical and Computational Methods for Physics	
PHYS 4621	Biological Physics 1	
PHYS 4623	Medical Physics	
PHYS 4651	Medical Physics Seminar 1	
PHYS 4652	Medical Physics Seminar 2	
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5117	Advanced Astrophysics Topics	
PHYS 5118	General Relativity and Cosmology	
PHYS 5125	Advanced Quantum Mechanics	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	
Supplemental Credit		
1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
Writing		
A grade of C or higher is required:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 8 semester hours of academic, nonremedial, nonrepetitive courses.		8

Integrative Requirement

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
PHYS 5318	Principles of Experimental Physics	

Major GPA Requirement

2.000 minimum GPA required in IE, ME, and MEIE courses

Program Requirement

139 total semester hours required

[1] Students may substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 (AD)	1				
PHYS 1161 (ND)	4	PHYS 1167	0				
PHYS 1162 (AD)	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321 (FQ)	4	ENCP 2000	1	ME 3475 or 3480	4	Vacation	
ME 2340 (WI)	4	MATH 2341	4	PHYS 3600 (ND, AD, WI)	4		
ME 2341	1	ME 2355	4				
ME 2350	4	ME 2356	1				
PHYS 2303 (ND)	4	ME 2380	4				
		ME 2381	0				
		PHYS 3601 (ND)	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3302 or 3315 (WD)	4	ME 3455	4	ME 4550	4	Co-op	0
ME 4505 (AD)	4	ME 3456	1	MEIE 4701 (EI, CE, WI)	1		
ME 4506	1	ME 4508	4	General elective	4		
PHYS 2371 (ND)	3	ME 4570	4				
PHYS 2372 (EI)	1	PHYS 3602 (ND)	4				
General elective	4						
	17		**17**		**9**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENCP 3000	1
		ME 4555	4

	MEIE 4702 (EI, CE, WI)	5	
	PHYS 5318 (ND, AD, WI, CE)	4	
	Advanced physics elective	4	
0		**18**	

Total Hours: 139

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	ENGW 1111 (WF)	4	Vacation		Vacation	
CHEM 1153	0	GE 1502 (ER)	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1165 (ND)	4				
MATH 1341 (FQ)	4	PHYS 1166 (AD)	1				
PHYS 1161 (ND)	4						
PHYS 1162 (AD)	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321 (FQ)	4	ENCP 2000	1	Vacation		Co-op	0
MATH 2341	4	ME 2340 (WI)	4				
ME 2350	4	ME 2341	1				
PHYS 2371 (ND)	3	ME 2355	4				
PHYS 2372 (EI)	1	ME 2356	1				
		ME 2380	4				
		ME 2381	0				
		PHYS 2303 (ND)	4				
	16		**19**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3302 or 3315 (WD)	4	ME 3475 or 3480	4	Co-op	0
		ME 3455	4	PHYS 3600 (ND, AD, WI)	4		
		ME 3456	1				
		ME 4508	4				
		PHYS 3602 (ND)	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENCP 3000	1	ME 4550	4	Co-op	0
		ME 4505 (AD)	4	MEIE 4701 (EI, WI, CE)	1		
		ME 4506	1	General elective	4		
		ME 4555	4				
		ME 4570	4				
		PHYS 3601 (ND)	4				
	0		**18**		**9**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	MEIE 4702 (EI, WI, CE)	5
		PHYS 5318 (ND, AD, CE, WI)	4
		Advanced physics elective	4

	General elective	4
	0	**17**

Total Hours: 139

Notes:

Physics courses are offered on the following schedule:

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2.
- Electronics (PHYS 2371) and Lab for PHYS 2371 (PHYS 2372) offered every fall.
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2.
- Classical Dynamics (PHYS 3601) is offered fall and spring semesters of even years only. Please meet with your COS academic advisor to discuss scheduling options for year 4 of odd years.
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring.
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years).
- Quantum Mechanics (PHYS 4115) offered every fall and spring.
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years).
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years).
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years).
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years).
- Medical Physics Seminar 2 (PHYS 4652) offered every spring.
- Principles of Experimental Physics (PHYS 5318) offered every spring.

Astrophysics, Minor

The minor in astrophysics provides a foundation in classical and modern astrophysics at an undergraduate curriculum level and helps students explore some of the most groundbreaking recent discoveries that shape our current understanding of the universe.

Restrictions

Due to considerable overlap of course requirements, this minor is not available for students pursuing the BS degree in physics, applied physics, or biomedical physics.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Introductory Courses

Code	Title	Hours
PHYS 1111	Introduction to Astronomy	4
Complete one of the following sequences:		10
Physics 1 and 2		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
Physics for Engineering 1 and 2		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	

Intermediate Courses

Code	Title	Hours
PHYS 2303	Modern Physics	4
PHYS 3111	Astrophysical Processes: Decoding the Universe	4

Advanced Course

Code	Title	Hours
PHYS 4111	Multimessenger Astrophysics	4

GPA Requirement

2.000 GPA required in the minor

Physics, Minor

The physics minor provides a foundation in classical and modern physics and allows students to explore more advanced topics in physics through elective choices.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Complete one of the following sequences:		10
Physics 1 and 2		
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
Physics for Engineering 1 and 2		
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	

Modern Physics

Code	Title	Hours
PHYS 2303	Modern Physics	4

Elective Courses

Code	Title	Hours
Complete two of the following:		8
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 2300 to PHYS 5999		

GPA Requirement

2.000 GPA required in the minor

Psychology

Website (http://www.northeastern.edu/psychology/)

Peter Bex, PhD
Professor and Chair

617.373.3076
617.373.8714 (fax)

Studies in modern psychology focus on mind, brain, and behavior. Based on empirical research with both humans and animals, psychologists investigate and seek explanations for the behavior and mental life of individuals, develop assessment tools and treatment options for addressing clinical problems, and test applications of psychology in a broad range of contexts.

The psychology curriculum explores such topics as how brain function determines behavior; how we see, hear, and learn; what constitutes personality; the nature of language and cognitive processing; how emotions affect behavior; how individuals work in groups; the efficacy of a range of therapeutic techniques; and how principles of psychology apply to educational, medical, and other settings. Through laboratory practice and experimentation, individual research projects, and small-group seminars, the program provides the opportunity for critical evaluation and in-depth exploration across the diverse topic areas that constitute modern psychology.

Students are eligible for directed study courses, which are individualized research experiences under the supervision of a faculty member. The department also offers honors sections of various courses. Co-op placements are varied and include both community (often mental health) and laboratory settings, depending on a student's interests.

A solid scientific background in psychology helps prepare students for academic careers in teaching and research, as well as professional careers in business, public and social services, education, mental health, law, and medicine. It also provides a strong foundation for graduate study in all areas of psychology, including clinical programs and programs in experimental and applied psychology.

Note: A double major in psychology and behavioral neuroscience is not offered due to the similarity in the course curricula of these majors.

Programs

Bachelor of Science (BS)

- Psychology (p. 1617)
- American Sign Language and Psychology (p. 1625)
- Business Administration and Psychology (p. 603)
- Computer Science and Cognitive Psychology (p. 765)
- Criminal Justice and Psychology (p. 1637)
- Data Science and Psychology (p. 936)
- Economics and Psychology (p. 1645)
- Health Science and Psychology (p. 1190)
- Human Services and Psychology (p. 1653)
- Linguistics and Psychology (p. 1656)
- Mathematics and Psychology (p. 1552)
- Psychology and Music (p. 503)
- Psychology and Theatre (p. 1667)

Minor

- Psychology (p. 1671)

Psychology, BS

The Bachelor of Science degree program in psychology is designed to provide a research-based undergraduate education for students with a broad range of interests in basic and applied psychology. Psychology majors engage in academic course work and other experiences that span the breadth of psychology, as well as in-depth explorations that meet their own specific interests. Students have an opportunity to take fundamental and advanced courses spanning biological psychology, cognition, social psychology, personality psychology, sensation and perception, clinical psychology, applied psychology, learning and motivation, developmental psychology, and other subfields of psychology. By its very nature, psychology is a wide-ranging, cross-cutting field of study, and we encourage and offer interdisciplinary explorations via a highly flexible interdisciplinary cluster of courses that counts toward the BS curriculum, strong ties to other departments and programs, and experiential education to enhance the learning process, including conducting research in faculty laboratories and participation in Northeastern's co-op program.

Academic Progression Standards

Please see the university's progression standards (p. 88).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Psychology Major Requirements

Code	Title	Hours
Introductory Course		
PSYC 1101	Foundations of Psychology	4
Personal/Social Bases of Behavior (Area A)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
or PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Psychology Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	

PSYC 4674	Seminar in Cognitive Neuroscience
PSYC 4676	Seminar in Developmental Psychology
PSYC 4678	Seminar in Social and Affective Neuroscience
Lab Requirement	
Complete two psychology lab courses OR one psychology lab course and one psychology directed study research or honors thesis:	8
Lab	
PSYC 4600	Laboratory in Research Design
PSYC 4604	Laboratory in Learning and Motivation
PSYC 4606	Laboratory in Biological Psychology
PSYC 4610	Laboratory in Psycholinguistics
PSYC 4612	Laboratory in Cognition
PSYC 4614	Laboratory in Social Psychology
PSYC 4616	Laboratory in Personality
PSYC 4622	Laboratory in Sensation and Perception
PSYC 4624	Laboratory in Affective Science
PSYC 4626	Laboratory in Life-Span Emotional Development
PSYC 4628	Laboratory in Developmental Psychology
Directed Study Research or Honors Thesis	
PSYC 4991	Directed Study Research
or PSYC 4971	Junior/Senior Honors Project 2

Psychology Required Electives

Code	Title	Hours
Complete five PSYC courses.		20

Supporting Courses

INTERDISCIPLINARY CLUSTER

Code	Title	Hours
Complete three of the following courses. Choose from one group only. Students may petition to create their own interdisciplinary cluster.		11-15
Educational Psychology		
EDUC 1111	Education in the Community	
EDUC 5503	Culture, Equity, Power, and Influence	
EDUC 5504	Child and Adolescent Development, Learning, and Teaching	
EDUC 5570	Inclusion, Equity, and Diversity	
Society and Psychology		
ANTH 1101	Peoples and Cultures	
ANTH 2302	Gender and Sexuality: A Cross-Cultural Perspective	
ANTH 2315	Religion and Modernity	
LING 3412	Language and Culture	
SOCL 1255	Sociology of the Family	
SOCL 1260	Sociology of Gender	
SOCL 1295	Drugs and Society	
Forensic Psychology		
CRIM 1120	Criminology	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Cross-Cultural Psychology		
ANTH 1101	Peoples and Cultures	
LING 3412	Language and Culture	
LING 3442	Sociolinguistics	
Expressive Therapy		
ARTF 1121	Conceptual Drawing	
MUSC 1118	Music Therapy 1	

THTR 1130	Introduction to Acting
Counseling and Applied Psychology	
CAEP 3480	Counseling Theories and Practice
CAEP 3485	Mental Health and Counseling
HUSV 2300	Counseling in Human Services
HUSV 3520	Child Intervention and Treatment
Artificial Intelligence and Information Science	
CS 3800	Theory of Computation
CS 4100	Artificial Intelligence
CS 4120	Natural Language Processing
IS 2000	Principles of Information Science
IS 4300	Human Computer Interaction
Language	
DEAF 2700	ASL Linguistics
LING 2350	Linguistic Analysis
LING 3412	Language and Culture
LING 3422	Phonology
LING 3442	Sociolinguistics
LING 3450	Syntax
LING 3452	Semantics
LING 3456	Language and Gender
SLPA 1205	Speech and Hearing Science
Human Factors	
IS 2000	Principles of Information Science
IS 3500	Information System Design and Development
IS 4200	Information Retrieval
IS 4300	Human Computer Interaction
IS 4800	Empirical Research Methods
Child and Adolescent Abnormal Psychology	
CRIM 2320	Youth Crime and Justice
HUSV 3520	Child Intervention and Treatment
SOCL 1295	Drugs and Society
Human Resource Management and Business	
INTB 3310	Cultural Aspects of International Business
MISM 2301	Introduction to Information Systems and Digital Technologies
MKTG 2209	Introduction to Marketing
ORGB 3201	Organizational Behavior
PHIL 1170	Business, Ethics, and Human Rights
SOCL 1280	The Twenty-First-Century Workplace
Philosophy of Science and Psychology	
PHIL 1105	Science and Pseudoscience
PHIL 1115	Introduction to Logic
PHIL 4510	Philosophy of Science
PHIL 4535	Philosophy of Mind
Ethics	
PHIL 1130	Comparative Ethics
PHIL 1165	Moral and Social Problems in Healthcare
PHIL 1170	Business, Ethics, and Human Rights
PHIL 1180	Environmental Ethics
PHIL 3435	Moral Philosophy
Biological and Chemical Sciences	
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111

BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113
BIOL 1141	Microbes and Society
BIOL 1147	The Human Organism
BIOL 1149	Biology of Human Reproduction
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219
BIOL 3405	Neurobiology
BIOL 5585	Evolution
CHEM 1101 and CHEM 1102	General Chemistry for Health Sciences and Lab for CHEM 1101
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161
CHEM 1211 and CHEM 1212	General Chemistry 1 and Lab for CHEM 1211
CHEM 1214 and CHEM 1215	General Chemistry 2 and Lab for CHEM 1214
EEMB 1450	Introduction to Marine Biology
EEMB 2302	Ecology
Physical Sciences and Mathematics	
In addition to the following courses, any math skill course may be used with advisor approval:	
ENVR 1101	Environmental Science
ENVR 1110	Global Climate Change
ENVR 1200	Dynamic Earth
ENVR 2200	Earth's Changing Cycles
ENVR 3418	Geophysics
MATH 4581	Statistics and Stochastic Processes
or any PHYS course	
Health and Wellness	
BIOL 1141	Microbes and Society
BIOL 1143	Biology and Society
BIOL 1147	The Human Organism
BIOL 1149	Biology of Human Reproduction
BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217
COMM 3201	Health Communication
HSCI 1105	Human Nutrition
HSCI 1106	Contemporary Issues in Nutrition
NRSG 1205	Wellness
PHIL 1165	Moral and Social Problems in Healthcare
PHIL 1180	Environmental Ethics
PHIL 1185	The Ethics of Food
PT 1880	Introduction to Sports Medicine
SOCL 1295	Drugs and Society
Communication, Culture, and Society	
COMM 1131	Sex, Relationships, and Communication
COMM 1255	Communication in a Digital Age
COMM 2105	Social Networks
COMM 2304	Communication and Gender
COMM 2551	Free Speech in Cyberspace
COMM 3230	Interpersonal Communication
COMM 3304	Communication and Inclusion
COMM 4535	Nonverbal Social Interaction

COMM 4605	Youth and Communication Technology
COMM 4625	Online Communities
LING 3412	Language and Culture
LING 3442	Sociolinguistics
LING 3456	Language and Gender
Social Work Track	
HUSV 1101	Social Change and Human Services
HUSV 2355	Race, Identity, Social Change, and Empowerment
HUSV 2970	Research Methods for Human Services
HUSV 3900	Social Policy

Mathematics Requirement

Code	Title	Hours
Complete one of the following courses:		4
CS 1800	Discrete Structures	
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1242	Calculus 2	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1252	Calculus and Differential Equations for Biology 2	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342	Calculus 2 for Science and Engineering	

BS in Psychology Major Credit Requirements

Complete 68 semester hours in the major. A maximum of 34 semester hours of transfer credit is allowed in the major. *Note:* Up to 12 semester hours of psychology-related electives will count toward the major *only after* the "Interdisciplinary Cluster" section has been completed.

Program Requirement

128 total semester hours required

Plan of Study

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC area A elective	4	Vacation	0	Vacation	0
PSYC 1000	1	PSYC elective	4				
PSYC 1101	4	Elective	4				
PSYC 1214 (or other PSYC elective)	4	Elective	4				
Math requirement	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	EESC 2000	1	Vacation	0	Co-op	0
PSYC area B elective	4	PSYC area A elective	4				
Elective	4	PSYC area B elective	4				
Elective	4	PSYC interdisciplinary cluster	4				
		Elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Elective	4	Co-op	0
		PSYC elective	4	Elective	4		
		PSYC lab elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PSYC elective	4	Elective	4	Co-op	0
		PSYC lab elective	4	Elective	4		
		PSYC interdisciplinary cluster	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	PSYC seminar elective	4
		PSYC interdisciplinary cluster	4
		PSYC elective	4
		Elective	4
	0		**16**

Total Hours: 130

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC area A elective	4	Vacation	0	Vacation	0
PSYC 1000	1	PSYC elective	4				
PSYC 1101	4	Elective	4				
PSYC 1214 (or other PSYC elective)	4	Elective	4				
Math requirement	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op	0	Co-op	0	Elective	4
PSYC 2320	4					Elective	4
PSYC area B elective	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op	0	Co-op	0	Elective	4
PSYC area A elective	4					Elective	4
PSYC area B elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC elective	4	Co-op	0	Co-op	0	Vacation	0
PSYC lab elective	4						
PSYC interdisciplinary cluster	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
PSYC elective	4	PSYC seminar elective	4
PSYC lab elective	4	PSYC interdisciplinary cluster	4
PSYC interdisciplinary cluster	4	PSYC elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC area A elective	4	PSYC elective	4	Vacation	
PSYC 1000	1	PSYC elective	4	Elective	4		
PSYC 1101	4	Elective	4				
PSYC 1214 (or other PSYC elective)	4	Elective	4				
Math requirement	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	PSYC area A elective	4	Elective (or AP credit, etc.)	4	Co-op	
PSYC 2320	4	PSYC area B elective	4	Elective (or AP credit, etc.)	4		
PSYC area B elective	4	PSYC interdisciplinary cluster	4				
PSYC interdisciplinary cluster	4	PSYC elective	4				
PSYC elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective (or AP credit, etc.)	4	Co-op	
		PSYC interdisciplinary cluster	4	Elective (or AP credit, etc.)	4		
		PSYC lab elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC lab elective	4	Elective	4	Vacation	
		PSYC seminar elective	4	Elective	4		
		Elective	4				

		Elective	4				
	0		**16**		**8**		**0**

Total Hours: 130

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC area A elective	4	PSYC elective	4	Vacation	
PSYC 1000	1	PSYC elective	4	Elective	4		
PSYC 1101	4	Elective	4				
PSYC 1214 (or other PSYC elective)	4	Elective	4				
Math requirement	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESC 2000	1	Co-op		Co-op		Elective (or AP credit, etc.)	4
PSYC 2320	4					Elective (or AP credit, etc.)	4
PSYC area B elective	4						
PSYC interdisciplinary cluster	4						
PSYC elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC area A elective	4	Co-op		Co-op		Elective (or AP credit, etc.)	4
PSYC area B elective	4					Elective (or AP credit, etc.)	4
PSYC interdisciplinary cluster	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	PSYC lab elective	4	Elective	4	Vacation	
PSYC interdisciplinary cluster	4	PSYC seminar elective	4	Elective	4		
PSYC lab	4	Elective	4				
PSYC elective	4	Elective	4				
	16		**16**		**8**		**0**

Total Hours: 130

American Sign Language and Psychology, BS

American Sign Language (ASL) is estimated to be the third most used language in the United States and its visibility in society is on the rise in recent years. There are roughly 500,000 to 2,000,000 Deaf, DeafBlind, or hard of hearing people in the United States who use ASL as their primary language, and a large number of non-Deaf signers use or learn ASL as a second language. A disproportionate percentage of Deaf people experience socioeconomic disadvantage due to their dual status as members of both a cultural linguistic minority group and a disability group. As a result, there is a broad societal misunderstanding of Deaf, signing people's minority language and culture—their lived experience—which creates barriers to educational and economic opportunity. While state and federal legislation enables improved civic engagement by Deaf, hard of hearing, and DeafBlind individuals, there is continued need to elevate quality of life, equity, and the rich contributions of the diverse members of the American Deaf communities.

The program offers a wide array of courses as well as volunteer, co-op, and research opportunities to learn from Deaf people's lived experiences through community and industry connections.

This combined major educates students in cognitive psychology, psycholinguistics, and the structures of human languages in general and ASL in particular. The curriculum is designed to assist students in acquiring competence in ASL, develop an understanding of the diverse American Deaf communities and Deaf culture, better understand cognitive efforts of interpreters' language transfer, as well as gain insights into various features of spoken language and experience firsthand the principles underlying the spatial organization of discourse required by signed languages. This knowledge and the psychology background from the major provide a foundation for more advanced studies of ASL and interpreting or psychology and Deaf people.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

American Sign Language Requirements

Code	Title	Hours
American Sign Language		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Linguistics		
LING 1150	Introduction to Language and Linguistics	4
DEAF 2700	ASL Linguistics	4
Interpreting		
INTP 3500	The Interpreting Profession	2
INTP 3510	Interpreting Inquiry Texts	4
INTP 3970	Research Methods for Interpreting and Translation (Research Methods for Interpreting and Translation)	4

Psychology Requirements

Code	Title	Hours
Psychology		
PSYC 1101	Foundations of Psychology	4
PSYC 2320	Statistics in Psychological Research	4
PSYC 3466	Cognition	4

Psychology Lab or Directed Study		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4991	Directed Study Research	
Personal/Social Bases of Behavior (Area A)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		
Complete one of the following:		4
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
Language/Cognition Elective		
Complete one of the following:		4
PSYC 4520		
PSYC 4522	Psychology of Reading	
PSYC 4524	Cognitive Development	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4674	Seminar in Cognitive Neuroscience	

Integrative Requirements

Code	Title	Hours
INTP 4940	Interpreting Research Capstone	4
PSYC 3464	Psychology of Language	4

Combined Major GPA Requirement

Minimum 2.750 GPA required in all AMSL, INTP, and DEAF courses
Minimum 2.500 overall GPA required

Combined Major Credit Requirement

Complete 82 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 1101	4	AMSL 1102	4	Vacation	0	Vacation	0
DEAF 1500	4	LING 1150	4				
PSYC 1101	4	MATH 1215	4				
ENGW 1111	4	Elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 2101	4	AMSL 2102	4	Vacation	0	Vacation	0
DEAF 2500	4	PSYC 2320	4				
PSYC 3464	4	PSYC 3466	4				
INTP 3500	2	Elective	4				
Elective	1-4						
	15-18		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 3101	4	DEAF 2700	4	Vacation	0	Vacation	0
Psych Area A elective	4	Psych Area B elective	4				
ENGW 3315	4	Language/cognition elective	4				
INTP 3510	4	AMSL 3102	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
INTP 3970	4	INTP 4940	4
Elective	4	Psych lab elective	4
Elective	4	Psych Area A elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 127-130

Business Administration and Psychology, BS

This combined major educates students in business and psychology and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including statistics and research, social psychology, developmental psychology, cognition, and personality. Business courses provide a foundation in accounting, innovation, marketing, management, and organizational behavior, with the opportunity to concentrate in a specific area of business. Students completing this program should be able to understand the relationships between these fields that pertain to explaining and addressing human behavior and business practices.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Business Requirements

Code	Title	Hours
Required Courses		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INNO 2301	Innovation!	4
INTB 1203	International Business and Global Social Responsibility	4
MISM 2301	Introduction to Information Systems and Digital Technologies	4
or SCHM 2301	Supply Chain and Operations Management	
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
STRT 4501	Strategy in Action	4
Supporting Courses for Business		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
MATH 1231	Calculus for Business and Economics	4

Business Concentration

Complete one of the following concentrations.

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)

- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3402	Social Psychology	4
PSYC 3466	Cognition	4
PSYC 3400	Personality	4
PSYC 3404	Developmental Psychology	4
Statistics		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
MGSC 2301	Business Statistics	
Required Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
PSYC 4678	Seminar in Social and Affective Neuroscience	
Required Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Electives		
Complete two PSYC courses not used to fulfill the requirements above:		8
PSYC 1001 to PSYC 5999		

Supporting Courses

Code	Title	Hours
Introduction to College		
BUSN 1102	Personal Skill Development for Business	1
or PSYC 1000	Psychology at Northeastern	
Co-op Preparation		
Complete one of the following:		1
BUSN 1103	Professional Development for Business Co-op	
or EESC 2000	Professional Development for Co-op	

Integrative Course

Code	Title	Hours
ORGB 3201	Organizational Behavior	4

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Psychology GPA Requirement

A minimum 2.000 GPA in psychology courses is required.

Business Cooperative Education

Complete one cooperative education experience.

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 1101	4	PSYC 2320 or MGSC 2301	4	Vacation		Vacation	
MATH 1231	4	PSYC 3402	4				
PSYC 1000 or BUSN 1102	1	ENGW 1111	4				
NU PATH DD	4	BUSINESS CORE 2	4				
BUSINESS CORE 1	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 3400	4	PSYC 3404	4	Vacation		Co-op	
PSYC 3466	4	CONCENTRATION COURSE 1	4				
BUSINESS CORE 3	4	BUSINESS CORE 5	4				
BUSINESS CORE 4	4	ECON 1115 or 1116	4				
		EESC 2000 or BUSN 1103	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC Elective	4	Elective 1	4	Co-op	
		ENGW 3304 or 3315	4	Elective 2	4		
		CONCENTRATION COURSE 2	4				
		BUSINESS CORE 6	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC Laboratory	4	Elective 3	4	Co-op	
		PSYC Elective	4	Elective 4	4		
		CONCENTRATION COURSE 3	4				
		BUSINESS CORE 7	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		PSYC Seminar	4
		BUSINESS CORE 8	4
		BUSINESS CORE 9	4

	CONCENTRATION COURSE 4	4
	0	**16**

Total Hours: 130

Computer Science and Cognitive Psychology, BS

The computer science and cognitive psychology combined major provides a foundation in general psychology, psychology of language, cognition, and statistics—all supplemented by an experimental laboratory course, seminar course, and psychology electives. Students who choose this program often have a general interest in human psychology or specific interests in artificial intelligence or human-computer interaction.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
CS 1210	Professional Development for Khoury Co-op	1
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4100	Artificial Intelligence (Integrative course)	4
CS 4500	Software Development (Integrative course)	4
or CS 4530	Fundamentals of Software Engineering	
IS 4300	Human Computer Interaction (Integrative course)	4
Khoury Elective Courses		
With adviser approval, a directed study, research, project study, or appropriate graduate-level course may also be taken as a computer science elective.		
Complete twelve credits of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Psychology Courses

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3464	Psychology of Language	4
PSYC 3466	Cognition	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department approval).		4-5
PSYC 2320	Statistics in Psychological Research	

Advanced Psychology		
PSYC 3452	Sensation and Perception	4
or PSYC 3458	Biological Psychology	
Laboratory in Psychology		
Complete one of the following:		4
PSYC 4604	Laboratory in Learning and Motivation	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4622	Laboratory in Sensation and Perception	
Seminar in Psychology		
Complete one of the following:		4
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
Psychology Electives		
Note: Courses satisfying the categories above cannot be reused.		
Complete two of the following:		8
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 4512	Neuropsychology	
PSYC 4524	Cognitive Development	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
With prior approval, directed study research and Honors Project courses can also be counted:		
PSYC 4970	Junior/Senior Honors Project 1	
PSYC 4971	Junior/Senior Honors Project 2	
PSYC 4991	Directed Study Research	

Supporting Courses

Code	Title	Hours
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	

PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	PSYC 3466	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4	Elective	4				
PSYC 1101	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op		Co-op		Elective	4
MATH 1341	4					Elective	4
PSYC 3464	4						
Computing and social issues	4						

Khoury elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 4500 or 4530	4	Co-op		Co-op		ENGW 3302	4
PSYC 2320	4					Elective	4
PSYC 3452 or 3458	4						
PSYC elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
IS 4300	4	CS 4100	4
PSYC lab	4	PSYC Seminar	4
PSYC elective	4	Khoury elective	4
Khoury elective	4	Elective	4
	16		**16**

Total Hours: 134

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	PSYC 3466	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Elective	4				
ENGW 1111	4	Elective	4				
PSYC 1101	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1341	4	CS 1210	1	Khoury Elective	4	Co-op	
PSYC 3464	4	IS 4300	4	Elective	4		
Computing and social issues	4	PSYC 2320	4				
Khoury Elective	4	PSYC 3452 or 3458	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PSYC lab elective	4	ENGW 3302 or 3302	4	Co-op	
		PSYC Seminar	4	Elective	4		
		PSYC elective	4				
		PSYC elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4100	4
		CS 4530	4
		Khoury elective	4

Elective	4
0	**16**

Total Hours: 134

Criminal Justice and Psychology, BS

This combined major educates students in criminal justice and psychology and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including the biological and psychosocial bases of behavior, learning, personality, and cognition. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students completing this program should be able to understand the relationships between the fields, as they relate to understanding and addressing criminal behavior.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
CRIM 3600	Criminal Justice Research Methods	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4

CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science Practicum section)	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000 or 5000-level.		8

Psychology Requirements

Code	Title	Hours
Introductory Course		
PSYC 1101	Foundations of Psychology	4
Mathematics		
Choose one of the following:		4
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
Statistics		
Complete the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Personality/Social Bases of Behavior		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
or PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Research Experience		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
Psychology Seminar		
Complete one of the following:		4

PSYC 4656	Seminar in Biological Psychology
PSYC 4658	Seminar in Psycholinguistics
PSYC 4660	Seminar in Cognition
PSYC 4662	Seminar in Personality
PSYC 4664	Seminar in Social Psychology
PSYC 4666	Seminar in Clinical Psychology
PSYC 4668	Seminar in Sensation and Perception
PSYC 4674	Seminar in Cognitive Neuroscience
PSYC 4676	Seminar in Developmental Psychology

Electives

Complete two PSYC courses. 8

Integrative Requirement

Code	Title	Hours
CRIM 3040	Psychology of Crime	4

Criminal Justice and Psychology Combined Major Credit Requirement

Complete 92 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CRIM 1120	4	NU Path EI	4
ENGW 1111	4	CS 1100	4	PSYC 3402	4	Open Elective	4
MATH 1215	4	PSYC 3400	4				
PSYC 1000	1	PSYC 3450	4				
PSYC 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	EESC 2000	1	PSYC Elective	4	Co-op	
PSYC 3458	4	NU Path DD	4	Open Elective	4		
CRIM Justice Thematic Elective	4	CJ Survey Elective	4				
NU Path IC	4	PSYC Elective	4				
		Open Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3040	4	Adv. Writing	4	Co-op	
		CRIM 3600	4	NU Path ER	4		
		PSYC 4612	4				
		CRIM Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Psychology Seminar	4
		CJ System Wide Elective	4
		CRIM Elective	4

	Open Elective	4
	0	**16**

Total Hours: 130

Data Science and Psychology, BS

The psychology and data science combined major offers an integrative curriculum in the study of mind, brain, and behavior and in the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The study of psychology draws upon empirical research with both humans and animals to investigate and seek explanations for the behavior and mental life of individuals and develop assessment tools and treatment options for addressing clinical problems. In this program, students have an opportunity to augment such knowledge with skills in big data analysis, data science, and data analytics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or INSC 1000	Science at Northeastern	
or PSYC 1000	Psychology at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESC 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Choose one of two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		

Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Computer Science Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3307	Advanced Writing in the Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Psychology Requirements

Code	Title	Hours
Foundations of Psychology		
PSYC 1101	Foundations of Psychology	4
Statistics in Psychological Research		
PSYC 2320	Statistics in Psychological Research	4
Mathematics Foundations		
MATH 1341	Calculus 1 for Science and Engineering	4
Personality/Social Basis of Behavior		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Cognitive/Biological Basis of Behavior		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
or PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Laboratory		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Seminar		
Complete one of the following:		4

PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Electives		
Complete two of the following:		8
PSYC 2370 to PSYC 5999		

Integrative Requirement

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
IS 4300	Human Computer Interaction	
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Psychology GPA Requirement

Minimum 2.000 GPA required in all PSYC courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	DS 2500 and DS 2501	5	PYSC elective	4	General elective	4
CS 1800 and CS 1802	5	PSYC 2320	4	General elective	4	General elective	4
DS 2000 and DS 2001	4	Personality/social basis of behavior 1	4				
ENGW 1111	4	General elective	4				

PSYC 1101	4						
	18		**17**		**8**		**8**
Year 2							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
CS 3200	4	CS 1210	1	PSYC elective	4	Co-op	
DS 3000	4	DS 3500	4	General elective	4		
MATH 1341	4	DS 4200	4				
Cognitive/biological basis of behavior 1	4	Cognitive/biological basis of behavior 2	4				
		Personality/social basis of behavior 2	4				
	16		**17**		**8**		**0**
Year 3							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
Co-op		DS 4300	4	ENGW 3302, 3307, or 3315	4	Co-op	
		DS 4400	4	General elective	4		
		PSYC laboratory	4				
		PSYC seminar	4				
	0		**16**		**8**		**0**
Year 4							
Fall	**Hours**	**Spring**	**Hours**				
Co-op		DS 4420	4				
		Integrative requirement	4				
		Khoury elective	4				
		General elective	4				
	0		**16**				

Total Hours: 132

Economics and Psychology, BS

This combined major educates students in economics and psychology and the interface between the two disciplines. Economics courses provide a foundation in macroeconomics, microeconomics, and applied econometrics. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including such topics as cognition, decision making, learning, and motivation. Students completing this program of study should be able to understand how the two fields jointly contribute to explaining the complexity of human behavior in an economic context.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Requirements

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	
Economics Electives		
Complete four ECON courses from the following ranges with no more than two at the ECON 1200–1999 range. The course used to satisfy the integrative course requirement may not be used as an economics elective:		16
ECON 1200–ECON 1999		
ECON 2990–ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3402	Social Psychology	4
PSYC 3450	Learning and Motivation	4
PSYC 3466	Cognition	4
Statistics		
Complete the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission):		4-5
PSYC 2320	Statistics in Psychological Research	
Required Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	

PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Required Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Electives		
Complete three PSYC courses not used to fulfill requirements above.		12

Other Requirements Outside Major

Code	Title	Hours
PSYC 1000	Psychology at Northeastern	1
or ECON 1000	Economics at Northeastern	
EESC 2000	Professional Development for Co-op	1
or EESH 2000	Professional Development for Co-op	
ENGW 1111	First-Year Writing	4
COOP 3945	Co-op Work Experience	0
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Integrative Course

Code	Title	Hours
ECON 4681	Information Economics and Game Theory	4
or ECON 3416	Behavioral Economics	

NUpath Not Fulfilled by Major

Code	Title	Hours
NUPath EI—Expression and Innovation		4
NUPath IC—Interpreting Culture		4
NUPath DD—Difference and Diversity		4
NUPath ER— Ethical Reasoning		4
NUPath WD—Advanced Writing in the Discipline		4

Open Electives

Code	Title	Hours
Complete three open electives.		12

Combined Major Credit/ GPA Requirement

Complete 84 semester hours in the major.

Grades in the following required courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2560	Applied Econometrics	
PSYC 2320	Statistics in Psychological Research	

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000 or PSYC 1000	1	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON elective	4	ECON elective	4
ECON 1115	4	ECON 1116	4	PSYC elective	4	Open elective	4
ENGW 1111	4	PSYC 2320	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	PSYC elective	4				
PSYC 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	NUpath DD	4	Co-op	0
PSYC 3402	4	EESC 2000 or EESH 2000	1	PSYC elective	4		
ECON elective	4	PSYC 3466	4				
NUpath EI	4	NUpath IC	4				
		Open elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	ECON 4692 or 4997	4	Co-op	0
		PSYC 3450	4	PSYC lab	4		
		ECON elective	4				
		NUpath ER	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4681 or 3416	4
		NUpath WD	4
		PSYC seminar	4
		Open elective	4
	0		**16**

Total Hours: 130

Health Science and Psychology, BS

The combined Bachelor of Science degree program in health science and psychology is designed to provide an interdisciplinary approach to public health and psychology. Through interdisciplinary explorations, students have the opportunity to develop knowledge in health promotion and illness prevention by way of understanding people's behaviors, perceptions, and emotions within the contexts of relationships and culture. This highly flexible curriculum is enhanced by experiential learning opportunities and prepares students to practice in interdisciplinary settings and be successful in sustaining and promoting health across populations.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4
Supporting Courses for Health Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3458	Biological Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Personal/Social Bases of Behavior (Area A)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		

Complete one of the following:		4
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Electives		
Complete 12 semester hours from the following subject area:		12
PSYC		
Psychology Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4604	Laboratory in Learning and Motivation	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following		1
HSCI 1000	College: An Introduction	
INSC 1000	Science at Northeastern	
PSYC 1000	Psychology at Northeastern	
First-Year Writing		
ENGW 1111	First-Year Writing	4
Co-op Preparation		
Complete one of the following:		1
EESC 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Math		
MATH 1241	Calculus 1	4
Advanced Writing in the Discipline		
ENGW 3306	Advanced Writing in the Health Professions	4
Ethical Reasoning		
PHIL 1165	Moral and Social Problems in Healthcare	4

Open Electives	
Complete 28 semester hours of general electives.	28

Integrative Requirement

Code	Title	Hours
PSYC 3510	Brain, Behavior, and Immunity	4
or PSYC 4514	Clinical Neuroscience	
or CAEP 2012	Health Psychology: An Introduction	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Psychology GPA Requirement

A grade of C or higher is required for all PSYC courses.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation		Vacation	
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or PSYC 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
MATH 1241	4	ENGW 1111	4				
PHTH 1260 or 1261	4	Elective	4				
PSYC 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	Area A course	4	Area B course	4	Vacation	
PSYC 3458	4	Public health core	4	Psychology elective	4		
Area A course	4	Public health core	4				
Public health core	4	Psychology elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESC 2000	1	Co-op		Co-op		ENGW 3306	4
PHIL 1165	4					PHTH 4540	4
Psychology lab	4						
Open electives	8						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Public health core	4	PSYC 3510, 4514, or CAEP 2012	4
Psychology elective	4	Psychology seminar	4
Open electives	8	Open electives	8
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan (College: Bouvé)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	PSYC Area B selective	4	Open electives	8
BIOL 1112	1	BIOL 1114	1	Public health core	4		
MATH 1241	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260 or 1261	4	ENGW 1111	4				
PSYC 1000 or HSCI 1000	1	PSYC Area A selective	4				
PSYC 1101	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESC 2000	1	Co-op		Co-op		ENGW 3306	4
PSYC 2320	4					PHIL 1165	4
PSYC 3458	4						
Public health core	4						
Public health core	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC Area A selective	4	Co-op		Co-op		Open electives	8
Public health core	4						
PSYC elective	4						
Open elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PSYC lab	4	PSYC 3510, 4514, or CAEP 2012	4
Public health core	4	Psychology seminar	4
PSYCH elective	4	PSYC elective	4
Open elective	4	Open Elective	4
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan (College: Science)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	PSYC Area B selective	4	Open electives	8
BIOL 1112	1	BIOL 1114	1	Public health core	4		
MATH 1241	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260 or 1261	4	ENGW 1111	4				
PSYC 1000 or HSCI 1000	1	PSYC Area A selective	4				
PSYC 1101	4						
	18		**18**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1165	4	EESC 2000 or HSCI 2000	1	PSYC elective	4	Co-op	
PSYC 2320	4	PSYC Area A selective	4	Open elective	4		

PSYC 3458	4	Public health core	4				
Public health core	4	Public health core	4				
		PSYC elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3306	4	Open electives	8	Co-op	
		PSYC 3510, 4514, or CAEP 2012	4				
		Public health core	4				
		PSYC lab	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Psychology seminar	4
		PSYC elective	4
		Open electives	8
	0		**16**

Total Hours: 133

Human Services and Psychology, BS

Overview

Students pursuing a combined degree in human services and psychology integrate the theoretical frameworks and skills relevant to both of these areas of study. This degree curriculum focuses on clinical and policy interventions that promote wellness on the individual and community levels. Situated in a social justice framework, this curriculum emphasizes how structural forces impact psychological and social well-being, barriers to treatment, and inequities in mental health outcomes. Through courses, service-learning, co-op, and research experience, students synthesize theoretical knowledge with practical skills used when working with individuals across the life span and in multiple settings.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Overview and Co-op Courses

Code	Title	Hours
Overview		
HUSV 1000	Human Services at Northeastern	1
or PSYC 1000	Psychology at Northeastern	
Professional Development for Co-op		
EESH 2000	Professional Development for Co-op	1
or EESC 2000	Professional Development for Co-op	

Human Services Requirements

Code	Title	Hours
Human Services Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete two of the following:		8
HUSV 2320	Techniques in Individual and Group Counseling	
HUSV 2340	Mindfulness in Mental Health	
HUSV 2370	Restorative Justice: Transforming the System	
HUSV 2401	Food Justice and Community Development	
HUSV 2500	Science of Play	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2950	International Human Services DOC course	
HUSV 2960	Intercultural Studies through Human Services DOC course	
HUSV 3520	Child Intervention and Treatment	
HUSV 3540	Addiction and Recovery	
HUSV 3590	Nonprofit Communications	

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4

PSYC 3402	Social Psychology	4
PSYC 3404	Developmental Psychology	4
PSYC 3450	Learning and Motivation	4
PSYC 3466	Cognition	4
Statistics		
Complete the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Psychology Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Electives		
Complete any two PSYC courses.		8
Recommended: PSYC 1208 Psychology and Law and PSYC 2370 Cross-Cultural Psychology		

Capstone

Code	Title	Hours
Complete one of the following:		4
PSYC 4660	Seminar in Cognition	
PSYC 4664	Seminar in Social Psychology	
PSYC 4662	Seminar in Personality	
PSYC 4676	Seminar in Developmental Psychology	

Supporting Courses

Code	Title	Hours
First-Year Writing		
ENGW 1111	First-Year Writing	4
Math		
MATH 1213	Interactive Mathematics	4
or MATH 1215	Mathematical Thinking	
Advanced Writing in the Discipline		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
ENGW 3307	Advanced Writing in the Sciences	

Integrative Course

Code	Title	Hours
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 3590	Nonprofit Communications	
PSYC 1214	The Moral Mind: The Science Underlying Ethical Decision-Making and Virtuous Character	
PSYC 2370	Cross-Cultural Psychology	

Program Requirement

132 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HUSV 2300	4	PSYC elective 1	4	Elective	4
HUSV 1000 or PSYC 1000	1	MATH 1213, 1215, or 1241	4	IC NUpath elective	4	Elective	4
HUSV 1101	4	PSYC 3402	4				
PSYC 1101	4	PSYC 3450	4				
EI NUpath elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	EESH 2000 or EESC 2000	1	Elective	4	Co-op	
PSYC 3404	4	HUSV 2970	4	Elective	4		
HUSV elective 1	4	HUSV 3570	4				
Elective	4	PSYC 3466	4				
		PSYC elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HUSV 3900	4	ENGW 3308 or 3315	4	Co-op	
		HUSV 4994	6	HUSV elective 2	4		
		PSYC lab	4				
		Elective	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		HUSV 2355	4
		HUSV 4700	4
		PSYC seminar	4
		Elective	4
	0		**16**

Total Hours: 132

Linguistics and Psychology, BS

Overview

This combined major is designed to educate students in psychology, linguistics, and the interface between the two disciplines, which are core areas within the field of cognitive science. Students study the formal structures of human language; sociocultural aspects of language use; and the cognitive aspects of language representations, language acquisition, and language processing. Students receive interdisciplinary training in the methods of experimental psychology, psycholinguistics, and linguistic analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following:		12
DEAF 2700	ASL Linguistics	
LING 3000–LING 4999		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000–LING 4999 range.

Psychology Requirements

Code	Title	Hours
Introductory and Intermediate Psychology		
PSYC 1101	Foundations of Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Advanced Psychology		
PSYC 3402	Social Psychology	4
PSYC 3466	Cognition	4
Psychology Lab		
Complete one of the laboratory courses or, with prior approval, a directed study or honors project on a topic related to psycholinguistics or cognition:		4
PSYC 4610	Laboratory in Psycholinguistics	

PSYC 4612	Laboratory in Cognition	
PSYC 4970	Junior/Senior Honors Project 1	
PSYC 4971	Junior/Senior Honors Project 2	
PSYC 4991	Directed Study Research	
Psychology Seminar		
Complete one of the following:		4
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4674	Seminar in Cognitive Neuroscience	
Psychology Electives		
A directed study on a topic related to psycholinguistics or cognition may be taken with prior approval.		
Complete two of the following (not counted elsewhere):		8
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 4522	Psychology of Reading	
PSYC 4524	Cognitive Development	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
PSYC 4991	Directed Study Research	

Integrative Requirements

Code	Title	Hours
PSYC 3464	Psychology of Language	4
Experiential Learning		
Complete one of the following options. Courses used to satisfy this requirement will also typically simultaneously satisfy a requirement above.		0-8
Study Abroad (not a Dialogue)		
International Co-op		
LING 4891	Research Seminar in Linguistics	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	
PSYC 4970 and PSYC 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
PSYC 4991	Directed Study Research	

Supporting Courses

Code	Title	Hours
Language Requirement		
Complete two courses in the same language with a grade of C or higher. Proficiency at elementary level 2 or higher is required.		8
Mathematics Requirement		
Complete one of the following:		4
CS 1800	Discrete Structures	
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1242	Calculus 2	

MATH 1251	Calculus and Differential Equations for Biology 1
MATH 1252	Calculus and Differential Equations for Biology 2
MATH 1340	Intensive Calculus for Engineers
MATH 1341	Calculus 1 for Science and Engineering
MATH 1342	Calculus 2 for Science and Engineering

Linguistics and Psychology Combined Major Credit Requirement

Complete 72 semester hours in the major (excluding supporting courses).

Program Requirement

128 total semester hours required

Plan of Study

Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 1150	4	LING 2350	4	Vacation	0	Vacation	0
PSYC 1101	4	PSYC 3464	4				
ENGW 1111	4	Foreign language course	4				
Math requirement	4	NUpath or elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	Linguistics structure course	4	Vacation	0	Co-op	0
PSYC 2320	4	Linguistics elective	4				
PSYC 3466	4	PSYC 3402	4				
Foreign language course	4	Psychology elective	4				
		EESC 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Linguistics structure course	4	NUpath or elective	4	Co-op	0
		Linguistics or psychology elective	4	Elective	4		
		Psychology laboratory	4				
		ENGW 3315	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Linguistics structure course	4	NUpath or elective	4	Co-op	0
		Linguistics elective	4	Elective	4		
		Linguistics or psychology elective	4				
		Psychology seminar	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	NUpath or elective	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 129

Sample Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 1150	4	LING 2350	4	Vacation	0	Vacation	0
PSYC 1101	4	PSYC 3464	4				
ENGW 1111	4	Foreign language course	4				
Math requirement	4	NUpath or elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	Linguistics structure course	4	Vacation	0	Vacation	0
PSYC 2320	4	Linguistics elective	4				
PSYC 3466	4	PSYC 3402	4				
Foreign language course	4	Psychology elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Linguistics structure course	4	Linguistics structure course	4	Vacation		Vacation	
Linguistics elective	4	Linguistics or psychology elective	4				
Psychology lab	4	NUpath or elective	4				
ENGW 3315	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Linguistics or psychology elective	4	NUpath or elective	4
Psychology seminar	4	Elective	4
NUpath or elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Mathematics and Psychology, BS

In the mathematics and psychology combined-major BS program, psychology and mathematics courses help lay the groundwork for strong basic training that seeks to prepare the student toward developing psychological models using mathematics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Math Electives		
Complete two courses in the following range that are not required in the requirements above:		8
MATH 3001 to MATH 5999		

Psychology Requirements

Code	Title	Hours
Introductory Course		
PSYC 1101	Foundations of Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Area A (Personality/Social Basis of Behavior)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Area B (Biological/Cognitive Basis of Behavior)		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Psychology Laboratory		
Complete one of the following:		4

PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Capstone Requirement		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Elective		
Any PSYC course in the 3000 range and up		4

Integrative Requirement

Code	Title	Hours
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience	4

Mathematics and Psychology Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1341	4	Vacation		Vacation	
MATH 1365	4	PSYC Area A	4				
PSYC 1101	4	NUpath IC	4				
MATH 1000 or PSYC 1000	1	Open elective	4				
NUpath EI	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1342	4	EESC 2000	1	Vacation		Co-op	
PSYC 2320	4	MATH 2321	4				
PSYC Area B	4	PSYC Area A	4				
NUpath DD	4	MATH elective	4				
		Open elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MATH 2331	4	MATH 2341	4	Co-op	
		PSYC Area B	4	Adv writing	4		
		PSYC elective	4				
		Open elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MATH 3081	4	Open elective	4	Co-op	
		PSYC 4540	4	Open elective	4		
		PSYC lab	4				
		NUpath ER	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		PSYC seminar	4
		MATH elective	4
		Open elective	4
		Open elective	4
	0		**16**

Total Hours: 130

Psychology and Music, BS

This combined major educates students in psychology and music and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including such topics as cognition, psycholinguistics, perception, and the biological basis of behavior. Music courses provide a foundation in music theory, creative music in context, contemporary/ethnomusicology, music perception and cognition, and the psychoacoustics of music. Students completing this program of study should be able to understand how the two fields jointly contribute to explaining human behavior in the domain of music.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Difference and Diversity (DD), Ethical Reasoning (ER), and Advanced Writing in the Disciplines (WD) are not explicitly satisfied by the required courses. Difference and Diversity (DD) and Ethical Reasoning (ER) can be met through Music in Context. Students are responsible for satisfying any of these requirements not met within the major.

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3452	Sensation and Perception	4
PSYC 3458	Biological Psychology	4
PSYC 3464	Psychology of Language	4
PSYC 3466	Cognition	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission):		4-5
PSYC 2320	Statistics in Psychological Research	
Required Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Required Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	

PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Electives		
Complete two PSYC courses not used to fulfill requirements above.		8

Music Theory Requirements

Code	Title	Hours
Required Courses		
MUSC 1201	Music Theory 1	4
MUSC 1202	Music Theory 2	4

Music in Context

Code	Title	Hours
Select one of the following:		4
MUSC 1001	Music in Everyday Life	
MUSC 1002 and MUSC 1003	Music in Everyday Life and Lab for MUSC 1002	
Creative Category		
Complete one of the following 4-semester-hour courses, or choose four 1-semester-hour ensembles and/or lessons from the list:		4
Coursework Option		
MUSC 2150	Making a Musical: Analysis, Craft, and Creation [1]	
MUSC 2208	Jazz Improvisation	
MUSC 2209	Conducting	
MUSC 2210	Introduction to Songwriting	
MUSI 2232	Music Recording 1	
MUST 1220	Introduction to Music Technology	
MUST 1301	Introduction to Composition	
MUST 2320	Sound Design	
Ensembles and Lessons Option		
MUSC 1901	Music Lessons 1	
MUSC 1902	Music Lessons 2	
MUSC 1904	Chorus	
MUSC 1905	Concert Band	
MUSC 1906	Orchestra	
MUSC 1907	Wind Ensemble	
MUSC 1911	Jazz Ensemble	
MUSC 1912	Rock Ensemble	
MUSC 1913	Blues/Rock Ensemble	
MUSC 1914	Create Your Own Music	
MUSC 1915	Chamber Ensemble	
MUSC 1917	Jazz Choir and Combo	
MUSC 1918	World Music Ensemble	
MUSC 1919	Fusion Ensemble	
MUSC 1920	Pep Band	
Contemporary/Popular Music or Global Music/Ethnomusicology Category		
Complete one of the following:		4
MUSC 2101	Black Popular Music	
MUSC 2150	Making a Musical: Analysis, Craft, and Creation [1]	
MUSC 2310	Popular Music Since 1945	
MUSC 2311	Topics in American Music	
MUSC 2313	Topics in Global Music Cultures	
MUSC 2317	Punk Rock	
MUSC 2320	40,000 Years of Music Technology	

MUSC 2330	Musical Communities of Boston
MUSC 2331	Topics in Musical Communities
MUSC 2336	The Festival Experience
MUSC 2340	Divas, DJs, and Double Standards
MUSC 2351	Music, Sound, and the Screen
MUSC 2380	The World of Choral Music
MUSC 3352	Sounding Human
MUSC 3353	Music and the Racial Imagination
MUSC 3354	Sound and the Sacred
MUSC 3360	Ethnography and the Arts
MUSI 3351	Music and Social Justice
MUSI 3360	Global Music Industries in Context
MUSI 3401	Hip Hop in the Music Industry

[1] MUSC 2150 can be used to meet either the creative or the ethnomusicology/contemporary requirement but not both.

Music Requirements

Code	Title	Hours
MUSC 2350	Acoustics and Psychoacoustics of Music	4
or INAM 3200	Creative Cognition	
MUSC 3300	Music Perception and Cognition	4
Capstone		
MUSC 4510	Music and the Brain Research	4

Music Electives

Code	Title	Hours
Complete two courses from MUSC, MUSI, or MUST not used to fulfill the requirements above.		8

Other Requirements Outside Major

Code	Title	Hours
PSYC 1000	Psychology at Northeastern	1
or MUSC 1000	Music at Northeastern	
EESC 2000	Professional Development for Co-op	1
or EEAM 2000	Professional Development for Co-op	
ENGW 1111	First-Year Writing	4
Complete one of the following:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1241	Calculus 1	

Bridge/Integrative Courses

Code	Title	Hours
Note: MUSC 3300 is already required above.		
MUSC 3300	Music Perception and Cognition	

BS Psychology/Music Major

Complete 76 semester hours in the major.

Music Major Grade Requirement

Students must maintain at least a 2.667 grade-point average (B– average) in the requirements of the music half of the combined major and also complete all required music courses with grades of at least C. Students who fail to meet the above standards will be placed on departmental probation; those who remain on probation for two consecutive semesters will be dropped from the major.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1213	4	PSYC 3466	4	Open elective	4
PSYC 1101	4	MUSC 1201	4	Music elective	4	Open elective	4
MUSC 1000 or PSYC 1000	1	PSYC 2320	4				
MUSC 1001 or 1002 ***and*** 1003	4	NUpath ER	4				
NUpath DD	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MUSC 1202	4	EESC 2000 or EEAM 2000	1	PSYC elective	4	Co-op	0
MUSC 3300	4	MUSC 2350 or INAM 3200	4	Open elective	4		
PSYC 3458	4	PSYC 3464	4				
Open elective	4	Contemporary/ethno course	4				
		Open elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	MUSC 4510	4	PSYC lab	4	Co-op	0
		PSYC 3452	4	PSYC elective	4		
		Creative music course	4				
		Open elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Music elective	4
		NUpath WD	4
		PSYC seminar	4
		Open elective	4
	0		**16**

Total Hours: 130

Psychology and Theatre, BS

Overview

This combined major educates students in psychology and theatre and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including such topics as cognition, psycholinguistics, perception, and the biological basis of behavior. The theatre curriculum provides deep knowledge of theatre that spans design, performance, and the production of innovative forms of theatre, including interactive media, computer graphics, human-computer interaction, and more.

Students completing this program of study should be able to understand how the two fields jointly contribute to explaining human behavior in the domain of theatre.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Differences and Diversity (DD) and Ethical Reasoning (ER) can be met through elective courses in PSYC or THTR. Students are responsible for satisfying any of these requirements not met within the major.

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 2320	Statistics in Psychological Research	4
PSYC 3400	Personality	4
PSYC 3404	Developmental Psychology	4
PSYC 3450	Learning and Motivation	4
PSYC 3452	Sensation and Perception	4
PSYC 3464	Psychology of Language	4
Psychology Lab Course		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4632	Laboratory in Psychophysiology	
Psychology Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	

PSYC 4666	Seminar in Clinical Psychology
PSYC 4668	Seminar in Sensation and Perception
PSYC 4674	Seminar in Cognitive Neuroscience
PSYC 4676	Seminar in Developmental Psychology
Psychology Electives	
Complete two additional 4-semester-hour PSYC courses not used to fulfill requirements above from the following:	8
PSYC 1000–PSYC 5999	

Theatre Requirements

A minimum grade of C is required in all THTR & INAM courses.

Code	Title	Hours
Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	

THTR 3200	Queer Theatre and Performance
THTR 3400	Stage Combat
THTR 3550	Directing for the Stage
THTR 3650	Performing Theory
THTR 3670	Mixed-Media Performance Lab
THTR 3973	Topics in Performance Studies
THTR 4345	Advanced Acting for the Camera
THTR 5300	Devised Theatre Project
THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirements

Code	Title	Hours
INAM 3200	Creative Cognition	4
THTR 4702	Capstone: Creative Practice Research Project	4

Supporting Courses

Code	Title	Hours
PSYC 1000	Psychology at Northeastern	1
or THTR 1000	Theatre at Northeastern	
Mathematics		
Complete one of the following:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1241	Calculus 1	
Complete one course from approved NUpath DD options. [1]		4
Complete one course from approved NUpath ER options. [2]		4
Complete first-year writing course.		4
Complete NUpath Integrating Knowledge Through Experience co-op experience.		
Complete open electives to fulfill the total program hours.		

1 Some PYSC and THTR electives fill NUpath DD requirements.
2 Some PSYC and THTR electives fill NUpath ER requirements.

Program Requirements

131 total semester hours required

Plan of Study

Sample Plan of Study: 4 Years, 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1213	4	PSYC 3400	4	Open elective	4
PSYC 1000 or THTR 1000	1	PSYC 3466	4	Nupath DD	4	Open elective	4
PSYC 1101	4	THTR 1270	4				
THTR 1101	4	THTR 1131	4				
THTR 1100	1						
THTR 1120	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	EESC 2000 or EEAM 2000	1	PSYC elective	4	Co-op	
PSYC 3450	4	PSYC 3404	4	Open elective	4		
THTR 2000	1	PSYC 3464	4				
THTR 3325	4	THTR Elective	4				

THTR Texts, Community, & Social Context Course	4	Nupath ER	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INAM 2000	4	PSYC lab	4	Co-op	
		INAM 3200	4	PSYC elective	4		
		PSYC 3452	4				
		THTR Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		THTR 4702	4
		PSYC seminar	4
		Open Elective	4
		Open elective	4
	0		**16**

Total Hours: 132

Psychology, Minor

The Department of Psychology offers a minor in psychology, which involves taking five psychology courses, some required and some elective, that focus on the multidisciplinary study of mind, brain, and behavior. The minor accommodates students with a broad range of interests in basic and applied psychology. Students can elect to take fundamental and advanced courses spanning biological psychology, cognition, social psychology, personality psychology, sensation and perception, clinical psychology, applied psychology, learning and motivation, developmental psychology, or other subfields of psychology to craft a minor that reflects their interests within this wide-ranging field.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: A maximum of two courses (or 8 semester hours) of transfer credit may count toward the minor. This minor is not available to students majoring in behavioral neuroscience or in any combined major that involves psychology. Courses taken pass/fail and receiving an S grade may not be used toward the minor.

Code	Title	Hours
Required Course		
PSYC 1101	Foundations of Psychology	4
Personal/Social Bases of Behavior (Area A)		
Transfer courses are not permitted to fulfill the Area A requirement.		
Complete one of the following:		4
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		
Transfer courses are not permitted to fulfill the Area B requirement.		
Complete one of the following:		4
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	

Elective Courses

Code	Title	Hours
Complete two PSYC courses.		8

GPA Requirement

2.000 GPA required in the minor

Interdisciplinary Programs

Behavioral Neuroscience

Website (https://cos.northeastern.edu/behavioral-neuroscience/)

Advising Information (https://docs.google.com/document/u/2/d/e/2PACX-1vQnM_Bw7PHR9zWmqU245FpSrnGg8_BDdAsQXmqu1O-wy3RLpEXD3-znNG9ksuBcrAKPXZYEuGxMl5fv/pub/)

Jennifer Ingemi, PhD
Assistant Teaching Professor and Interim Director

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617.373.2852
bns@northeastern.edu

Behavioral neuroscience is a broad and dynamic interdisciplinary field that focuses on understanding physiological brain mechanisms and how they give rise to behavioral functions in humans and animals. The relationship between the brain's activity and an organism's behavior, both healthy and pathological, is examined at multiple levels of analysis, from how a cell functions to how a facial expression conveys trust or fear.

As a behavioral neuroscience major, you will take courses across multiple departments to acquire foundational knowledge and strong critical thinking skills in the disciplines of biology, psychology, physical sciences, and mathematics. Through our combined majors, you can explore the intersection of behavioral neuroscience with complementary disciplines including philosophy, design, computer science, and data science. For some of our majors, we offer an accompanying PlusOne Master of Science in Bioinformatics or Applied Behavior Analysis.

Ample opportunities exist for students to put theory into practice while acquiring valuable hands-on research and clinical experience at renowned institutions across the world through Northeastern University's co-op program. Faculty-mentored directed studies and honors projects are guided by investigators with shared interests from academic units, centers, and institutes throughout campus.

Our rigorous and comprehensive curriculum is designed to prepare students for employment in clinical settings or the biotech and pharmaceutical industry or for further graduate training in a plethora of scientific disciplines or in healthcare professions. Our graduates are qualified for a wide variety of careers including nonprofits, law, science writing, Big Data, artificial intelligence, and more.

Biochemistry

Website (https://cos.northeastern.edu/biochemistry/)

Faculty Advisor website (http://tinyurl.com/bioadv/)

Kirsten Fertuck, PhD
Associate Teaching Professor and Director

203 Mugar Life Sciences Building
617.373.2852

Biochemistry focuses on the chemical processes occurring in the wide variety of living systems and touches essentially all aspects of our own lives. Our Northeastern University program engages you in two integrated paths to a career in biochemistry: rigorous coursework that is designed to prepare you to interpret the ever-expanding knowledge base and hands-on learning that positions you to leverage cutting-edge technology to solve fundamental problems in the chemistry of life.

After required basic coursework in biochemistry, biology, chemistry, physics, and mathematics, our majors select elective courses that reflect many areas of biochemistry including neuroscience, bioorganic chemistry, stem cell and regenerative biology, microbial biotechnology, and systems biology and engineering.

In our interdisciplinary program, students take advantage of faculty-mentored research guided by investigators from bioengineering, biology, chemical engineering, chemistry, pharmaceutical sciences, physics, psychology, and other academic units.

Northeastern's signature co-op program provides complementary opportunities in world-class biotechnology companies, hospitals, and research facilities as close as Boston and as far as your global interest takes you.

Our biochemistry program is designed to prepare students to enter the job market directly or to go on to graduate, medical, veterinary, dental, law, or business school. Our graduates are qualified for a wide range of careers that span academics, industry, government, and medicine, working in laboratory or clinical research, regulation and quality control, production, marketing, or information systems.

Linguistics

Website (https://cos.northeastern.edu/linguistics/)

Adam Cooper, PhD
Teaching Professor and Director

617.373.4553
linguistics@northeastern.edu

Linguistics is the scientific study of human language. A growing and exciting field, it has links to a diverse range of others, including psychology, philosophy, neuroscience, cognitive science, computer science, artificial intelligence, sociology, language teaching, anthropology, and education.

Linguists work to understand the structures and social uses of human language at all levels. Questions about linguistic structures and cognitive structures include: How do children learn to speak? How is language represented in the mind? What do all languages, including sign languages, have in common? How is language different from the communication systems used by whales, bees, and chimpanzees? What linguistic information do computers need in order for us to converse with them? What are the neurological tie-ins of language disorders such as aphasia or Williams Syndrome, and what can such impairments tell us about the brain mechanisms for language? These scientific and technological questions lead us to ask other questions about language and society: How might we think about linguistic controversies, including debates about official languages, Black English, gender bias, and bilingualism in education? Linguistics attempts to answer each of these questions and covers a surprisingly broad range of topics related to language and communication. And cutting-edge work in cognitive science investigates how natural languages are acquired and processed. Computational linguists apply linguistic theory to build all of the applications that we use that interface with language: grammar checkers, translation programs, search engines, browsers, voice recognition, and speech synthesis. To work in a field that involves language in any way, you will need to know how language works, the core of the field of linguistics.

Linguistics at Northeastern University offers courses examining the structure of language (such as phonetics, phonology, morphology, syntax, and semantics); the sociocultural nature of language (such as language and culture, language and gender, and sociolinguistics); and applied fields (such as language acquisition, language change, and historical linguistics).

Students can pursue a major in linguistics or one of a number of combined majors, including linguistics and psychology, linguistics and cultural anthropology, linguistics and English, linguistics and communication studies, computer science and linguistics, data science and linguistics, American Sign Language and linguistics, and linguistics and speech-language pathology and audiology. A minor in linguistics is also available.

Linguistics offers a variety of co-ops, including positions at local and national companies involved in speech recognition and production, as well as at Northeastern's own language processing and language acquisition labs in the Department of Psychology. Linguistics majors can also participate in international co-ops—for example, working with researchers at the University of Kaiserslautern in Germany.

Students with backgrounds in linguistics have pursued advanced degrees in fields including law, cognitive science, education, English, interpreting, business, speech-language pathology, computer science, developmental psychology, sociology, and linguistics itself. Other graduates have gone on to work in neurological research, computational linguistics, translation, language software, education, dictionary publishing, robotics, and criminal justice.

Opens

Programs

Interdisciplinary Majors

- American Sign Language and Linguistics, BS (p. 1923)
- Behavioral Neuroscience, BS (p. 1675)
- Behavioral Neuroscience and Design, BS (p. 197)
- Behavioral Neuroscience and Philosophy, BS (p. 1685)
- Biochemistry, BS (p. 1690)
- Bioengineering and Biochemistry, BSBioE (p. 962)
- Chemical Engineering and Biochemistry, BSChE (p. 986)
- Computer Science and Behavioral Neuroscience, BS (p. 750)
- Computer Science and Linguistics, BS (p. 813)
- Data Science and Behavioral Neuroscience, BS (p. 879)
- Data Science and Biochemistry, BS (p. 871)
- Data Science and Linguistics, BS (p. 922)
- Linguistics, BS (p. 1697)
- Linguistics and Communication Studies, BA (p. 307)
- Linguistics and Cultural Anthropology, BS (p. 1704)
- Linguistics and English, BA (p. 1707)
- Linguistics and Psychology, BS (p. 1656)
- Linguistics and Speech-Language Pathology and Audiology, BS (p. 1199)
- Spanish and Linguistics, BA (p. 1910)

Interdisciplinary Minors

- Behavioral Neuroscience (p. 1718)
- Biochemistry (p. 1719)
- Environmental Chemistry (p. 1060)
- Linguistics (p. 1723)
- Network Science (p. 1724)

Behavioral Neuroscience, BS

Overview

The behavioral neuroscience curriculum focuses on the biological bases underlying behavior under healthy and pathological states. The program combines the disciplines of biology and psychology with a strong background in basic physical sciences and mathematics to understand how the behavior of humans and animals is controlled by physiological systems. Students gain a solid foundation in the anatomical and functional specializations of the brain and neural mechanisms from neurons to circuits to networks. Students then choose from a range of advanced electives to delve deeply into diverse specializations and current topics in the field.

Note: Due to overlap in course content, double majoring in behavioral neuroscience with any of the following majors is not permitted: psychology, biology, cell and molecular biology, or biochemistry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Behavioral Neuroscience Foundation Courses

Code	Title	Hours
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
BIOL 3405	Neurobiology	4
BNSC 1000	Behavioral Neuroscience at Northeastern	1
PSYC 1101	Foundations of Psychology	4
PSYC 3200	Clinical Neuroanatomy	4
PSYC 3458	Biological Psychology	4
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
PSYC 2320	Statistics in Psychological Research	

Behavioral Neuroscience Advanced Courses

Code	Title	Hours
Complete four of the following (at least two must be numbered in the 4000–5999 range):		16-17
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 4709	Neurobiology of Learning and Memory	
BIOL 5587	Comparative Neurobiology	
or BIOL 3405	Neurobiology	
BIOL 5595	Cell and Molecular Neuroscience	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
PSYC 3506	Neuropsychology of Fear	
PSYC 3508	Behavioral Endocrinology	
PSYC 3510	Brain, Behavior, and Immunity	
PSYC 4510	Psychopharmacology	

PSYC 4512	Neuropsychology
PSYC 4514	Clinical Neuroscience
PSYC 4540	Quantitative Topics in Psychology and Behavioral Neuroscience
PSYC 4570	Behavioral Genetics
PT 5410 and PT 5411	Functional Human Neuroanatomy and Lab for PT 5410
One course may be an experiential course:	
BIOL 4970	Junior/Senior Honors Project 1
BIOL 4971	Junior/Senior Honors Project 2
BIOL 4991	Research
BNSC 4970	Junior/Senior Honors Project 1
BNSC 4971	Junior/Senior Honors Project 2
BNSC 4991	Research
BNSC 4994	Internship
PSYC 4965	Undergraduate Teaching Experience
PSYC 4970	Junior/Senior Honors Project 1
PSYC 4971	Junior/Senior Honors Project 2
PSYC 4991	Directed Study Research

Behavioral Neuroscience Elective Courses

Code	Title	Hours
Psychology Elective		
An additional behavioral neuroscience core course may be used to fulfill this requirement.		
Complete one of the following:		4
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
PSYC 3540	Environmental Psychology	
PSYC 4524	Cognitive Development	
Biology Elective		
Complete one of the following:		4-5
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3409	Current Topics in Biology	
BIOL 3411	Current Topics in Cell and Molecular Biology	
BIOL 3421 and BIOL 3422	Microbiology and Lab for BIOL 3421	
BIOL 3603	Mammalian Systems Physiology	
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	
BIOL 4707	Cell and Molecular Biology	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5591	Advanced Genomics	
BIOL 5593	Cell and Molecular Biology of Aging	
Research Elective		
Complete one of the following:		4
BIOL 2309	Biology Project Lab	
PSYC 4600	Laboratory in Research Design	
PSYC 4604	Laboratory in Learning and Motivation	

PSYC 4606	Laboratory in Biological Psychology	
PSYC 4612	Laboratory in Cognition	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4632	Laboratory in Psychophysiology	
Capstone Course		
Complete one of the following:		4
BIOL 4701	Biology Capstone	
PSYC 4654 to PSYC 4678		

Behavioral Neuroscience Supporting Courses

Code	Title	Hours
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
MATH 1341	Calculus 1 for Science and Engineering	4
or MATH 1241	Calculus 1	
Complete one of the following:		5
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162 and PHYS 1163	Physics 1 and Lab for PHYS 1161 and Recitation for PHYS 1161	
PHYS 1171 and PHYS 1172 and PHYS 1173	Physics 1 for Bioscience and Bioengineering and Lab for PHYS 1171 and Interactive Learning Seminar for PHYS 1171	

Behavioral Neuroscience Major Credit/GPA Requirement

Complete 90 semester hours in the major with a minimum 2.000 GPA.

Due to overlap in course content, double majoring in behavioral neuroscience with any of the following majors is not permitted: psychology, biology, cell and molecular biology, or biochemistry.

Program Requirement

132 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	BIOL 2301 and BIOL 2302	5	Vacation	0
BNSC 1000	1	CHEM 2311 and CHEM 2312	5	Advanced PSYC elective	4		
CHEM 1161 and CHEM 1162 and CHEM 1163	5	ENGW 1111	4				
MATH 1251	4	PSYC 3458	4				

PSYC 1101	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3405	4	BIOL 2309	4	PSYC 2320	4	Co-op	0
CHEM 2313 and CHEM 2314	5	DS 2000 and DS 2001	4	Elective	4		
PSYC 3200	4	EESC 2000	1				
Elective	4	BNS advanced course 1	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Advanced BIOL elective	5	ENGW 3307	4	Co-op	0
		BNS advanced course 2	4	Elective	4		
		BNS advanced course 3	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	BNS advanced course 4	4
Elective (online)	4	Capstone	4
		Elective	4
		Elective	4
	4		**16**

Total Hours: 132

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	Vacation	0	Vacation	0
BNSC 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	PSYC 3458	4				
MATH 1251	4	Elective	4				
PSYC 1101	4						
	19		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op	0	Co-op	0	CHEM 2313 and CHEM 2314	5
CHEM 2311 and CHEM 2312	5					PSYC 2320	4
EESC 2000	1						
PSYC 3200	4						
Elective	4						
	19		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op	0	Co-op	0	Vacation	0
BIOL 3405	4						

Advancd PSYC elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 2000 and DS 2001	4	Co-op	0	Co-op	0	Elective	4
BNS advanced course 1	4						
BNS advanced course 2	4						
Elective	4						
	16		**0**		**0**		**4**

Year 5

Fall	Hours	Spring	Hours
ENGW 3307	4	BNS advanced course 4	4
Advanced BIOL elective	5	Capstone course	4
BNS advanced course 3	4	Elective	4
Elective	4	Elective	4
	17		**16**

Total Hours: 132

Behavioral Neuroscience and Design, BS

Overview

The behavioral neuroscience and design combined major engages students in an interdisciplinary study across the biology, psychology, and Art + Design departments to integrate fundamental design courses with a strong foundation in the physiological brain mechanisms that give rise to behavioral functions. The latest research in neuroscience and psychology enables designers to maximize the impact of their designs and, conversely, complex neuroscientific concepts can be made intelligible to a wider public through creative visual works. Students in this major have the opportunity to learn about the inner workings of the brain and how its various structures interact to enhance their approach to design methodologies. Students can then apply these principles to biomimetic medical devices as well as data and network visualization.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Behavioral Neuroscience Requirements

Code	Title	Hours
Behavioral Neuroscience Overview		
BNSC 1000	Behavioral Neuroscience at Northeastern [1]	1
EESC 2000	Professional Development for Co-op [2]	1
COS Foundations		
PSYC 1101	Foundations of Psychology	4
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
Mathematics Foundation		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
Statistics Foundation		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
PSYC 2320	Statistics in Psychological Research	
Behavioral Neuroscience Foundations		
PSYC 3200	Clinical Neuroanatomy	4
PSYC 3452	Sensation and Perception	4
PSYC 3458	Biological Psychology	4
Behavioral Neuroscience Core Courses		
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	

BIOL 4705	Neurobiology of Cognitive Decline
BIOL 4709	Neurobiology of Learning and Memory
BIOL 5595	Cell and Molecular Neuroscience
BIOL 5601	Multidisciplinary Approaches in Motor Control
PSYC 3506	Neuropsychology of Fear
PSYC 3508	Behavioral Endocrinology
PSYC 3510	Brain, Behavior, and Immunity
PSYC 4510	Psychopharmacology
PSYC 4512	Neuropsychology
PSYC 4514	Clinical Neuroscience
PSYC 4570	Behavioral Genetics

1 Students entering through CAMD may take Art and Design at Northeastern (ARTF 1000).
2 Students entering through CAMD may take Professional Development for Co-op (EEAM 2000).

Design Requirements

Code	Title	Hours
Art + Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
Art and Design Fundamentals Elective		
Complete one of the following:		5
ARTF 1124 and ARTF 1125	Form and Structure and Form and Structure Tools	
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	
ARTF 2223 and ARTF 2224	Experience and Interaction and Experience and Interaction Tools	
Design Required		
ARTG 1001 and ARTG 1002	Design Perspectives: An Introduction to Design in the World and Seminar for Design Perspectives	4
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
Art + Design History Elective		
Complete any one ARTH course.		4
Art + Design Elective		
Complete any one ARTD, ARTE, ARTF, ARTG, ARTH, ARTS, or GAME course as long as prerequisites have been met.		4
Degree Capstone Project		
ARTG 4550	Design Degree Project	4

Design Option

Code	Title	Hours
Complete one of the following options:		8
Experience Design Option		
ARTG 3462	Experience Design Principles	
ARTG 3463	Experience Design 2	
Graphic Design Option		
ARTG 2252	Graphic Design Principles	
ARTG 3450	Graphic Design 2	
Information Design Option		
ARTG 2242	Information Design Principles	
ARTG 3444	Topics in Information Design Inquiry	
Interaction Design Option		

ARTG 2400	Interaction Design Principles (with optional ARTG 2401)
ARTG 3700	Interaction Design 2: Mobile

Integrative Requirements

Code	Title	Hours
Integrative Courses		
ARTG 5310	Visual Cognition	4
BIOL 5587	Comparative Neurobiology	4
The following course is already required in major:		
ARTG 4550	Design Degree Project	
Upper-Division Elective		
Complete one course that is not already taken as long as prerequisites have been met:		4
Any ARTG course not already required or ARTG 5000 Topics in Design, as long as prerequisites have been met.		
BIOL 3403 or higher		
BNSC 4970 or higher		
PSYC 3404 or higher		

Writing Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 semester hours of general electives.		16

Major Credit Hour Requirement

104 semester hours in the major.

Program Requirements

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1001 and ARTG 1002	4	ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4	ARTG 1290 and ARTG 1291	4
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	PSYC 2320	4	PSYC 3452	4
BNSC 1000 or ARTF 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PSYC 1101	4						
	19		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op		Co-op		Art + Design Fundamentals Elective	4

CHEM 2311 and CHEM 2312	5					General elective	4
EESC 2000 or EEAM 2000	1						
PSYC 3458	4						
Design Option course 1	4						
	19		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 5310	4	Co-op		Co-op		ENGW 3315	4
PSYC 3200	4					General elective	4
Design option course 2	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
BIOL 5587	4	ARTG 4550	4
Art + Design Elective	4	BNS core course	4
Art and Design History elective	4	Upper-division elective	4
BNS core course	4	General elective	4
	16		**16**

Total Hours: 134

FIVE YEARS, THREE CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1001 and ARTG 1002	4	ARTF 1122 (with optional ARTF 1123)	4	Vacation		Vacation	
BIOL 1107 and BIOL 1108	5	BIOL 2299	4				
BNSC 1000 or ARTF 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PSYC 1101	4						
	19		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 1270 and ARTG 1271	4	Co-op		Co-op		PSYC 2320	4
ARTG 1290 and ARTG 1291	4					General Elective	4
CHEM 2311 and CHEM 2312	5						
EESC 2000 or EEAM 2000	1						
PSYC 3452	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	Co-op		Co-op		Vacation	
PSYC 3200	4						
PSYC 3458	4						

Design Option course 1	4						
	17		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art and Design History elective	4	Co-op		Co-op		ENGW 3315	4
Art + Design Elective	4					General elective	4
BNS core course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
ARTG 5310	4	ARTG 4550	4
BIOL 5587	4	Art+Design Elective	4
Art+Design History Elective	4	BNS core course	4
Design Option level 2	4	Upper-division elective	4
	16		**16**

Total Hours: 134

Behavioral Neuroscience and Philosophy, BS

Overview

The behavioral neuroscience and philosophy combined degree program engages students in the interdisciplinary study across the biology, psychology, and philosophy departments. The major provides rigorous training in both disciplines with a specific focus on understanding seminal questions concerning human nature and the mind. Courses in the basic sciences will lay a strong foundation in biology, chemistry, and data analytics that are relevant to neuroscience. In behavioral neuroscience core courses, students will examine the structure and function of the human nervous system in order to explore brain mechanisms that give rise to behavioral functions, including cognitive processes, as well as pathological states. In philosophy courses, successful students will develop core analytics skills, including ethical reasoning; learn to recognize and question deep theoretical assumptions at the heart of scientific theories and practice; and explore the social and ethical dimensions of neuroscience and scientific practice more broadly. The fields of behavioral neuroscience and philosophy are further bridged with course work that is designed to enable students to apply neuroscientific concepts to philosophical, moral, and ethical questions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Behavioral Neuroscience Requirements

Code	Title	Hours
Behavioral Neuroscience Overview		
BNSC 1000	Behavioral Neuroscience at Northeastern [1]	1
EESC 2000	Professional Development for Co-op [2]	1
COS Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
PSYC 1101	Foundations of Psychology	4
Mathematics Foundation		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
Statistics Foundation		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
PSYC 2320	Statistics in Psychological Research	
Behavioral Neuroscience Foundation		
PSYC 3200	Clinical Neuroanatomy	4
PSYC 3458	Biological Psychology	4
Psychology Elective		
Complete one of the following:		4
PSYC 1214	The Moral Mind: The Science Underlying Ethical Decision-Making and Virtuous Character	
PSYC 3404	Developmental Psychology	

PSYC 3406	Clinical Psychology and Mental Health	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
PSYC 4524	Cognitive Development	
Behavioral Neuroscience Core Courses		
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 5595	Cell and Molecular Neuroscience	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
PSYC 3506	Neuropsychology of Fear	
PSYC 3508	Behavioral Endocrinology	
PSYC 3510	Brain, Behavior, and Immunity	
PSYC 4510	Psychopharmacology	
PSYC 4512	Neuropsychology	
PSYC 4514	Clinical Neuroscience	
PSYC 4570	Behavioral Genetics	
Upper-Division Elective		
Complete one course that is not already taken as long as pre-requisites have been met:		4
BNSC 4970 or higher		
BIOL 3403 or higher		
PSYC 3404 or higher		

1 Students entering through CSSH may take Philosophy at Northeastern (PHIL 1000).
2 Students entering through CSSH may take Professional Development for Co-op (EESH 2000).

Philosophy Requirements

Code	Title	Hours
Philosophy Foundation		
PHIL 1105	Science and Pseudoscience	4
or PHIL 3050	Information and Uncertainty	
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy Restricted Electives		
Complete eight credits from the following list, not taken to fulfill other requirements:		8
PHIL 3305	Philosophy of Emotions	
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 3435	Moral Philosophy	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4535	Philosophy of Mind	
PHIL 4555	Philosophy of Biology	
Additional Electives		
Complete two additional PHIL courses, not taken to fulfill other requirements.		8

Integrative Requirements

Code	Title	Hours
BIOL 4709	Neurobiology of Learning and Memory	4
or BIOL 5587	Comparative Neurobiology	
PHIL 4535	Philosophy of Mind	4
or PHIL 4555	Philosophy of Biology	

Writing Courses

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 credits of general electives.		16

Behavioral Neuroscience GPA Requirement

A minimum 2.000 GPA in all behavioral neuroscience courses is required.

Major Credit Hour Requirement

96 total semester hours required in major.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plans of Study

FIVE YEARS, THREE CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	Vacation		Vacation	
BNSC 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PHIL 1145	4	PSYC 3458	4				
PSYC 1101	4						
	19		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	CHEM 2311 and CHEM 2312	5	Vacation		Co-op	
PHIL 1105	4	EESC 2000	1				
PHIL 1115	4	PHIL 2330	4				
PSYC 3200	4	PSYC 2320	4				
		PHIL restricted elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BNS core course	4	PHIL 2325	4	Co-op	
		PHIL restricted elective	4	General elective	4		
		PSYC elective	4				
		General elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOL 4709 or 5587	4	Vacation		Co-op	
		BNS core course	4			ENGW 3315 (online)	4
		PHIL elective	4				
		General elective	4				
	0		**16**		**0**		**4**

Year 5

Fall	Hours	Spring	Hours
Co-op		PHIL 4535 or 4555	4
		BNS upper-level elective	4
		PHIL elective	4
		General elective	4
	0		**16**

Total Hours: 130

FOUR YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	PHIL 2325	4	Vacation	
BNSC 1000	1	ENGW 1111	4	PSYC elective	4		
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PHIL 1145	4	PSYC 3458	4				
PSYC 1101	4						
	19		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	CHEM 2311 and CHEM 2312	5	PSYC 2320	4	Co-op	
PHIL 1115	4	EESC 2000	1	General elective	4		
PHIL 1105	4	PHIL 2330	4				
PSYC 3200	4	PHIL restricted elective	4				
		BNS core course	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BNS core course	4	PHIL elective	4	Co-op	
		PHIL restricted elective	4	General elective	4	ENGW 3315 (online)	4
		PHIL elective	4				
		General elective	4				
	0		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOL 4709 or 5587	4
		PHIL 4535 or 4555	4
		BNS upper-level elective	4
		General elective	4
	0		**16**

Total Hours: 130

Biochemistry, BS

Overview

Website (http://www.northeastern.edu/biochemistry/)

Advising website (https://docs.google.com/document/d/1JgPCHpZvKA_iMN4j2guuEfp1BiaVdLfBvhk9kMEAy9k/edit/)

Biochemistry focuses on the chemical processes occurring in the wide variety of living systems and touches essentially all aspects of our own lives. Our Northeastern program engages you in two integrated paths to a career in biochemistry: rigorous course work that is designed to prepare you to interpret the ever-expanding knowledge base and hands-on learning that positions you to leverage cutting-edge technology to solve fundamental problems in the chemistry of life.

After required basic course work in biochemistry, biology, chemistry, physics, and mathematics, our majors select elective courses that reflect many areas of biochemistry including neuroscience, bioorganic chemistry, stem cell and regenerative biology, microbial biotechnology, and systems biology and engineering.

In our interdisciplinary program, students take advantage of faculty-mentored research guided by investigators from bioengineering, biology, chemical engineering, chemistry, pharmaceutical sciences, physics, psychology, and other academic units.

Northeastern's signature co-op program provides complementary opportunities in world-class biotechnology companies, hospitals, and research facilities as close as Boston and as far as your global interest takes you.

Our biochemistry program prepares students to enter the job market directly or go on to graduate, medical, veterinary, dental, law, or business school. Our graduates are qualified for a wide range of careers that span academics, industry, government, and medicine, working in laboratory or clinical research, regulation and quality control, production, marketing, or information systems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biochemistry Major Requirements

Code	Title	Hours
Introduction to College		
BIOC 1000	Biochemistry at Northeastern	
or INSC 1000	Science at Northeastern	
Biology Foundations		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Techniques		
BIOL 2309	Biology Project Lab	4
Genetics and Molecular Biology		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
General Chemistry		
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
Organic Chemistry 1		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
Organic Chemistry 2		

CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physical Chemistry		
CHEM 3431 and CHEM 3432	Physical Chemistry and Lab for CHEM 3431	5
Biochemistry Courses		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
BIOL 4707	Cell and Molecular Biology	4
Complete one of the following:		3-5
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
CHEM 5620	Protein Chemistry	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
Capstone		
Please complete one of the following options to fulfill the capstone requirement:		4-5
BIOC 4971	Junior/Senior Honors Project 2	
BIOC 4991 and BIOC 4900	Research and Biochemistry Capstone	
BIOC 4994 and BIOC 4900	Internship and Biochemistry Capstone	
BIOL 4701	Biology Capstone	
BIOL 4991 and BIOC 4900	Research and Biochemistry Capstone	
CHEM 4750	Senior Research	
CHEM 4901 and BIOC 4900	Undergraduate Research and Biochemistry Capstone	

Biology and Chemistry Advanced Electives

Code	Title	Hours
Complete 3 courses for a total of at least 10 semester hours. One must be a lecture-based BIOL course and one must be a lecture-based CHEM course. The third may be BIOL, CHEM, or Research.		10
Biology		
BIOL 2311 to BIOL 5999		
Chemistry		
CHEM 2310 to CHEM 5999		
Research Option		
Up to 4 semester hours may be biochemistry-related research for credit:		
BIOC 4970	Junior/Senior Honors Project 1	
BIOC 4971	Junior/Senior Honors Project 2	
BIOC 4991	Research	
BIOC 4994	Internship	
BIOL 4970	Junior/Senior Honors Project 1	
BIOL 4991	Research	
CHEM 4750	Senior Research	
CHEM 4901	Undergraduate Research	
CHEM 4970	Junior/Senior Honors Project 1	

Biochemistry Breadth Courses

A minimum GPA of 2.000 is required for the biochemistry breadth courses.

Code	Title	Hours
Mathematics Courses		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4

Physics Courses		
Physics 1		
Complete a lecture and lab set for Physics 1:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1171 and PHYS 1172 and PHYS 1173	Physics 1 for Bioscience and Bioengineering and Lab for PHYS 1171 and Interactive Learning Seminar for PHYS 1171	
Physics 2		
Complete a lecture and lab set for Physics 2:		5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1175 and PHYS 1176 and PHYS 1177	Physics 2 for Bioscience and Bioengineering and Lab for PHYS 1175 and Interactive Learning Seminar for PHYS 1175	
Intermediate or Advanced Science		
Complete one course from the following:		4-5
BIOL 2301 to BIOL 5999		
CHEM 2311 to CHEM 5999		
EEMB 2290 to EEMB 5999		
ENVR 2310 to ENVR 5999		
MATH 2280 to MATH 5999		
PHYS 2303 to PHYS 5999		
PSYC 2320 to PSYC 5999		

Biochemistry Major Credit/GPA Requirements

Complete 82 semester hours in the major with a cumulative GPA of 2.000.

Due to overlap in course content, double majoring in biochemistry and biology, biochemistry and cell and molecular biology, biochemistry and behavioral neuroscience, or biochemistry and chemistry is not permitted.

Program Requirement

136 total semester hours required

Plan of Study

Please note that these are sample plans of study. While the requirements are the same for all students, individual schedules may vary.

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOC 1000 or INSC 1000	1	BIOL 2299	4	BIOL 2301	4	Elective 3	4
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1	Elective 4	4
BIOL 1108	1	CHEM 2312	1	Elective 2	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	MATH 1342	4				
CHEM 1163	0						
MATH 1341	4						

Elective 1	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	BIOL 3611	4	BIOL 4707	4	Co-op	
CHEM 2313	4	BIOL 3612	1	Elective 8	4		
CHEM 2314	1	EESC 2000	1				
PHYS 1151	3	PHYS 1155	3				
PHYS 1152	1	PHYS 1156	1				
PHYS 1153	1	PHYS 1157	1				
Elective 5	4	Elective 6	4				
		Elective 7	4				
	18		**19**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 3431	4	COS adv elective	4	Co-op	
		CHEM 3432	1	Elective 10	4		
		CHEM 5620 (or CHEM 3331 and CHEM 3332)	3				
		ENGW 3307	4				
		Elective 9	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CHEM 4750 (or BIOL 4701 or BIOC 4971 or xxxx4991+BIOC 4900)	4
		BIOL or CHEM advanced elective	5
		BIOL or CHEM advanced elective	5
		BIOL or CHEM advanced elective	5
	0		**19**

Total Hours: 141

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOC 1000 or INSC 1000	1	BIOL 2299	4	BIOL 2301	4	Elective 3	4
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1	Elective 4	4
BIOL 1108	1	CHEM 2312	1	Elective 2	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	MATH 1342	4				
CHEM 1163	0						
MATH 1341	4						
Elective 1	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op		Co-op		BIOL 3611	4
CHEM 2313	4					BIOL 3612	1
CHEM 2314	1					Elective 6	4

EESC 2000	1						
PHYS 1151	3						
PHYS 1152	1						
PHYS 1153	1						
Elective 5	4						
	19		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3307	4	Co-op		Co-op		BIOL 4707	4
PHYS 1155	3					Elective 8	4
PHYS 1156	1						
PHYS 1157	1						
COS adv elective	4						
Elective 7	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CHEM 3431	4	CHEM 4750 (or BIOL 4701 or BIOC 4971 or xxxx4991+BIOC 4900)	4
CHEM 3432	1	BIOL or CHEM advanced elective	5
CHEM 5620 (or CHEM 3331 and CHEM 3332)	3	BIOL or CHEM advanced elective	5
BIOL or CHEM advanced elective	5	Elective 10	4
Elective 9	4		
	17		**18**

Total Hours: 141

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOC 1000 or INSC 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	Elective 2	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	MATH 1342	4				
CHEM 1163	0						
MATH 1341	4						
Elective 1	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	BIOL 3611	4	COS adv elective	4	Co-op	
CHEM 2313	4	BIOL 3612	1	Elective 6	4		
CHEM 2314	1	EESC 2000	1				
PHYS 1151	3	PHYS 1155	3				
PHYS 1152	1	PHYS 1156	1				
PHYS 1153	1	PHYS 1157	1				
Elective 3	4	Elective 4	4				
		Elective 5	4				
	18		**19**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOL 4707	4	Vacation		Co-op	
		CHEM 3431	4				
		CHEM 3432	1				
		ENGW 3307	4				
		Elective 7	4				
	0		**17**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CHEM 5620 (or CHEM 3331 and CHEM 3332)	3	Vacation		Co-op	
		BIOL or CHEM advanced elective	5				
		Elective 8	4				
		Elective 9	4				
	0		**16**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		CHEM 4750 (or BIOL 4701 or BIOC 4971 or xxxx4991+BIOC 4900)	4
		BIOL or CHEM advanced elective	5
		BIOL or CHEM advanced elective	5
		Elective 10	4
	0		**18**

Total Hours: 141

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOC 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	Elective 2	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	MATH 1342	4				
CHEM 1163	0						
MATH 1341	4						
Elective 1	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op		Co-op		BIOL 3611	4
CHEM 2313	4					BIOL 3612	1
CHEM 2314	1					Elective 4	4
EESC 2000	1						
PHYS 1151	3						
PHYS 1152	1						
PHYS 1153	1						
Elective 3	4						
	19		**0**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3307	4	Co-op		Co-op		Vacation	
PHYS 1155	3						
PHYS 1156	1						
PHYS 1157	1						
COS adv elective	4						
Elective 5	4						
	17		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 4707	4	Co-op		Co-op		Vacation	
CHEM 3431	4						
CHEM 3432	1						
CHEM 5620 (or CHEM 3331 and CHEM 3332)	3						
Elective 6	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
BIOL or CHEM advanced elective	5	CHEM 4750 (or BIOL 4701 or BIOC 4971 or xxxx4991+BIOC 4900)	4
BIOL or CHEM advanced elective	5	BIOL or CHEM advanced elective	5
Elective 7	4	Elective 9	4
Elective 8	4	Elective 10	4
	18		**17**

Total Hours: 141

Linguistics, BS

Overview

The major in linguistics is designed to provide students with a strong foundation in the study of linguistics at both the structural and social levels. Coursework on the structural side focuses on the internal structures that make up language and the methods and theories used to identify and understand these core structures (for example, in courses covering phonetics, phonology, morphology, syntax, and semantics); while coursework on the social side emphasizes the methods and theories that are used to study and interpret patterns of social interaction at the linguistic level (for example, in courses covering language and culture, sociolinguistics, and language and gender). Additional coursework draws from related fields to further develop students' understanding of the broad spectrum of language-related domains (for example, psycholinguistics, language acquisition, and historical linguistics, among other topics).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Major Requirements

Code	Title	Hours
Foundational Courses		
LING 1150	Introduction to Language and Linguistics	4
or LING 1449	English Now and Then	
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
LING 3420	Phonetics	4
LING 3422	Phonology	4
LING 3424	Morphology	4
LING 3450	Syntax	4
LING 3452	Semantics	4
Language in Context		
Complete one of the following:		4
LING 3442	Sociolinguistics	
LING 3456	Language and Gender	
Language Change		
Complete one of the following:		4
LING 3454	History of English	
LING 3460	Historical Linguistics	
Research Experience		
Complete one of the following:		4
LING 3150	Field Linguistics	
LING 4891	Research Seminar in Linguistics	
With prior linguistics program approval, one of the following experiences can be used to fulfill the research experience:		
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	
Linguistics Seminar		
Complete at least one seminar (LING 4654 may be repeated with different topics):		
LING 4654	Seminar in Linguistics	4
Linguistics Electives		

Complete five electives from the following that have not already been taken to fulfill other major requirements:	20
LING 3000 to LING 4999 [1]	
Up to two electives may come from the following list:	
DEAF 2700	ASL Linguistics
PSYC 4610	Laboratory in Psycholinguistics
PSYC 4612	Laboratory in Cognition
PSYC 4658	Seminar in Psycholinguistics
PSYC 4660	Seminar in Cognition
PSYC 4674	Seminar in Cognitive Neuroscience
PSYC 4676	Seminar in Developmental Psychology

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000–LING 4999 range.

Supporting Courses

Code	Title	Hours
Complete two courses in the same language with a grade of C or higher. Proficiency at elementary level 2 or higher is required.		8

Linguistics Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	LING 2350	4	Vacation	0	Vacation	0
INSC 1000	1	Foreign language course	4				
LING 1150	4	LING elective	4				
Foreign language course	4	NUpath or elective	4				
NUpath or elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	EESC 2000	1	Vacation	0	Co-op	0
Linguistic structure course	4	Language in context course	4				
Language change course	4	Linguistic structure course	4				
NUpath or elective	4	Linguistic structure course	4				
		Linguistics elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	NUpath or elective	4	Co-op	0
		Linguistic structure course	4	NUpath or elective	4		
		Linguistics elective	4				
		NUpath or elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Linguistic structure course	4	NUpath or elective	4	Co-op	0
		Linguistics elective	4	NUpath or elective	4		
		NUpath or elective	4				

		NUpath or elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours				
Co-op	0	Linguistics research experience course	4				
		Linguistics seminar	4				
		Linguistics elective	4				
		NUpath or elective	4				
	0		**16**				

Total Hours: 130

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	LING 2350	4	NUpath or elective	4	Vacation	0
INSC 1000	1	Foreign language course	4	NUpath or elective	4		
LING 1150	4	LING elective	4				
Foreign language course	4	NUpath or elective	4				
NUpath or elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	EESC 2000	1	NUpath or elective	4	Co-op	0
Linguistic structure course	4	Language in context course	4	NUpath or elective	4		
Language change course	4	Linguistic structure course	4				
NUpath or elective	4	Linguistic structure course	4				
		Linguistics elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	NUpath or elective	4	Co-op	0
		Linguistic structure course	4	NUpath or elective	4		
		Linguistic structure course	4				
		Linguistics elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	LING 4654	4	NUpath or elective	4
		LING 4891	4	NUpath or elective	4
		Linguistics elective	4		
		Linguistics elective	4		
	0		**16**		**8**

Total Hours: 130

Linguistics and Communication Studies, BA

Overview

In the combined major in linguistics and communication studies, students learn about the formal structures and analysis of human languages across multiple levels (sounds, words, phrases and sentences, meaning) while simultaneously mastering the fundamentals of effective communication and of communication theory and practice. Students receive extensive training in writing and speaking, both for a technical audience and more generally; and they explore the role of language and communication in society, both from a broad theoretical perspective and in narrower, more focused and applied domains.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete two courses not used to fulfill other degree requirements from the following options.		8
LING 3000 to LING 4999 [1]		
DEAF 2700	ASL Linguistics	

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Required Courses		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
COMM 2301	Communication Research Methods	4
Foundation Course		
Complete one course from the following:		4
COMM 1210	Persuasion and Rhetoric	

COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one course from the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Course		
Complete one course from the following:		4
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete two additional COMM courses		8

Integrative Requirement

Code	Title	Hours
Sociolinguistics		
LING 3442	Sociolinguistics	4
Communication Studies Integrative Course		
Complete one of the following, not used to fulfill above requirements:		4
COMM 3415	Communication Criticism	
COMM 4602	Contemporary Rhetorical Theory	
Capstone Experience		
Complete one of the following, not used to fulfill above requirements:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	
LING 4654	Seminar in Linguistics	

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Linguistics and Communication Studies Combined Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Patterns:

FOUR YEARS, TWO SUMMER 2/FALL CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	LING 2350	4	COMM Studies Elective	4	Elective	4
COMM 1112	4	LING 3412	4	Elective	4	Elective	4
ENGW 1111	4	COMM Studies Foundation Course	4				
LING 1000	1	Elective	4				
LING 1150	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 2301	4	LING 3442 (Or Linguistics Elective)	4	COMM Studies Elective	4	Co-op	
EEAM 2000 or EESC 2000	1	COMM Studies Elective	4	Elective	4		
COMM Studies Cluster Course	4	Foreign Language Course	4				
Foreign Language Course	4	Linguistic Structure or Linguistics Elective	4				
Linguistic Structure or Linguistics Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	COMM Studies Writing Intensive	4	Co-op	
		LING 3442 (or Linguistics Elective)	4	Elective	4		
		Foreign Language Course	4				
		Linguistic Structure or Linguistics Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		COMM 3415 or 4602	4
		COMM Studies Writing Intensive	4
		Integrative Capstone Experience	4
		Linguistic Structure or Linguistics Elective	4
	0		**16**

Total Hours: 130

FIVE YEARS, THREE SUMMER 2/FALL CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	LING 2350	4	Vacation		Vacation	
COMM 1112	4	LING 3412	4				
ENGW 1111	4	COMM Studies Foundation Course	4				
LING 1000	1	Elective	4				

LING 1150	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 2301	4	EEAM 2000 or EESC 2000	1	Vacation		Co-op	
COMM Studies Cluster Course	4	COMM Studies Elective	4				
Foreign Language Course	4	COMM Studies Elective	4				
Linguistic Structure or Linguistics Elective	4	Foreign Language Course	4				
		Linguistic Structure or Linguistics Elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	COMM Studies Elective	4	Co-op	
		LING 3442 (or Linguistics Elective)	4	Elective	4		
		Foreign Language Course	4				
		Linguistic Structure or Linguistics Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		LING 3442 (or Linguistics Elective)	4	Elective	4	Co-op	
		COMM Studies Writing Intensive	4	Elective	4		
		Linguistic Structure or Linguistics Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		COMM 3415 or 4602	4
		COMM Studies Elective	4
		Integrative Capstone Experience	4
		Elective	4
	0		**16**

Total Hours: 130

Linguistics and Cultural Anthropology, BS

Overview

The combined major in linguistics and cultural anthropology focuses on the relationship of culture to the institutions, interpersonal relations, and practices that make up their social structure while emphasizing the structure of human language and its involvement in social interaction and culture. Students examine how language both reflects and influences cultural phenomena and how it can be used as a tool to study those phenomena; and they apply their interests across a range of connected courses, co-op opportunities, and potential research projects.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Major Language Requirement

Complete two courses in the same language with a grade of C or higher. Proficiency at elementary level 2 or higher is required.

Linguistics Requirements

Note: A grade of C or higher is required for all courses in this section.

Code	Title	Hours
Linguistics Requirements		
LING 1150	Introduction to Language and Linguistics	4
or LING 1449	English Now and Then	
LING 2350	Linguistic Analysis	4
LING 3442	Sociolinguistics	4
LING 3456	Language and Gender	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Research		
Complete one of the following:		4
LING 4891	Research Seminar in Linguistics	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	
Linguistics Elective		
Complete one elective (any course in the range LING 3000–4999 that hasn't already been taken to fulfill other major requirements, or the following): [1]		4
DEAF 2700	ASL Linguistics	

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 4600	Senior Seminar	4
Anthropology Advanced Area Courses		
Complete three of the following:		12
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete three ANTH courses not already taken.		12

Linguistics/Anthropology Integrative Requirement

Code	Title	Hours
Integrative Course		
LING 3412	Language and Culture	4

Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Linguistics/Anthropology Combined Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	Elective	4
ENGW 1111	4	LING 2350	4	Elective	4	Elective	4
LING 1150	4	LING 3412	4				
MATH 1215	4	Foreign language course	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	LING 3442	4	Anthropology elective	4	Co-op	
Linguistic structure course	4	Linguistic structure course	4	Elective	4		
Anthropology elective	4	Anthropology elective	4				
Linguistics elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective	4	Co-op	
		LING 3456	4	Elective	4		
		Anthropology advanced area course	4				
		Linguistic structure course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600	4
		Anthropology advanced area course	4
		Anthropology advanced area course	4
		Linguistics research	4
	0		**16**

Total Hours: 128

Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Vacation		Vacation	
ENGW 1111	4	LING 2350	4				
LING 1150	4	LING 3412	4				
MATH 1215	4	Foreign language course	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	LING 3442	4	Vacation		Vacation	
Linguistic structure course	4	Linguistic structure course	4				
Anthropology elective	4	Anthropology elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	LING 3456	4	Vacation		Vacation	
Anthropology advanced area course	4	Anthropology advanced area course	4				
Anthropology elective	4	Linguistic structure elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Anthropology advanced area course	4	ANTH 4600	4
Linguistics research	4	Linguistics elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Linguistics and English, BA

Overview

In the combined major in linguistics and English, students study the structures and analysis of human languages across multiple levels (sounds, words, phrases and sentences, meaning) and apply this knowledge to understanding how the English language works, its rhetorical forms, how it has changed over time, and its cultural context. Students hone their writing skills, develop substantial language-analysis skills, and apply them particularly to English.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Requirements		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
LING 3442	Sociolinguistics	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete two of the following that have not already been taken to fulfill other major requirements:		8
LING 3000 to LING 4999 [1]		
DEAF 2700	ASL Linguistics	

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000–LING 4999 range.

English Requirements

Code	Title	Hours
English Course-Level Requirement		
At least two of the courses chosen from the English requirements lists below must be numbered 3000–4999.		
Foundational Courses		
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1400	Introduction to Literary Studies	4
Diversity		

Complete one of the following:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2455	American Women Writers	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre-Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2330	The American Renaissance	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3140	19th-Century Literatures	
ENGL 3619	Emerson and Thoreau	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3720	19th-Century Major Figure	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	

ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
Electives		
Complete one additional ENGL elective at the 2000 level or higher.		4

Linguistics/English Combined Major Requirements

Code	Title	Hours
Integrative Course		
LING 3454	History of English	4
Junior/Senior Seminar		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
or LING 4654	Seminar in Linguistics	
Experiential Learning		
Complete one of the following options. Courses used to satisfy this requirement may simultaneously satisfy a requirement above.		0-8
Study Abroad (not a Dialogue)		
International Co-op		
LING 4891	Research Seminar in Linguistics	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	

Linguistics/English Combined Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ENGL 1400	4	Elective	4	Elective	4
LING 1150	4	LING 2350	4	Elective	4	Elective	4
MATH 1215	4	LING 3412 or 3442	4				

Foreign language core course	4	Foreign language core course	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1410 or 1160	4	EESC 2000	1	ENGL elective	4	Co-op	0
LING 3454	4	Diversity course	4	Elective	4		
LING structure course	4	LING structure course	4				
LING elective	4	LING elective	4				
		Theories and methods course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	LING 3412 or 3442	4	ENGW 3315	4	Co-op	0
		Comparative literature course	4	Elective	4		
		LING structure course	4				
		Pre-19th-century literature course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	19th-, 20th-, and 21st-century literature course	4
		Foreign language core course	4
		Junior/senior seminar	4
		Writing course	4
	0		**16**

Total Hours: 129

Linguistics and Psychology, BS

Overview

This combined major is designed to educate students in psychology, linguistics, and the interface between the two disciplines, which are core areas within the field of cognitive science. Students study the formal structures of human language; sociocultural aspects of language use; and the cognitive aspects of language representations, language acquisition, and language processing. Students receive interdisciplinary training in the methods of experimental psychology, psycholinguistics, and linguistic analysis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following:		12
DEAF 2700	ASL Linguistics	
LING 3000–LING 4999		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000–LING 4999 range.

Psychology Requirements

Code	Title	Hours
Introductory and Intermediate Psychology		
PSYC 1101	Foundations of Psychology	4
Statistics		
Complete the following course. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Advanced Psychology		
PSYC 3402	Social Psychology	4
PSYC 3466	Cognition	4
Psychology Lab		
Complete one of the laboratory courses or, with prior approval, a directed study or honors project on a topic related to psycholinguistics or cognition:		4
PSYC 4610	Laboratory in Psycholinguistics	

PSYC 4612	Laboratory in Cognition	
PSYC 4970	Junior/Senior Honors Project 1	
PSYC 4971	Junior/Senior Honors Project 2	
PSYC 4991	Directed Study Research	
Psychology Seminar		
Complete one of the following:		4
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4674	Seminar in Cognitive Neuroscience	
Psychology Electives		
A directed study on a topic related to psycholinguistics or cognition may be taken with prior approval.		
Complete two of the following (not counted elsewhere):		8
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 4522	Psychology of Reading	
PSYC 4524	Cognitive Development	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
PSYC 4991	Directed Study Research	

Integrative Requirements

Code	Title	Hours
PSYC 3464	Psychology of Language	4
Experiential Learning		
Complete one of the following options. Courses used to satisfy this requirement will also typically simultaneously satisfy a requirement above.		0-8
Study Abroad (not a Dialogue)		
International Co-op		
LING 4891	Research Seminar in Linguistics	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	
PSYC 4970 and PSYC 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
PSYC 4991	Directed Study Research	

Supporting Courses

Code	Title	Hours
Language Requirement		
Complete two courses in the same language with a grade of C or higher. Proficiency at elementary level 2 or higher is required.		8
Mathematics Requirement		
Complete one of the following:		4
CS 1800	Discrete Structures	
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1242	Calculus 2	

MATH 1251	Calculus and Differential Equations for Biology 1
MATH 1252	Calculus and Differential Equations for Biology 2
MATH 1340	Intensive Calculus for Engineers
MATH 1341	Calculus 1 for Science and Engineering
MATH 1342	Calculus 2 for Science and Engineering

Linguistics and Psychology Combined Major Credit Requirement

Complete 72 semester hours in the major (excluding supporting courses).

Program Requirement

128 total semester hours required

Plan of Study

Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 1150	4	LING 2350	4	Vacation	0	Vacation	0
PSYC 1101	4	PSYC 3464	4				
ENGW 1111	4	Foreign language course	4				
Math requirement	4	NUpath or elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	Linguistics structure course	4	Vacation	0	Co-op	0
PSYC 2320	4	Linguistics elective	4				
PSYC 3466	4	PSYC 3402	4				
Foreign language course	4	Psychology elective	4				
		EESC 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Linguistics structure course	4	NUpath or elective	4	Co-op	0
		Linguistics or psychology elective	4	Elective	4		
		Psychology laboratory	4				
		ENGW 3315	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Linguistics structure course	4	NUpath or elective	4	Co-op	0
		Linguistics elective	4	Elective	4		
		Linguistics or psychology elective	4				
		Psychology seminar	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	NUpath or elective	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 129

Sample Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 1150	4	LING 2350	4	Vacation	0	Vacation	0
PSYC 1101	4	PSYC 3464	4				
ENGW 1111	4	Foreign language course	4				
Math requirement	4	NUpath or elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	Linguistics structure course	4	Vacation	0	Vacation	0
PSYC 2320	4	Linguistics elective	4				
PSYC 3466	4	PSYC 3402	4				
Foreign language course	4	Psychology elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Linguistics structure course	4	Linguistics structure course	4	Vacation		Vacation	
Linguistics elective	4	Linguistics or psychology elective	4				
Psychology lab	4	NUpath or elective	4				
ENGW 3315	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Linguistics or psychology elective	4	NUpath or elective	4
Psychology seminar	4	Elective	4
NUpath or elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Linguistics and Speech-Language Pathology and Audiology, BS

Overview

The combined major in linguistics and speech-language pathology and audiology provides students with an extensive background in the formal structures of human language; the methods and applications of linguistic analyses of language data; the biology, neurology, and physics of the human vocal tract; and the nature of both normal and disordered human speech communication and language development. Students have an opportunity to develop critical thinking, information literacy, and strong oral and written communication skills. While on co-op, students gain clinical experience, including preprofessional training appropriate to pursue a graduate degree in SLPA, related clinical healthcare domains, or education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
Linguistic Structure		
LING 3420	Phonetics (Integrative course)	4
Complete three of the following:		12
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete three courses not used to fulfill other degree requirements from the following:		12
DEAF 2700	ASL Linguistics	
LING 3000–LING 4999 [1]		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/course-descriptions/ling/) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Speech-Language Pathology and Audiology Requirements

Code	Title	Hours
All courses in these sections must be completed with a C or better.		
Speech-Language Pathology and Audiology		
SLPA 1101	Introduction to Communication Disorders	4
SLPA 1102	Language Development	4
SLPA 1103	Anatomy and Physiology of Speech and Hearing Mechanism	4
SLPA 1203	Introduction to Audiology	4
SLPA 1205	Speech and Hearing Science	4
SLPA 4500	Language Disorders across the Life Span	4
SLPA 4651	Speech Disorders across the Life Span	4
SLPA 5107	Clinical Procedures	4
SLPA 6219	Aural Rehabilitation	3
Biology and Physics Requirements		

BIOL 2217 and BIOL 2218	Integrated Anatomy and Physiology 1 and Lab for BIOL 2217	5
BIOL 2219 and BIOL 2220	Integrated Anatomy and Physiology 2 and Lab for BIOL 2219	5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
Psychology Requirements		
PSYC 1101	Foundations of Psychology	4
Statistics Requirements		
PHTH 2210	Foundations of Biostatistics	4

Integrative Requirement

Code	Title	Hours
The following course is taken in another area of the major:		
LING 3420	Phonetics	4

Supporting Courses

Code	Title	Hours
ENGW 3306	Advanced Writing in the Health Professions	4
HLTH 2100	Interprofessional Ethics for Individual and Population Health	4
or PHIL 1165	Moral and Social Problems in Healthcare	
PHTH 2300	Communication Skills for the Health Professions	4

Major Credit Requirement

Complete 107 hours in the major.

Program Requirements

132 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2217 and BIOL 2218	5	BIOL 2219 and BIOL 2220	5	Vacation		Vacation	
ENGW 1111	4	LING 2350	4				
LING 1150	4	SLPA 1101	4				
PSYC 1101	4	SLPA 1205	4				
SLPA 1000 or LING 1000	1						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3420	4	Co-op		Co-op		Elective	4
PHYS 1145 and PHYS 1146	5					Elective	4
SLPA 1103	4						
SLPA 1203	4						
SLPA 2000	1						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3306	4	HLTH 2100 or PHIL 1165	4	Vacation		Elective	4
LING 3422 or 3450	4	LING 3422 or 3450	4			Elective	4
PHTH 2300	4	PHTH 2210	4				

Linguistics elective	4	SLPA 1102	4		
	16		**16**	**0**	**8**

Year 4

Fall	Hours	Spring	Hours
LING 3412	4	LING 3424 or 3452	4
SLPA 4500	4	SLPA 4651	4
SLPA 5107	4	SLPA 6219	3
Linguistics elective	4	Linguistics elective	4
	16		**15**

Total Hours: 132

Behavioral Neuroscience, Minor

Overview

The behavioral neuroscience minor allows all students, including those majoring in biology and psychology, the opportunity to complement their major plans of study with an interdisciplinary minor in behavioral neuroscience.

Program Requirements

Students are required to take one intermediate course followed by four behavioral neuroscience core courses, two from each of the parent departments of the discipline (i.e., psychology and biology).

Intermediate Course

Code	Title	Hours
PSYC 3458	Biological Psychology	4
or BIOL 3405	Neurobiology	

Psychology Core Courses

Code	Title	Hours
Complete two of the following:		8
PSYC 3200	Clinical Neuroanatomy	
PSYC 3506	Neuropsychology of Fear	
PSYC 3508	Behavioral Endocrinology	
PSYC 3510	Brain, Behavior, and Immunity	
PSYC 4510	Psychopharmacology	
PSYC 4512	Neuropsychology	
PSYC 4514	Clinical Neuroscience	
PSYC 4570	Behavioral Genetics	

Biology Core Courses

Code	Title	Hours
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 4709	Neurobiology of Learning and Memory	
BIOL 5587	Comparative Neurobiology	
BIOL 5595	Cell and Molecular Neuroscience	
BIOL 5601	Multidisciplinary Approaches in Motor Control	

Credit/GPA Requirement

20 total semester hours required
2.000 GPA required in the minor

Biochemistry, Minor

Overview

The biochemistry minor allows students to engage in interdisciplinary study of biochemistry to complement their major plans of study.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

The biochemistry minor is not available to majors in biology, cell and molecular biology, biochemistry, or any combined major that involves biochemistry, due to curricular overlap.

Required Courses

Code	Title	Hours
Core Courses		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
BIOL 4707	Cell and Molecular Biology	4
CHEM 5620	Protein Chemistry	3

Biology Core Course

Code	Title	Hours
Complete one of the following (other advanced BIOL courses may be accepted at the discretion of the biochemistry director):		3-5
BIOL 2327	Human Parasitology	
BIOL 3405	Neurobiology	
BIOL 3409	Current Topics in Biology	
BIOL 3421 and BIOL 3422	Microbiology and Lab for BIOL 3421	
BIOL 3605	Developmental Neurobiology	
BIOL 5541	Endocrinology	
BIOL 5543	Stem Cells and Regeneration	
BIOL 5549	Inventions in Microbial Biotechnology	
BIOL 5573	Medical Microbiology	
BIOL 5581	Biological Imaging	
BIOL 5583	Immunology	
BIOL 5591	Advanced Genomics	
BIOL 5593	Cell and Molecular Biology of Aging	
BIOL 5597	Immunotherapies of Cancer and Infectious Disease	

Chemistry Core Course

Code	Title	Hours
Complete one of the following (other advanced CHEM courses may be accepted at the discretion of the biochemistry director):		3-6
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
CHEM 3431 and CHEM 3432	Physical Chemistry and Lab for CHEM 3431	
CHEM 4628 and CHEM 4629	Introduction to Spectroscopy of Organic Compounds and Identification of Organic Compounds	
CHEM 5550	Introduction to Glycobiology and Glycoprotein Analysis	
CHEM 5611	Analytical Separations	
CHEM 5612	Principles of Mass Spectrometry	
CHEM 5613	Optical Methods of Analysis	
CHEM 5616 and CHEM 5617	Protein Mass Spectrometry and Protein Mass Spectrometry Laboratory	
CHEM 5621 and CHEM 5622	Principles of Chemical Biology for Chemists and Lab for CHEM 5621	

CHEM 5625	Chemistry and Design of Protein Pharmaceuticals
CHEM 5638	Molecular Modeling
CHEM 5676	Bioorganic Chemistry

GPA Requirement

2.000 GPA required in the minor

Environmental Chemistry, Minor

The minor in environmental chemistry offers an opportunity for students of any background interested in environmental sciences to better understand the chemistry of the environment. Students completing the minor in environmental chemistry have an opportunity to learn about the chemical processes of natural systems and environmental pollutants, while earning a credential that highlights their interest and expertise. This can be a useful course of study whether their primary degree and career will be in one of the traditional chemical, environmental, or engineering programs, or another allied field. No more than two courses (totaling 8 SH to 10 SH) may double count with any major degree requirements.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than two courses (totaling 8 SH to 10 SH) may double count with any major degree requirements.

Required Courses

Code	Title	Hours
Environmental Chemistry Core		
Complete one of the following:		4
CIVE 2335	Environmental Engineering Chemistry	
ENVR 3410	Environmental Geochemistry	
Chemistry Core		
Complete one of the following:		5
CHEM 2321 and CHEM 2322 and CHEM 2323	Analytical Chemistry and Lab for CHEM 2321 and Recitation for CHEM 2321	
CHEM 3331 and CHEM 3332	Bioanalytical Chemistry and Lab for CHEM 3331	
Research Experience		
Complete one of the following:		4
CHEM 4750	Senior Research	
CHEM 4901	Undergraduate Research	
CHEM 4992	Directed Study	
CIVE 4991	Research	
CIVE 4992	Directed Study	
ENVR 4900	Earth and Environmental Science Capstone	
or ENVR 4997	Senior Thesis	
ENVR 4992	Directed Study	

Electives

Code	Title	Hours
Complete two of the following:		8-9
CIVE 2335	Environmental Engineering Chemistry (If not used to satisfy Environmental Chemistry Core)	
CIVE 3435	Environmental Pollution: Fate and Transport	
CIVE 5300 and CIVE 5301	Environmental Sampling and Analysis and Lab for CIVE 5300	
ENVR 3125	Global Oceanic Change	
ENVR 3410	Environmental Geochemistry (If not used to satisfy Environmental Chemistry Core)	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 4504	Environmental Pollution	
ENVR 4505	Wetlands	
ENVR 5190	Soil Science	

GPA Requirement

Minimum 2.000 GPA required in all major courses

Credit Requirement

Minimum of 21 hours required

Linguistics, Minor

Overview

The minor in linguistics provides students with an overview of the field, including exposure to both the structural and sociocultural aspects of the study of language. Students have an opportunity to learn the methods of linguistic analysis and to obtain more advanced exposure to various subdomains of linguistics.

Program Requirements

Complete all courses listed below unless otherwise indicated.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Courses

Code	Title	Hours
LING 1150	Introduction to Language and Linguistics	4
or LING 1449	English Now and Then	
LING 2350	Linguistic Analysis	4

Intermediate/Advanced Electives

Code	Title	Hours
Complete three courses (not counted above) from LING 3000 to LING 4999. [1]		12

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

GPA Requirement

2.000 GPA required in the minor

Network Science, Minor

The goal of the network science minor is to introduce students to the theories, tools, methods, and topics within the emerging and growing field of network science. Network science is defined as the measurement, modeling, prediction, and visualization of meaningful interactions and interconnectivity of social, physical, and technological systems. Network science skills are in increasing demand across industries including business, biology, life sciences, engineering, and science. For example, network science is used in business and sociology to study social networks such as friendship networks or networks of interlocking boards of directors. In biology, network science is used to study networks of gene expressions. Network science skills are in high demand for analysts, scientists, and managers who are tasked with analyzing and modeling network data. The study and skills required for network science are inherently interdisciplinary, including topics related to math, computer science, and contextual applications of network methods (in fields such as communications, economics, and epidemiology, among others).

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Network Science Core

Code	Title	Hours
Complete three of the following:		12
COMM 2105	Social Networks	
MATH 3545	Introduction to Graph Theory	
PHYS 1125	Introduction to Network Science: From the Human Cell to Facebook	
PHYS 5116	Network Science 1	

Data and Computational Methods

Code	Title	Hours
Complete one of the following:		4
CS 2500	Fundamentals of Computer Science 1	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
INSH 1500	Digital Methods for Social Sciences and Humanities	

Applied Topics

Code	Title	Hours
Complete one of the following:		4
COMM 2105	Social Networks (if not taken as a core course)	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
INSH 5304	Social Network Analysis	
MGMT 3435	Social Networks and Organizations (if COMM 2105 not taken)	
PHYS 5116	Network Science 1 (if not taken as a core course)	

GPA Requirement

Minimum 2.000 GPA required in all minor courses

Credit Requirement

20 hours required

Accelerated Bachelor/Graduate Degree Programs

The College of Science offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

College of Social Sciences and Humanities

Website (http://www.northeastern.edu/cssh/)

Ronald Sandler, PhD, Interim Dean

James Rollins, MBA, Associate Dean, Administration and Finance
Mai'a K. Davis Cross, PhD, Associate Dean, Academic Affairs, Diversity and Inclusion
Laura Green, PhD, Associate Dean, Teaching, Learning, and Experiential Education
Thomas Vicino, PhD, Associate Dean, Graduate Studies
Natasha Frost, PhD, Associate Dean, Research
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The College of Social Sciences and Humanities is a leader in the experiential liberal arts. Students deepen their understandings of culture, society, history, politics, language, and more through the integration of focused academic study and a wide range of experiential opportunities. They use familiar methods and new tools to hone their skills in close reading, interpretation, analysis, oral communication, and critical thinking.

By exploring society's most pressing challenges, students may gain a broad understanding of the relationships among peoples and nations; global economics and politics; the diversity of languages, literatures, religions, and cultures; and multiple perspectives in urban affairs, public policy, law, criminal justice, and the ethical dimensions of human behavior.

The college offers a wide variety of undergraduate programs, including 17 different majors as well as a diverse set of combined major options, concentrations, minors, and five-year bachelor's/master's degree PlusOne programs. The college also offers students the opportunity to create an independent major in cases where their interests and goals are not met by existing majors. Students in the college take elective classes to complement their chosen area of study and earn either a Bachelor of Arts or a Bachelor of Science degree.

All students in the college integrate experiential learning into their education. Students may choose to conduct original student research, either independently or with a faculty member; to immerse themselves in communities and cultures, either locally or around the world; to enhance their classroom learning through the co-op experience in a variety of fields; or to build more flexibility into their academic path in a summer Dialogue of Civilizations trip with a faculty member or a summer semester on campus. Many students pursue multiple opportunities.

Programs in the college offer the flexibility for students to customize their academic experience around their intellectual and professional interests. A support system of department advisors, college advisors, co-op coordinators, and peer mentors helps students explore their options and shape their plan.

Academic Advising

CSSH has an academic advising system that consists of academic advisors located in the Office of Student Academic Affairs in 180 Renaissance Park and faculty advisors located in the college's departments and program offices. Detailed advising information is available on the college website (https://cos.northeastern.edu/chemistry-chemical-biology/). PreMed and PreHealth Advising (p. 121), as well as Pre-Law (p. 120) Advising (p. 120), are also available.

Academic Progression Standards

CSSH adheres to the university-wide Academic Progression Standards (p. 88). Some majors have additional specific requirements in order to progress from year to year (see major requirements in departmental listings).

Graduation Clearance Process

Students in CSSH are required to meet with an academic advisor in the Office of Student Academic Affairs in 180 Renaissance Park to determine their remaining graduation requirements. Some departments also require a meeting with a faculty advisor in their major or program. This should be completed in the junior year to ensure ample time to complete any outstanding requirements.

College Requirements

All students in CSSH must successfully complete their major, college, and university requirements for their specific degree.

EXPERIENTIAL LIBERAL ARTS REQUIREMENT

The Experiential Liberal Arts course designation is part of a CSSH framework that emphasizes integration of experiential learning along with diversity and inclusion at key points in the curriculum. Students with majors or combined majors entirely within CSSH must fulfill this requirement through any CSSH course taken on a Dialogue of Civilizations, any CSSH service-learning course, or an ELA-designated course listed below.

Code	Title	Hours
ANTH 3410	Ethnographic Field Experience	4
ASNS 3100	Asian American Cinemas	4
CRIM 2320	Youth Crime and Justice	4
CRIM 4120	Courts and Sentencing	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ENGL 2690	Boston in Literature	4
ENGL 2740	Writing and Community Engagement	4
ENGL 3340	Technologies of Text	4
ENGL 3375	Writing Boston	4
ENGL 3381	The Practice and Theory of Teaching Writing	4
ENGL 3400	Opening the Archive	4
HIST 1120	Public History, Public Memory	4
HIST 2000	Native American Resistance: Past and Present	4
HIST 2311	Colonialism/Imperialism	4
HIST 2430	Digital Histories of Ethnic Boston	4
HUSV 1101	Social Change and Human Services	4
HUSV 3520	Child Intervention and Treatment	4
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	4
INTP 4995	Interpreting Practicum	4
POLS 2357	Growth and Decline of Cities and Suburbs	4
SOCL 2485	Environment, Technology, and Society	4
SPNS 3601	Exploring Spoken Spanish	4

For the most up-to-date list of courses for the ELA requirement and ELA options for your major, please consult your academic advisor and your degree audit.

Interdisciplinary Programs

In addition to over 100 combined majors, bringing together disciplines both within the College of Social Sciences and Humanities and across colleges, CSSH is home to the interdisciplinary majors and minors listed below.

For more information about CSSH combined majors, please visit the CSSH majors webpage (https://admissions.northeastern.edu/academics/combined-majors/#_ga=2.141643317500979981687268377-1902822679166361855 4). To learn more about Jewish Studies, please visit the Jewish Studies program website (https://cssh.northeastern.edu/jewishstudies/); for more information about Health, Humanities, and Society, please visit the Health, Humanities, and Society webpage (https://cssh.northeastern.edu/humanities/health-humanities-and-society/).

Interdisciplinary Majors

- Computer Science and Politics, Philosophy, and Economics, BS (p. 845)
- Global Asian Studies, BA (p. 1733)
- Health Humanities and Health Science, BS (p. 1178)
- Health Humanities and Public Health, BA (p. 1202)
- History and Asian Studies, BA (p. 1745)
- History, Culture, and Law, BA (p. 1748)
- Human Services, BA (p. 1753)
- Human Services, BS (p. 1755)
- Human Services and Communication Studies, BA (p. 1757)
- Human Services and Criminal Justice, BS (p. 1760)
- Human Services and International Affairs, BA (p. 1763)
- Human Services and Psychology, BS (p. 1653)
- Human Services and Sociology, BA (p. 1772)
- Human Services and Sociology, BS (p. 1775)
- Jewish Studies and Religion, BA (https://catalog.northeastern.edu/undergraduate/social-sciences-humanities/jewish-studies/jewish-studies-religion-ba/)
- Politics, Philosophy, and Economics, BS (p. 1782)
- Politics, Philosophy, and Economics and Business Administration, BS (p. 649)

Interdisciplinary Minors

- Computational Social Science (p. 1794)
- Digital Methods in the Humanities (p. 1795)
- Food Systems Sustainability, Health, and Equity (p. 1796)
- Global Asian Studies (p. 1797)
- Global Health (p. 1329)
- Health, Humanities, and Society (p. 1231)
- Human Services (p. 1803)
- Jewish Studies (p. 1804)
- Latino/a, Latin American, and Caribbean Studies (p. 1806)
- Law and Public Policy (p. 1807)
- Urban Studies (p. 1810)
- Women's, Gender, and Sexuality Studies (p. 1811)

Computer Science and Politics, Philosophy, and Economics, BS

Politics, philosophy, and economics bring together three important frameworks from the humanistic social sciences for understanding the world around us. Computer science involves the application of theoretical concepts in the context of software development to the solution of problems that arise in almost every human endeavor, drawing on concepts and methods from mathematics, logic, science, and engineering. This interdisciplinary degree thus provides multiple perspectives and a set of skills that are indispensable in our increasingly interconnected world and essential in addressing the kinds of complex global problems future leaders need to tackle.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be be taken for upper-division electives.		
Complete 4 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses from the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Politics, Philosophy, and Economics Courses

Complete at least four courses in each of the following subject areas: ECON, PHIL, and POLS.

Code	Title	Hours
Foundation Course		
PHIL 1160	Introduction to Economic Justice	4

Core Courses		
Philosophy		
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Political Science		
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
ECON 2315	Macroeconomic Theory	4
or ECON 2316	Microeconomic Theory	
Methods Course		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	
PPE Elective		
Complete one course from the following ranges:		4
ECON 1200 to ECON 1999		
ECON 3000 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		
PHIL 2000 to PHIL 5999		
POLS 2000 to POLS 5999		

Integrative Course Requirements

Code	Title	Hours
IS 4300	Human Computer Interaction	4
PHIL 1115	Introduction to Logic	4
POLS 2390	Science, Technology, and Public Policy	4

Supporting Courses

Code	Title	Hours
Statistics and Mathematics		
ECON 2350	Statistics for Economists	4
or POLS 2400	Quantitative Techniques	
or MATH 2280	Statistics and Software	
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	

English Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

129 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3000	4	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210 or EESH 2000	1	ECON 2315 or 2316	4	Co-op	0
PHIL 3435 or 2325	4	CS 3200	4	Elective	4		
POLS 1150 or 1155	4	ECON 2350, POLS 2400, or MATH 2280	4				
POLS 3405	4	PHIL 2303 or 3822	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	IS 4300	4	ENGW 3302, 3309, or 3315	4	Co-op	0

	PHIL 3000	4	
	POLS 2390	4	
	Elective	4	
0	**16**	**4**	**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		Capstone	4
		Khoury elective	4
		PPE elective	4
	0		**16**

Total Hours: 130

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op	0	Co-op	0	ECON 2315 or 2316	4
CS 3000	4					Elective	4
PHIL 3435 or 2325	4						
POLS 1150 or 1155	4						
POLS 3405	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	ENGW 3302, 3309, or 3315	4
ECON 2350, POLS 2400, or MATH 2280	4						
PHIL 2303 or 3822	4						
Elective	4						
	16		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	IS 4300	4
Elective	4	Capstone	4
PHIL 3000	4	Khoury elective	4
POLS 2390	4	PPE elective	4
	16		**16**

Total Hours: 130

Global Asian Studies, BA

The Bachelor of Arts in Global Asian Studies offers undergraduates a broad liberal arts education in the histories, cultures, societies, politics, economies, and languages of Asia, Asian America, and the global Asian diaspora. Global Asian studies majors complete at least two years of an Asian language in addition to pursuing a rigorous course of study covering a number of disciplines. The core coursework provides foundational knowledge in the history, politics, and societies of East Asia, Southeast Asia, South Asia, and the Asian diaspora; the place of Asia and Asians within a globalizing world; and skills in research and analysis. Majors are also required to develop expertise in one of the following focus areas: history; society and politics; language, literature, and culture; or religious studies. Finally, students are required to complete academic study or a professional experience abroad.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Global Asian Studies Requirements

Code	Title	Hours
Required Courses		
ASNS 1150	East Asian Studies	4
or HIST 1150	East Asian Studies	
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	4
or HIST 2211	The World Since 1945	
Asia in Global Context		
Complete one of the following:		4
ASNS 2245	Introduction to Asian American Studies	
ASNS 3482	East Asian Politics	
ASNS 3485	China: Governance and Foreign Policy	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4520	Chinese Society and Culture	
ECON 3290	History of the Global Economy	
ENGL 2470	Asian-American Literature	
HIST 2011	Capitalism and Business: A Global History	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3487	Politics of Developing Nations	
SOCL 4526	Afro-Asian Relations in the Americas	
Capstone		
ASNS 4900	Asian Studies Capstone Directed Study	4
International Experience		
Complete a professional or academic experience abroad in consultation with your advisor.		

Global Asian Studies Elective Requirements

Code	Title	Hours
Elective Courses		
Complete six courses from the following focus areas (choose at least three courses from one focus area):		24
History Focus Area		
ARCH 2320	Modern Chinese Architecture	
ASNS 2245	Introduction to Asian American Studies	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
or CLTR 1500	Modern Chinese History and Culture	
HIST 2011	Capitalism and Business: A Global History	
HIST 2308	Law, Justice, and Society in Modern China (Law, Justice, and Society in Modern China)	
HIST 2351	Modern Japan	
HIST 2360	History of Capitalism in East Asia (History of Capitalism in East Asia)	
HIST 3330	The Global Cold War	
Society and Politics Focus Area		
ANTH 2305	Global Markets and Local Culture	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4520	Chinese Society and Culture	
ARCH 2310	History of Chinese Architecture	
ARCH 2320	Modern Chinese Architecture	
ASNS 3482	East Asian Politics	
or POLS 3482	East Asian Politics	
ECON 1291	Development Economics	
ECON 3290	History of the Global Economy	
INTB 2501	Competing to Win in Emerging Markets	
INTB 4983	Special Topics in International Business	
POLS 3487	Politics of Developing Nations	
SOCL 4526	Afro-Asian Relations in the Americas	
Language, Literature, and Culture Focus Area		
CLTR 1260	Japanese Film	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
ENGL 2470	Asian-American Literature	
ENGL 3161	20th- and 21st-Century Literatures	
Religious Studies Focus Area		
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	

Global Asian Studies Foreign Language Requirement

Complete coursework in an Asian language (Japanese or Chinese) through at least intermediate-level two. *Note:* Completing this requirement satisfies the language requirement for the BA degree. Students may test out of this requirement at the discretion of the director of global Asian studies. Those credits must be fulfilled through the electives listed under the global Asian studies electives.

Global Asian Studies Major Credit Requirement

56 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	Global Asian studies elective 1	4	Elective	4	Elective	4
ENGW 1111	4	Global Asian studies elective 2	4	Elective	4	Elective	4
ASNS 1150	4	Elective	4				
HIST 1215	4	Elementary language 2	4				
Elementary language 1	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Global Asian studies elective 3	4	EESH 2000	1	Elective	4	Co-op	
Elective	4	Asia in global context elective	4	Elective	4		
Elective	4	Elective	4				
Intermediate language 1	4	Elective	4				
		Intermediate language 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Global Asian studies elective 4	4	Advanced Writing in the Discipline	4	Co-op	
		Global Asian studies elective 5	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ASNS 4900	4
		Global Asian studies elective 6	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

Health Humanities and Health Science, BS

Overview

The combined Bachelor of Science in Health Humanities and Health Science is designed for students who would like to learn how to think about health using humanities, social sciences, and science skills. The humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of healthcare is quickly changing, and this training is designed to equip students both for the diverse forms of healthcare professions that exist today and for the varieties of professions in the future. This combined major will appeal to students who want to pursue graduate study and research in public health, medicine, and other clinical professions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Humanities Requirements

Code	Title	Hours
Required Courses		
INSH 1300	Introduction to Health and Humanities	4
INSH 2300	Culture, Technology, and the Future of Health	4
Core Humanities Electives		
Complete two of the following not used to satsify another requirement:		8-9
AFAM 1101	Introduction to African American and Africana Studies	
ASNS 2245	Introduction to Asian American Studies	
ENGL 1400	Introduction to Literary Studies	
HIST 1200 and HIST 1201	Historical Research and Writing and First-Year Seminar	
PHIL 1101	Introduction to Philosophy	
PHIL 1110	Introduction to Religious Studies	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 1105	Introduction to Trans Studies	
Core Health Humanities Electives		
Complete three of the following not used to satisfy another requirement:		12
ENGL 2770	Writing to Heal	
ENGL 3700	Narrative Medicine	
HIST 1219	History of Global Pandemics	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
Core Digital Health Humanities Electives		
Complete two of the following not used to satisfy another requirement:		8
ARCH 5312	Mapping and Building Health	
ENGL 3460	The Archives of Public Health	
HIST 3344	The History of Western Public Health	

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1261	Comparative Healthcare Systems	4
or PHTH 1260	The American Healthcare System	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Life Sciences Supporting Courses		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
MATH 1241	Calculus 1	4
PSYC 1101	Foundations of Psychology	4

Other Requirements

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or HIST 1000	History at Northeastern	
or ENGL 1000	English at Northeastern	
or PHIL 1000	Philosophy at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EESH 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing Course		
Courses listed below are preferred but other advanced writing courses will be accepted:		
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
Capstone		
HSCI 4700	Health Science Capstone Introduction	0
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service	
HSCI 4730	Health Science Capstone—Research	
HSCI 4740	Health Science Capstone Seminar	

Health Sciences Major Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

129 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Spring/Summer 1—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Public health core course	4	Vacation	
ENGL 1000, HIST 1000, or PHIL 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4		
MATH 1241	4	ENGW 1111	4				
PHTH 1260	4	INSH 1300	4				
PSYC 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		ENGW 3315	4
PHTH 2210 and PHTH 2211	4	General elective	4			Public health core course	4
Core humanities course	4						
Public health core course	4						
General elective	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 2300	4	Co-op		Co-op		HSCI 4700	0
PHTH 4202	4					PHTH 4120	4
Core humanities course	4					PHTH 4540	4
General elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Core digital health humanities course	4
Core digital health humanities course	4	Core health humanities course	4
Core health humanities course	4	Core health humanities course	4
General elective	4	General elective	4
	16		**16**

Total Hours: 129

Four Years/ Two Co-ops in Summer 2/Fall—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111 and BIOL 1112	5	BIOL 1113 and BIOL 1114	5	Public health core course	4	Vacation	
ENGW 1111	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5	General elective	4		
HSCI 1000	1	INSH 1300	4				
MATH 1241	4	PSYC 1101	4				

PHTH 1260	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Core humanities course	4	HSCI 2000	1	Public health core course	4	Co-op	
Core humanities course	4	PHTH 2210 and PHTH 2211	4	General elective	4		
General elective	8	Public health core course	4				
General elective		General elective	8				
		General elective					
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INSH 2300	4	PHTH 4120	4	Co-op	
ENGW 3306	4	PHTH 4202	4	PHTH 4540	4		
		Core digital health humanities course	4				
		Core health humanities course	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		HSCI 4720, 4730, or 4740	4
HSCI 4700	0	Core digital health humanities course	4
		Core health humanities course	4
		Core health humanities course	4
	0		**16**

Total Hours: 129

Health Humanities and Public Health, BA

Overview

The combined Bachelor of Arts in Health Humanities and Public Health is designed for students who would like to learn how to think about health using humanities, social sciences, and science skills with a focus on public health. The humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of public health is quickly changing, and this training is designed to equip students both for the diverse forms of healthcare professions that exist today and for the varieties of professions in the future. This combined major will appeal to students who want to pursue graduate study and research in public health and health humanities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Humanities Requirements

Code	Title	Hours
Required Courses		
INSH 1300	Introduction to Health and Humanities	4
INSH 2300	Culture, Technology, and the Future of Health	4
Core Humanities Electives		
Complete two of the following not used to satsify another requirement:		8-9
AFAM 1101	Introduction to African American and Africana Studies	
ASNS 2245	Introduction to Asian American Studies	
ENGL 1400	Introduction to Literary Studies	
HIST 1200 and HIST 1201	Historical Research and Writing and First-Year Seminar	
PHIL 1101	Introduction to Philosophy	
PHIL 1110	Introduction to Religious Studies	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 1105	Introduction to Trans Studies	
Core Health Humanities Electives		
Complete three of the following not used to satisfy another requirement:		12
ENGL 2770	Writing to Heal	
ENGL 3700	Narrative Medicine	
HIST 1219	History of Global Pandemics	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 1165	Moral and Social Problems in Healthcare	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
Core Digital Health Humanities Electives		

Complete two of the following not used to satisfy another requirement:		8
ARCH 5312	Mapping and Building Health	
ENGL 3460	The Archives of Public Health	
HIST 3344	The History of Western Public Health	

Public Health Requirements

Code	Title	Hours
Public Health Core Courses		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Science Core Courses		
PSYC 1101	Foundations of Psychology	4
Biology		*8-10*
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	
Social Science Selectives		**7-8**
Complete one introductory course from the following:		
ANTH 1101	Peoples and Cultures	
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
POLS 1160	International Relations	
SOCL 1101	Introduction to Sociology	
Complete one upper-level course from the following (categories provided for reference):		
Society and Behavior		
ANTH 3441	Medical Anthropology	
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	

SOCL 3241	Violence and Society
SOCL 3441	Sociology of Health and Illness
SOCL 4520	Race, Class, and Gender
Globalization and Global Health	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ECON 3404	International Food Policy
INTL 3200	Cities in a Global Context
or INTL 3201	Cities in a Global Context (Abroad)
INTL 3400	International Conflict and Negotiation
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Environmental Health and Climate Change	
ECON 3423	Environmental Economics
COMM 3500	Environmental Issues, Communication, and the Media
INTL 5100	Climate and Development
or PPUA 5100	Climate and Development
PHTH 5214	Environmental Health
PPUA 5238	Climate Change and Global Urbanization
Law, Policy, and Human Rights	
ECON 3424	Law and Economics
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
POLS 3307	Public Policy and Administration
POLS 3900	Social Policy
PHTH 4515	Critical Issues in Health and Public-Health Policy
Healthcare Administration and Management	
ECON 3413	Health Economics and Healthcare Policy
ORGB 3201	Organizational Behavior
PHTH 4511	Healthcare Management
PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Other Requirements

Code	Title	Hours
Introduction to College		
HSCI 1000	College: An Introduction	1
or HIST 1000	History at Northeastern	
or ENGL 1000	English at Northeastern	
or PHIL 1000	Philosophy at Northeastern	
Professional Development		
HSCI 2000	Professional Development for Bouvé Co-op	1
or EESH 2000	Professional Development for Co-op	
Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing Course		
Courses listed below are preferred but other advanced writing courses will be accepted:		
ENGW 3306	Advanced Writing in the Health Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
Capstone		
HSCI 4700	Health Science Capstone Introduction	0
Complete one of the following:		4

HSCI 4720	Health Science Capstone—Service
HSCI 4730	Health Science Capstone—Research
HSCI 4740	Health Science Capstone Seminar

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Program Requirement

130 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 1300	4	ENGW 1111	4	Public health core course	4	Vacation	
PHTH 1260	4	Biology course	4	General elective	4		
PSYC 1101	4	Core humanities course	4				
Introduction to college	1	Introductory language course	4				
Biology course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		ENGW 3315	4
PHTH 2210 and PHTH 2211	4	General elective	4			Public health core course	4
Core humanities course	4						
Social science course	4						
Elementary language course	4						
	17		**4**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INSH 2300	4	Co-op		Co-op		HSCI 4700	0
PHTH 4202	4	General elective	4			PHTH 4540	4
Core humanities course	4					Public health core course	4
Intermediate language course	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Core digital health humanities elective	4
PHTH 4120	4	Core health humanities course	4
Core digital health humanities elective	4	Core health humanities course	4
Core health humanities course	4	Social science course	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PSYC 1101	4	Public health core course	4	Vacation	
HSCI 1000	1	Biology course	4	General elective	4		
INSH 1300	4	Introductory language course	4				
PHTH 1260	4	General elective	4				
Biology course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Core humanities course	4	HSCI 2000	1	Public health core course	4	Co-op	
General elective	4	PHTH 2210 and PHTH 2211	4	Social science course	4		
Core humanities elective	4	Core health humanities course	4				
Elementary language course	4	Public health core course	4				
		Intermediate language course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		INSH 2300	4	PHTH 4120	4	Co-op	
ENGW 3306	4	PHTH 4202	4	PHTH 4540	4	General elective	4
		Core digital health humanities course	4				
		Core health humanities course	4				
	4		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		HSCI 4720, 4730, or 4740	4
HSCI 4700	0	Core digital health humanities course	4
		Core health humanities course	4
		Social science course	4
	0		**16**

Total Hours: 130

History and Asian Studies, BA

History and Asian studies offers an interdisciplinary combined major. Students interested in the combined major in history and Asian studies integrate the exploration of human history with the rigorous study of Asian cultures, societies, languages, and economies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Choose one course from the 1000 level except HIST 1215, which is required by Asian studies.		4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Choose one course from the following:		4
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1285	Introduction to Russian Civilization	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
Advanced History		
Complete one history course 3000 level or above.		4

History Cluster

In conjunction with your history advisor, define a history cluster by the first semester of your junior year of study. A cluster comprises four history courses with no more than two courses in the 1200–1299 range. These courses may double-count in the requirements above (except History Colloquium).

Asian Studies Requirements

Code	Title	Hours
Required Courses		
ASNS 1150	East Asian Studies	4
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	4
Asia in Global Context		
Complete one of the following:		4
ECON 3290	History of the Global Economy	

POLS 3487	Politics of Developing Nations
Complete a professional or academic experience abroad in consultation with your advisor.	

Language and Elective Requirements

Code	Title	Hours
Language Courses		
Complete the following courses in either Chinese or Japanese:		16
Chinese		
CHNS 1101	Elementary Chinese 1	
CHNS 1102	Elementary Chinese 2	
CHNS 2101	Intermediate Chinese 1	
or CHNS 2301	Intermediate Chinese Immersion 1	
CHNS 2102	Intermediate Chinese 2	
or CHNS 2302	Intermediate Chinese Immersion 2	
Japanese		
JPNS 1101	Elementary Japanese 1	
JPNS 1102	Elementary Japanese 2	
JPNS 2101	Intermediate Japanese 1	
JPNS 2102	Intermediate Japanese 2	
Asian Studies Electives		
Complete three courses from the following focus areas.		12
Society and Politics Focus Area		
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
ASNS 2245	Introduction to Asian American Studies	
INTB 2501	Competing to Win in Emerging Markets	
MKTG 4220	Marketing in Asia	
PHIL 1130	Comparative Ethics	
POLS 3487	Politics of Developing Nations	
Language, Literature, and Culture Focus Area		
CLTR 1260	Japanese Film	
CLTR 1700	Introduction to Japanese Pop Culture	
PHIL 1130	Comparative Ethics	
Religious Studies Focus Area		
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	

Capstone

Code	Title	Hours
Complete one of the following:		4
ASNS 4900	Asian Studies Capstone Directed Study	
HIST 4701	Capstone Seminar	

Integrative Requirement

Code	Title	Hours
HIST 2351	Modern Japan	4
or ASNS 2245	Introduction to Asian American Studies	

History and Asian Studies Major Credit Requirement

Complete 82 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 1000	1	ASNS 1150	4	Elective	4	Elective	4
HIST 1200	1	HIST 1100	4	Elective	4	Elective	4
HIST 1201	4	HIST 1246	4				
JPNS 1101	4	JPNS 1102	4				
ASNS Elective	4						
ASNS Elective	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 1215	4	HIST 1252	4	Co-op		Co-op	
HIST 2301	4	HIST 2351	4				
HIST 2302	1	HIST 2360	4				
HIST 2308	4	JPNS 2102	4				
JPNS 2101	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1700	4	Co-op		Elective	4	Elective	4
HIST 3350	4						
PHIL 2395	4						
HIST Elective	4						
	16		**0**		**4**		**4**

Year 4

Fall	Hours	Spring	Hours
HIST 4701	4	ANTH 4350	4
ASNS Elective	4	POLS 3487	4
HIST Elective	4		
HIST Elective	4		
	16		**8**

Total Hours: 131

History, Culture, and Law, BA

History, culture, and the law is an interdisciplinary major that offers students an opportunity to understand how legal systems are shaped by cultural norms and historical developments, as well as how social change has been and can be created through legal processes. After studying principles of historical method and jurisprudence, students bring to bear the interdisciplinary frameworks they have begun to develop in one of seven culturally focused concentrations: Africana studies and culture; Asian studies and culture; culture and colonialism; digital humanities; film and international cultures; gender and sexuality; and Latino/a, Latin American, and Caribbean studies and culture. Students have opportunities to develop flexibility in perspectives, to exercise ability to work in interdisciplinary frameworks, and to foster appreciation of cultural diversity that will enable them to make a positive impact in their chosen spheres of action.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than two courses taken for this major may be counted toward another major or minor.

Law and History Core

Code	Title	Hours
Foundational Core Courses		
ENGL 3325	Rhetoric of Law	4
or ENGL 1160	Introduction to Rhetoric	
or ENGL 3404	African American Rhetorical Traditions	
HIST 1100	Law and History	4
LPSC 2301	Introduction to Law, Policy, and Society	4
or LPSC 1101	Introduction to Law	
Foundational Core Elective		
Complete two of the following not used to fulfill the previous requirement. Note that POLS prerequisites are waived for the 3000- and 4000-level POLS classes for students in this major.		8
LPSC 2301	Introduction to Law, Policy, and Society	
LPSC 3303	Topics in Law and Public Policy	
LPSC 3307	Understanding the Modern Supreme Court	
PHIL 2301	Philosophical Problems of Law and Justice	
POLS 3302	Judicial Process and Behavior	
POLS 3406	International Law	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	
Research Methods		
Complete one of the following:		4
HIST 2301	The History Seminar	
INSH 1500	Digital Methods for Social Sciences and Humanities	

Culture Concentrations

Select one four-course concentration from the following:

- Africana Studies and Culture (p. 1750)
- Asian Studies and Culture (p. 1750)
- Culture and Colonialism (p. 1750)
- Digital Humanities (p. 1751)
- Film and International Cultures (p. 1751)
- Gender and Sexuality (p. 1751)
- Latino/a, Latin American, and Caribbean Studies and Culture (p. 1751)

Major Electives

Code	Title	Hours
Complete three of the following not already used to fulfill one of the requirements above. Courses not used above to fulfill a requirement may also be used to fulfill this elective requirement. However, only one course used to fulfill this requirement may be at the 1000 level.		12
Complete three courses (including courses cross-listed) not used to fulfill other requirements:		
AFAM 3120	Race, Crime, and Justice	
ANTH 2305	Global Markets and Local Culture	
CLTR 3418	Nationalism	
CRIM 2350	Policing a Democratic Society	
CRIM 3110	Gender, Crime, and Justice	
ENGL 2690	Boston in Literature	
ENGL 3325	Rhetoric of Law	
ENGL 3375	Writing Boston	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or WMNS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	
HIST 2000	Native American Resistance: Past and Present	
HIST 2011	Capitalism and Business: A Global History	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
HIST 2285	America and the Holocaust	
HIST 2311	Colonialism/Imperialism	
HIST 3334	Assassinations in World History	
LPSC 3303	Topics in Law and Public Policy	
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1112	Debating Ethical Controversies	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
SOCL 4522	Environmental Justice	

Capstone

Code	Title	Hours
Complete one of the following:		4
AFAM 4700	Capstone	
ASNS 4900	Asian Studies Capstone Directed Study	
ENGL 4720	Capstone Project	
HIST 4701	Capstone Seminar	
PHIL 5001	Global Justice	

Major GPA Requirement

Minimum 3.000 GPA required in all major courses

Major Credit Requirement

Complete 52 hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

CONCENTRATION IN AFRICANA STUDIES AND CULTURE

Code	Title	Hours
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFRS 1101	Introduction to African Studies	
Complete one of the following as a writing-intensive course:		4
ANTH 4510	Anthropology of Africa	
SOCL 4520	Race, Class, and Gender	
Complete two of the following, at least one of which must be at the 3000 level or above:		8
AFAM 1104—AFAM 5001		
AFRS 1270—AFRS 4939		

CONCENTRATION IN ASIAN STUDIES AND CULTURE

Code	Title	Hours
ASNS 1150	East Asian Studies	4
or HIST 1150	East Asian Studies	
Complete one of the following as a writing-intensive course:		4
ANTH 4515	Culture and Politics in Modern India	
HIST 2308	Law, Justice, and Society in Modern China	
PHIL 2395	Japanese Buddhism	
Complete two of the following. If HIST 2308 or PHIL 2395 is the writing-intensive course, at least one of these electives must be at the 3000 level or above:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
CLTR 1260	Japanese Film	
CLTR 1500	Modern Chinese History and Culture	
or HIST 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1253	History of Vietnam Wars	
HIST 2011	Capitalism and Business: A Global History	
HIST 2351	Modern Japan	
PHIL 1130	Comparative Ethics	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	

CONCENTRATION IN CULTURE AND COLONIALISM

Code	Title	Hours
POLS 2325	Ancient Philosophy and Political Thought	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Complete three of the following, at least one of which must be at the 3000 level or above:		12
CLTR 1501	Introduction to French Culture	

CLTR 1504	Cultural History of Spain
ENGL 2296	Early African-American Literature
ENGL 2450	Postcolonial Literature
ENGL 2470	Asian-American Literature
ENGL 3404	African American Rhetorical Traditions
ENGL 3664	Black Poetry and the Spoken Word
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2011	Capitalism and Business: A Global History
HIST 2311	Colonialism/Imperialism
HIST 3335	History of Modern Terrorism
PHIL 3343	Existentialism
PHIL 3435	Moral Philosophy

CONCENTRATION IN DIGITAL HUMANITIES

Code	Title	Hours
ENGL 1450	Reading and Writing in the Digital Age	4
or ENGL 3340	Technologies of Text	
Complete three of the following not previously taken, at least one of which must be at the 3000 level or above:		12
COMM 1255	Communication in a Digital Age	
COMM 2105	Social Networks	
ENGL 3340	Technologies of Text	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
PHIL 1145	Technology and Human Values	
PHIL 2001	Ethics and Evolutionary Games	
SOCL 4518	Law and Society in a Digital World (Note that this course has prerequisites.)	
SOCL 4528	Computers and Society (Note that this course has prerequisites.)	

CONCENTRATION IN FILM AND INTERNATIONAL CULTURES

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
Complete three of the following:		
CLTR 1240	Latin American Film	
CLTR 1260	Japanese Film	
CLTR 2001	World Cultures through Film	
ENGL 3487	Film and Text (Abroad)	
HIST 2025	Latin American History through Film	
PHIL 1260	Apocalypticism in Film	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
WMNS 3392	Gender and Film	

CONCENTRATION IN GENDER AND SEXUALITY

Code	Title	Hours
Complete four WMNS subject code courses (including cross-listed courses) not used to fulfill any other requirement for the major.		16

CONCENTRATION IN LATINO/A, LATIN AMERICAN, AND CARIBBEAN STUDIES AND CULTURE

Code	Title	Hours
LACS 1220	Latino, Latin American, and Caribbean Studies	4
Complete the following as the writing-intensive course:		
ANTH 4500	Latin American Society and Development	4

Complete two of the following:		8
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3715	New Narratives: Latin America after 1989	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 2025	Latin American History through Film	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	ASNS 1150 (Concentration core course)	4	Elective	4	Elective	4
ENGW 1111	4	CLTR 3418 (Major elective)	4	Elective	4	Elective	4
MATH 1215 (Potential option to cover NUPath requirement)	4	LPSC 2301 (Foundational core elective)	4				
LPSC 1101 (Foundational core course)	4	Foreign language	4				
Foreign language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1260 (Concentration elective)	4	Co-op		Co-op		Elective	4
EESH 2000	1					Elective	4
HIST 1100 (Foundational core course)	4						
PHIL 1112 (Major elective)	4						
Foreign language	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 4515 (Concentration writing-intensive course)	4	Co-op		Co-op		Elective	4
HIST 2000 (Major elective)	4					Elective	4
INSH 1500 (Research methods)	4						
POLS 4500 (Foundational core elective)	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ANTH 4350 (Concentration Elective)	4	HIST 4701 (Capstone)	4
HIST 1246 (Concentration Elective)	4	Foreign language	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Human Services, BA

The human services major prepares students for careers in social change by providing the theoretical and skill-based background necessary for practice and research. Upon completion of the degree, students apply professional skills in counseling roles, nonprofit management, political advocacy, or organizational and community development. Students have an opportunity to develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at individual and structural levels. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, and internship opportunities. All students declare a specialization within the major that reflects their particular focus in the field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Major Requirements

Code	Title	Hours
Human Services Overview		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
or INSH 3101	Research Methods in the Social Sciences	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
Human Services and Diverse Populations		
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
Human Services Electives		
Complete four HUSV courses.		16
Senior Seminar and Internship		
HUSV 4700	Senior Seminar in Human Services	4
HUSV 4994	Human Services Internship	6

Human Services Major Credit Requirement

Complete 50 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

130 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 1000	1	HUSV 2300	4	Elective	4	Elective	4
HUSV 1101	4	HUSV elective	4	Elective	4	Elective	4
ENGW 1111	4	Elective	4				
HUSV elective	4	MATH 1215	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV elective	4	Foreign language core course	4	Elective	4	Co-op	0
HUSV elective	4	HUSV 3570	4	Elective	4		
Elective	4	Human services and diverse populations course	4				
Foreign language core course	4	Elective	4				
		EESH 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Elective	4	Co-op	0
		HUSV 2970	4	Elective	4		
		Foreign language core course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	HUSV 4994	6
		HUSV 3900	4
		Elective	4
		HUSV 4700	4
	0		**18**

Total Hours: 132

Human Services, BS

Overview

The human services major prepares students for careers in social change by providing the theoretical and skill-based background necessary for practice and research. Upon completion of the degree, students apply professional skills in counseling roles, nonprofit management, political advocacy, or organizational and community development. Students have an opportunity to develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at individual and structural levels. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, and internship opportunities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Major Requirements

Code	Title	Hours
Human Services Overview		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
or INSH 3101	Research Methods in the Social Sciences	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
Human Services and Diverse Populations		
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
Human Services Electives		
Complete six HUSV courses.		24
Senior Seminar and Internship		
HUSV 4700	Senior Seminar in Human Services	4
HUSV 4994	Human Services Internship	6

Human Services Major Credit Requirement

Complete 58 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

130 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 1000	1	HUSV 2300	4	Elective	4	Elective	4
HUSV 1101	4	HUSV elective	4	Elective	4	Elective	4
ENGW 1111	4	Elective	4				

Elective	4	MATH 1215	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV elective	4	HUSV 3570	4	Vacation	0	Co-op	0
HUSV elective	4	HUSV elective	4				
Elective	4	Human services and diverse populations course	4				
Elective	4	Elective	4				
		EESH 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Elective	4	Co-op	0
		HUSV 2970	4	Elective	4		
		HUSV elective	4				
		HUSV elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	HUSV 3900	4	Elective	4
		HUSV 4994	6	Elective	4
		Elective	4		
		HUSV 4700	4		
	0		**18**		**8**

Total Hours: 132

Human Services and Communication Studies, BA

The intersection of human services and communications studies spans several domains. Nonprofit organizations depend on communications professionals to effectively represent their work to the community, partner organizations, and funders. Knowledge and skills developed in communications studies also service human services professionals working in the political realm as they seek to promote impactful social policies.

The human services and communication studies combined major is designed to prepare students for careers in social change by providing them with the theoretical and skill-based background necessary for practice and research. Students will develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at the individual and structural levels. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, and internship opportunities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Human Services Overview		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
HUSV 2970	Research Methods for Human Services	4
or INSH 3101	Research Methods in the Social Sciences	
Human Services and Diverse Populations		
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
Human Services Electives		
Complete two additional HUSV courses.		8

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	

COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Capstone

Complete one of the following capstone/senior seminar options:

Code	Title	Hours
Communications Capstone Option		
Complete one of the following:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4625	Online Communities	
Complete one additional HUSV elective.		4
Human Services Capstone Option		
HUSV 4700	Senior Seminar in Human Services	4
Complete one course in the following range:		4
COMM 3000 to COMM 4999		

Integrative Course

Code	Title	Hours
HUSV 3590	Nonprofit Communications	4

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

130 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000 or HUSV 1000	1	MATH 1215	4	COMM foundation course	4	COMM cluster course	4
HUSV 1101	4	HUSV 2300	4	COMM elective	4	COMM elective	4
ENGW 1111	4	HUSV elective	4				
COMM 1101	4	COMM 1112 or 2301	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 2970	4	Co-op		Co-op		COMM writing-intensive	4
COMM elective	4					Elective	4
Elective	4						
HUSV elective	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Human services and diverse populations	4	Co-op		Co-op		COMM writing-intensive	4
HUSV 3570	4					Elective	4
ENGW 3315	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HUSV 3900	4	Capstone	4
HUSV 3590	4	Elective	4
Additional COMM/HUSV elective	4	Elective	4
Elective	4	HUSV 4994	6
	16		**18**

Total Hours: 132

Human Services and Criminal Justice, BS

Overview

A combined major in human services and criminal justice appeals to students interested in the intersection of social and legal issues and institutions. The human services major prepares students for careers in social change by providing students with the theoretical and skill-based background necessary for practice and research. Students with criminal justice course work gain a rigorous interdisciplinary and experiential education in the causes and consequences of crime and the responses of criminal justice. The addition of human services course work complements a criminal justice perspective and considers the role of social services and community-based organizations to prevent, intervene, and treat the causes and consequences of crime. The degree allows students to combine interests in the justice system, political advocacy, and community development. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, and internship opportunities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Required Human Services Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
Human Services Internship		
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete four additional HUSV courses.		16

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	

CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science practicum section)	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives. One must be from the 3000, 4000 or 5000-level.		8

Additional Courses

Code	Title	Hours
CRIM 1000	Criminal Justice at Northeastern	1
or HUSV 1000	Human Services at Northeastern	
Research Methods		
CRIM 3600	Criminal Justice Research Methods	4
or HUSV 2970	Research Methods for Human Services	
Cooperative Education		
Students going on co-op should take:		
EESH 2000	Professional Development for Co-op	1
Students returning from co-op should take:		
CRIM 3000	Co-op Integration Seminar 2	1
CRIM 4000	Co-op Integration Seminar 3	1
Additional Elective		
Complete one additional course in either CRIM or HUSV.		4

Integrative Course

Code	Title	Hours
CRIM 4949	Senior Capstone Seminar	4
or HUSV 4700	Senior Seminar in Human Services	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Four Year, 2 Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	CRIM 1300, 1400, 1500, or 1700	4	Elective	4	Elective	4
ENGW 1111	4	CS 1100	4	Elective	4	Elective	4
HUSV 1000	1	HUSV 2300	4				
HUSV 1101	4	HSVC elective	4				
MATH 1215	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1120	4	EESH 2000	1	CJ Elective	4	Co-op	0
CRIM 3600	4	CJ concentration elective	4	Elective	4		
HSVC intermediate/ advanced undergraduate elective	4	CJ concentration elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CRIM 3000	1	Elective	4	Co-op	0
		CRIM 3700	4	Elective	4		
		HUSV 3900	4				
		HSVC organization course	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CRIM 4000	1
		CRIM 4949	4
		ENGW 3315	4
		CJ system-wide elective	4
		Elective	4
	0		**17**

Total Hours: 132

Human Services and International Affairs, BA

The human services and international affairs combined major offers students an understanding of geopolitical realities paired with the practical skills and theory necessary to work in social services and nongovernmental organizations impacted by global issues. Students have an opportunity to prepare for practice in international NGOs through co-ops and Dialogue of Civilizations programs. This combined major is designed to prepare students for positions within the nonprofit sector with an international focus.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
or INTL 2718	Research Methods in International Affairs	
or INSH 3101	Research Methods in the Social Sciences	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete three HUSV courses.		12

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one international semester via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	

HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism

ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	

Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (p. 119) (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Human Services/International Affairs Integrative Courses

Complete Senior Seminar in Human Services (HUSV 4700) or Senior Capstone Seminar in International Affairs (INTL 4700) or both. Note, however, that students wishing to take HUSV 4700 but not INTL 4700 must meet with an INTL advisor to obtain approval for a substitute INTL course. Similarly, students wishing to take INTL 4700 but not HUSV 4700 must meet with an HUSV advisor to obtain approval for a substitute HUSV course. Substitute courses (HUSV or INTL) must be upper-division courses and must relate to the combined major.

Code	Title	Hours
Human Services		
HUSV 4700	Senior Seminar in Human Services	4
International Affairs		
INTL 4700	Senior Capstone Seminar in International Affairs	4

Human Services and International Affairs Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ECON 3290	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
HUSV 1101	4	HUSV 2300	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	POLS 1160	4				
INTL 1101	4	Foreign language course	4				
HUSV elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	EESH 2000	1	Elective (Dialogue of Civilizations possible)	4	Co-op	0
Foreign language course	4	HUSV 2970 or INTL 2718	4	Elective (Dialogue of Civilizations possible)	4		
HUSV elective	4	HUSV 3900	4				
INTL elective	4	INTL 3400	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Elective (Dialogue of Civilizations possible)	4	Co-op	0
		HUSV 4994	6	Elective (Dialogue of Civilizations possible)	4		
		HUSV elective	4				
		Elective	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	HUSV 4700	4
		INTL 4700	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

Human Services and Psychology, BS

Overview

Students pursuing a combined degree in human services and psychology integrate the theoretical frameworks and skills relevant to both of these areas of study. This degree curriculum focuses on clinical and policy interventions that promote wellness on the individual and community levels. Situated in a social justice framework, this curriculum emphasizes how structural forces impact psychological and social well-being, barriers to treatment, and inequities in mental health outcomes. Through courses, service-learning, co-op, and research experience, students synthesize theoretical knowledge with practical skills used when working with individuals across the life span and in multiple settings.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Overview and Co-op Courses

Code	Title	Hours
Overview		
HUSV 1000	Human Services at Northeastern	1
or PSYC 1000	Psychology at Northeastern	
Professional Development for Co-op		
EESH 2000	Professional Development for Co-op	1
or EESC 2000	Professional Development for Co-op	

Human Services Requirements

Code	Title	Hours
Human Services Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete two of the following:		8
HUSV 2320	Techniques in Individual and Group Counseling	
HUSV 2340	Mindfulness in Mental Health	
HUSV 2370	Restorative Justice: Transforming the System	
HUSV 2401	Food Justice and Community Development	
HUSV 2500	Science of Play	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2950	International Human Services DOC course	
HUSV 2960	Intercultural Studies through Human Services DOC course	
HUSV 3520	Child Intervention and Treatment	
HUSV 3540	Addiction and Recovery	
HUSV 3590	Nonprofit Communications	

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4

PSYC 3402	Social Psychology	4
PSYC 3404	Developmental Psychology	4
PSYC 3450	Learning and Motivation	4
PSYC 3466	Cognition	4
Statistics		
Complete the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Psychology Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Psychology Electives		
Complete any two PSYC courses.		8
Recommended: PSYC 1208 Psychology and Law and PSYC 2370 Cross-Cultural Psychology		

Capstone

Code	Title	Hours
Complete one of the following:		4
PSYC 4660	Seminar in Cognition	
PSYC 4664	Seminar in Social Psychology	
PSYC 4662	Seminar in Personality	
PSYC 4676	Seminar in Developmental Psychology	

Supporting Courses

Code	Title	Hours
First-Year Writing		
ENGW 1111	First-Year Writing	4
Math		
MATH 1213	Interactive Mathematics	4
or MATH 1215	Mathematical Thinking	
Advanced Writing in the Discipline		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
ENGW 3307	Advanced Writing in the Sciences	

Integrative Course

Code	Title	Hours
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 3590	Nonprofit Communications	
PSYC 1214	The Moral Mind: The Science Underlying Ethical Decision-Making and Virtuous Character	
PSYC 2370	Cross-Cultural Psychology	

Program Requirement

132 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HUSV 2300	4	PSYC elective 1	4	Elective	4
HUSV 1000 or PSYC 1000	1	MATH 1213, 1215, or 1241	4	IC NUpath elective	4	Elective	4
HUSV 1101	4	PSYC 3402	4				
PSYC 1101	4	PSYC 3450	4				
EI NUpath elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	EESH 2000 or EESC 2000	1	Elective	4	Co-op	
PSYC 3404	4	HUSV 2970	4	Elective	4		
HUSV elective 1	4	HUSV 3570	4				
Elective	4	PSYC 3466	4				
		PSYC elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HUSV 3900	4	ENGW 3308 or 3315	4	Co-op	
		HUSV 4994	6	HUSV elective 2	4		
		PSYC lab	4				
		Elective	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		HUSV 2355	4
		HUSV 4700	4
		PSYC seminar	4
		Elective	4
	0		**16**

Total Hours: 132

Human Services and Sociology, BA

Overview

Students pursuing a combined major in human services and sociology will integrate the theoretical understandings of these two fields to better understand organizational and group behavior and their implications for individuals and communities utilizing human services. The human services coursework prepares students for careers in social change by providing students with the theoretical and skill-based background necessary for practice and research. The sociology coursework prepares students to rigorously analyze the social, political, and economic spheres of society at the local and global levels. Students will develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at the individual and structural levels. The combined major provides students with the conceptual and practical tools to understand how various features of society affect its members as well as how people create social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Required Human Services Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Research Methods		
Complete Option A or Option B:		4-8
Option A		
Complete the following and one additional SOCL course:		
HUSV 2970	Research Methods for Human Services	
Option B		
Complete the following and one additional HUSV course:		
SOCL 2321	Research Methods in Sociology	
Human Services Elective		
Complete three additional HUSV courses.		12
Senior Capstone [1]		
HUSV 4700	Senior Seminar in Human Services	4

[1] With permission of human services, the student may complete sociology capstone Senior Seminar (SOCL 4600) and substitute one advanced human services elective for Senior Seminar in Human Services (HUSV 4700).

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
SOCL 1101	Introduction to Sociology	4

SOCL 2320	Statistical Analysis in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two electives between SOCL 1200 and SOCL 1999.		8
Intermediate-Level Elective		
Complete two courses between SOCL 2000 and SOCL 3990.		8
Advanced-Level Elective		
Complete one course above SOCL 4000.		4
Senior Seminar [2]		
SOCL 4600	Senior Seminar	4

[2] With permission of the sociology head advisor, the student may complete human services capstone Senior Seminar in Human Services (HUSV 4700) and substitute one advanced sociology elective for Senior Seminar (SOCL 4600).

Human Services/Sociology Integrative Course

Code	Title	Hours
HUSV 2355	Race, Identity, Social Change, and Empowerment	4

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Human Services and Sociology Combined Major Credit Requirement

Complete a minimum of 78 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HUSV 2300	4	Elective	4	SOCL 2320	4
HUSV 1000 or SOCL 1000	1	MATH 1215	4	Elective	4	Elective	4
HUSV 1101	4	Elective	4				
SOCL 1101	4	Elective	4				
SOCL Intro Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 3570	4	EESH 2000	1	SOCL Intermediate-Level Elective	4	Co-op	0
SOCL 3300	4	SOCL Intro Elective	4	Elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	HUSV 2355	4	ENGW 3315	4	Co-op	0
		HUSV 4994	6	Elective	4		
		Research Methods Requirement	4				

		SOCL Intermediate-Level Elective	4		
	0		**18**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op	0	HUSV 3900	4
		HUSV 4700	4
		SOCL 4600	4
		SOCL Advanced Elective	4
	0		**16**

Total Hours: 132

Human Services and Sociology, BS

Overview

Students pursuing a combined major in human services and sociology will integrate the theoretical understandings of these two fields to better understand organizational and group behavior and their implications for individuals and communities utilizing human services. The human services coursework prepares students for careers in social change by providing students with the theoretical and skill-based background necessary for practice and research. The sociology coursework prepares students to rigorously analyze the social, political, and economic spheres of society at the local and global levels. Students will develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at the individual and structural levels. The combined major provides students with the conceptual and practical tools to understand how various features of society affect its members as well as how people create social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Human Services Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete three additional HUSV courses.		12
Research Methods		
Complete option A or option B:		4-8
Option A		
HUSV 2970	Research Methods for Human Services	
Option B		
SOCL 2321	Research Methods in Sociology	
and		
Complete an additional HUSV Elective		
Senior Capstone [1]		
HUSV 4700	Senior Seminar in Human Services	4

[1] With permission of human services, the student may complete sociology capstone Senior Seminar (SOCL 4600) and substitute one advanced human services elective for Senior Seminar in Human Services (HUSV 4700).

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two of the following:		8
ANTH 1101	Peoples and Cultures	
SOCL 1245	Sociology of Poverty	

SOCL 1246	Environment and Society	
SOCL 1255	Sociology of the Family	
SOCL 1260	Sociology of Gender	
SOCL 1295	Drugs and Society	
Intermediate-Level Elective		
Complete two of the following:		8
ANTH 2302	Gender and Sexuality: A Cross-Cultural Perspective	
ANTH 2305	Global Markets and Local Culture	
ANTH 2315	Religion and Modernity	
SOCL 2358	Current Issues in Cities and Suburbs	
SOCL 3241	Violence and Society	
SOCL 3270	Race, Ethnicity, and Inequality	
SOCL 3441	Sociology of Health and Illness	
SOCL 3468	Social Movements	
SOCL 3487	Applied Sociology: Practice and Theory	
Advanced-Level Elective		
Complete one of the following:		4
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4580	Special Topics in Anthropology	
SOCL 4518	Law and Society in a Digital World	
SOCL 4520	Race, Class, and Gender	
Senior Seminar [2]		
SOCL 4600	Senior Seminar	4

[2] With permission of the sociology head adviser, the student may complete Senior Seminar in Human Services (HUSV 4700) and substitute one advanced sociology elective for Senior Seminar (SOCL 4600).

Human Services/Sociology Integrative Course

Code	Title	Hours
HUSV 2355	Race, Identity, Social Change, and Empowerment	4

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Human Services and Sociology Combined Major Credit Requirement

Complete 78 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 1101	4	MATH 1215	4	Vacation	0	Vacation	0
ENGW 1111	4	HUSV 2300	4				
SOCL 1101	4	SOCL Introductory Elective	4				
		2					

SOCL Introductory Elective 1	4	HSVC elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV Elective	4	HUSV 2355	4	Vacation	0	Vacation	0
HUSV Elective	4	SOCL Intermediate Elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	HUSV 2970 or SOCL 2321	4	Vacation	0	Vacation	0
SOCL 3300	4	Elective	4				
Elective	4	SOCL Intermediate-Level Elective	4				
HUSV 3570	4	ENGW 3315	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
HUSV 3900	4	HUSV 4700	4
HUSV 4994	6	SOCL 4600	4
Elective	4	Elective	4
SOCL Advanced-Level Elective	4	Elective	4
	18		**16**

Total Hours: 130

Jewish Studies and Religion, BA

The combined major in Jewish studies and religion offers students an integrated program of study of two naturally complementary fields. Study of Judaism as a religion is enhanced by broad familiarity with the world's religious traditions; conversely, in-depth knowledge of Jewish history, identity, and cultures provides students of religion with valuable insight into the ways in which religion interacts with a wide variety of forces to shape the experiences of the adherents of a particular faith. The combined major is designed to enable students to understand the history, cultures, and religion of the Jewish people; analyze and apply theoretical understanding to the interaction between religious, social, and historical factors that have shaped the experiences of the Jewish people; and demonstrate fluency in understanding the major religious traditions of the world. The combined major in Jewish studies and religion is designed to prepare students for graduate work in Jewish studies, religion, or many of the other disciplines that make up Jewish studies or for work within the Jewish community or in communal organizations associated with other religions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Jewish Studies Requirements

Code	Title	Hours
Required Courses		
JWSS 1285	Jewish Religion and Culture	4
or PHIL 1285	Jewish Religion and Culture	
or JWSS 1294	History of the Jews in the Modern World	
or HIST 1294	History of the Jews in the Modern World	
JWSS 4660	Jewish Studies Module	1
Jewish Religion and Thought		
Complete one of the following:		4
JWSS 2259	Sex, Gender, and Judaism	
or WMNS 2259	Sex, Gender, and Judaism	
HIST 1100	Law and History	
Israel Studies		
Complete one of the following:		4
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
INTL 2100	Modern Israel	
POLS 3470	Arab-Israeli Conflict	
Jewish History		
Complete one of the following:		4
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
HIST 2285	America and the Holocaust	
or JWSS 2285	America and the Holocaust	
HIST 2431	Immigration and Identity in the American Jewish Experience	
or JWSS 2431	Immigration and Identity in the American Jewish Experience	
Jewish Art and Culture		
Complete one of the following:		4

ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Jewish Studies Electives		
Complete three of the following:		12
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
or JWSS 2282	The Holocaust and Comparative Genocide	
HIST 2285	America and the Holocaust	
or JWSS 2285	America and the Holocaust	
HIST 2431	Immigration and Identity in the American Jewish Experience	
or JWSS 2431	Immigration and Identity in the American Jewish Experience	
INTL 2100	Modern Israel	
JWSS 4992	Directed Study	
PHIL 1120	Understanding the Bible	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
POLS 2370	Religion and Politics	
POLS 3465	Government and Politics in the Middle East	
POLS 3470	Arab-Israeli Conflict	
SOCL 3270	Race, Ethnicity, and Inequality	

Religion Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1295		
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	

PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete five of the following courses, one of which must be at the 2000 level or above and another one of which must be at the 3000 level or above, that have not been used to satisfy another requirement:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1295		
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
Capstone		
Complete the following course that has not been used to satisfy another requirement:		4
PHIL 4903	Seminar in Religion	

Integrative Requirements

Code	Title	Hours
Complete one of the following courses that has not been used to satisfy another requirement:		4
HIST 1294	History of the Jews in the Modern World	
or JWSS 1294	History of the Jews in the Modern World	
HIST 2431	Immigration and Identity in the American Jewish Experience	
or JWSS 2431	Immigration and Identity in the American Jewish Experience	
Hebrew Language Introduction		
Complete two courses in Hebrew. These courses also count toward the BA language requirement.		8

Jewish Studies and Religion Major Credit Requirement

80 major semester hours required

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Lived religion elective	4	Vacation	0	Elective	4
PHIL 1110	4	Israel studies	4			Elective	4
PHIL 1285 or JWSS 1285	4	HBRW 1101	4				
Elective	4	HIST 1100	4				
	16		**16**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Elective	4	Co-op		Co-op	0	Elective	4
Jewish history course	4					JS elective	4
Comparative religion elective	4						
HBRW 1102	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2000-level elective	4	Elective	4	Elective	4	Elective	4
Jewish art and culture course	4	JWSS 4660	1	Elective	4	Elective	4
Elective	4	Elective					
JS elective	4	JS elective	4				
	16		**9**		**8**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 3000-level elective	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
Intergrative requirement course	4						
PHIL capstone	4						
	16		**0**		**0**		**8**

Total Hours: 129

Politics, Philosophy, and Economics, BS

Website (https://cssh.northeastern.edu/ppe/)

617.373.3636
617.373.4359 (fax)

The PPE major at Northeastern University brings together three of the most important approaches to understanding the world around us: political science, philosophy, and economics. This major is an interdisciplinary degree that not only provides students with the analytic tools from three different disciplines but also is designed to teach students to make connections across disciplines and to keep multiple perspectives in mind when analyzing complex social phenomena. This interdisciplinary perspective and set of skills are indispensable in our increasingly interconnected world and are essential in addressing the kinds of complex global problems future leaders will need to tackle.

Students may choose from several concentrations in accordance with their own backgrounds and interests. These include:

- Environment and energy policy
- International political economy
- Law and justice
- Logic and game theory
- Political philosophy
- Public and economic policy
- Racial justice

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Politics, Philosophy, and Economics Major Requirements

Code	Title	Hours
Foundation Course		
PHIL 1160	Introduction to Economic Justice	4
Core Courses		
Philosophy		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Political Science		
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4

or ECON 2316	Microeconomic Theory	
Methods Course		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Major Electives

Code	Title	Hours
Complete two of the following:		8
ECON 1200 to ECON 1999		
ECON 3000 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
PHIL 2000 to PHIL 5999		
POLS 2000 to POLS 5999		

Concentration

Complete one of the following concentrations:

- Environment and Energy Policy (p.)
- International Political Economy (p.)
- Law and Justice (p.)
- Logic and Game Theory (p.)
- Political Philosophy (p.)
- Public and Economic Policy (p.)
- Racial Justice (p. 1787)

Supporting Courses

Code	Title	Hours
Racial or Gender Justice		
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFAM 2355	Race, Identity, Social Change, and Empowerment	
ANTH 2302	Gender and Sexuality: A Cross-Cultural Perspective	
COMM 3304	Communication and Inclusion	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
ECON 1240	Economics of Crime	
ECON 3410	Labor Economics	
ECON 3412	Women's Labor and the Economy	
ECON 3711	Economics of Race	
HIST 1225	Gender, Race, and Medicine	
HIST 2000	Native American Resistance: Past and Present	
INTL 2500	Race and Global Human Mobility	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	

POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3323	Race, Inequality, and the Law	
SOCL 1260	Sociology of Gender	
or WMNS 1260	Sociology of Gender	
SOCL 3270	Race, Ethnicity, and Inequality	
SOCL 4520	Race, Class, and Gender	
WMNS 1101	Sex, Gender, and Popular Culture	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 2304	Communication and Gender	
WMNS 2325	Black Feminist Studies	
WMNS 2480	Women and World Politics	
or INTL 2480	Women and World Politics	
WMNS 2505	Digital Feminisms	
WMNS 2800	Sexual Orientation and Gender Expression	
or HUSV 2800	Sexual Orientation and Gender Expression	
WMNS 3100	Gender, Social Justice, and Transnational Activism	
WMNS 3500	Sexuality, Gender, and the Law	
Statistics and Mathematics		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Complete one of the following:		4
ECON 2350	Statistics for Economists	
or MATH 2280	Statistics and Software	
or POLS 2400	Quantitative Techniques	
Experiential Learning Requirement		
Complete one co-op, study abroad, qualifying Dialogue of Civilizations, or one of the following:		4
ECON 4991	Research	
ECON 4994	Internship	
ECON 4996	Experiential Education Directed Study	
POLS 4942	Internship in Politics	
POLS 4970	Junior/Senior Honors Project 1	
POLS 4971	Junior/Senior Honors Project 2	
POLS 4996	Experiential Education Directed Study	

Major GPA/Credit Requirement

Complete 68 semester hours in the major with a 3.000 GPA.

Code	Title	Hours
Economics GPA Requirement		
Grades in the following courses must average to a minimum of C (2.000):		
ECON 2315	Macroeconomic Theory	
or ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or MATH 2280	Statistics and Software	
or POLS 2400	Quantitative Techniques	

Course Distribution Requirement

Complete at least four courses in each of the following subject areas: ECON, PHIL, and POLS.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN ENVIRONMENT AND ENERGY POLICY

Code	Title	Hours
Complete two of the following:		8
ECON 1711	Economics of Sustainability	
ECON 3423	Environmental Economics	
or ECON 3425	Energy Economics	
PHIL 1180	Environmental Ethics	
or PHIL 1185	The Ethics of Food	
POLS 2395	Environmental Politics and Policy	
Complete one of the following:		4
ECON 3423	Environmental Economics	
ECON 3425	Energy Economics	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	

CONCENTRATION IN INTERNATIONAL POLITICAL ECONOMY

Code	Title	Hours
Complete two of the following:		8
ECON 1291	Development Economics	
ECON 2316	Microeconomic Theory	
ECON 3290	History of the Global Economy	
ECON 3404	International Food Policy	
ECON 3635	International Economics	
ECON 5200	Topics in Applied Economics	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1185	The Ethics of Food	
POLS 3406	International Law	
POLS 3487	Politics of Developing Nations	
Complete one of the following:		4
ECON 1292	Economic History of the Middle East	
HIST 2011	Capitalism and Business: A Global History	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	

CONCENTRATION IN LAW AND JUSTICE

Code	Title	Hours
Complete three of the following, only two of which may be POLS courses:		12
ECON 1240	Economics of Crime	
ECON 1245	Economics of Inequality	
ECON 3424	Law and Economics	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 3335	History of Modern Terrorism	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	

POLS 3302	Judicial Process and Behavior
POLS 3324	Law and Society
POLS 3406	International Law
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties
WMNS 3500	Sexuality, Gender, and the Law

CONCENTRATION IN LOGIC AND GAME THEORY

Code	Title	Hours
Complete three of the following:		12
ECON 2316	Microeconomic Theory	
ECON 3416	Behavioral Economics	
ECON 4680	Competition Policy and Regulation	
ECON 4681	Information Economics and Game Theory	
ECON 5105	Math and Statistics for Economists	
ECON 5110	Microeconomic Theory	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 3050	Information and Uncertainty	
PHIL 4500	Theory of Knowledge	
PHIL 4515	Advanced Logic	
PHIL 4550	Philosophy of Economics	

CONCENTRATION IN POLITICAL PHILOSOPHY

Code	Title	Hours
Complete three of the following, only two of which may be PHIL courses:		12
ECON 3490	Public Choice Economics	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 3435	Moral Philosophy	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

CONCENTRATION IN PUBLIC AND ECONOMIC POLICY

Code	Title	Hours
Required Course		
POLS 3307	Public Policy and Administration	4
Elective Courses		
Complete two of the following:		8
ECON 1240	Economics of Crime	
ECON 1245	Economics of Inequality	
ECON 1281	Economics of the Creative Industries	
ECON 2315	Macroeconomic Theory	
ECON 3410	Labor Economics	
ECON 3413	Health Economics and Healthcare Policy	
ECON 3414	Economics of Human Capital	
ECON 3420	Urban Economic Issues	
ECON 3423	Environmental Economics	
ECON 3425	Energy Economics	
ECON 3440	Public Finance	

ECON 3462	Bubbles, Busts, and Bailouts: Market and Regulatory Failures in the Financial Crisis
ECON 3490	Public Choice Economics
ECON 4680	Competition Policy and Regulation
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
POLS 2340	Business and Government
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN RACIAL JUSTICE

Code	Title	Hours
Required Courses		
Complete two of the following:		8
ECON 3711	Economics of Race	
PHIL 3822	Philosophy of Race and Racism	
POLS 3323	Race, Inequality, and the Law	
Elective Course		
Complete one of the following:		4
CRIM 3120	Race, Crime, and Justice	
ECON 1240	Economics of Crime	
ECON 3410	Labor Economics	
INTL 2500	Race and Global Human Mobility	
PHIL 2619	Race and Religion in Film	
SOCL 3270	Race, Ethnicity, and Inequality	
SOCL 4520	Race, Class, and Gender	
WMNS 2325	Black Feminist Studies	

*Students may take courses from the required list as an elective if not taken as a required course.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	ECON 1116	4	Elective	4	Vacation	
PHIL 1000	1	ENGW 1111	4	Elective	4		
PHIL 1160	4	PHIL 1115	4				
POLS 1160	4	PHIL 2303	4				
General elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ECON 2315 or 2316	4	Elective	4	Co-op	0
PHIL 3435 or 2325	4	Statistics and mathematics requirement	4	Elective	4		
POLS 1150 or 1155	4	Major elective	4				
Supporting course in race or gender justice	4	Concentration course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHIL 3000	4	General elective	4	Co-op	0
		Major elective	4	General elective	4		
		Concentration course	4				
		General elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	Capstone requirement	4	General elective	4
		Concentration course	4	General elective	4
		General elective	4		
		General elective	4		
	0		**16**		**8**

Total Hours: 129

Politics, Philosophy, and Economics and Business Administration, BS

Overview

This combined major integrates the theory and practice of business administration with tools and knowledge to understand social phenomena in ethical, political, and economic contexts, guiding students to develop a set of skills that are indispensable in our increasingly interconnected world. This holistic view is essential to understanding the kinds of challenges that future leaders in management and industry will need to tackle. Students in the combined major are expected to hone these skills not only in their interdisciplinary major but also through participating in cooperative education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Politics, Philosophy, and Economics Requirements

Code	Title	Hours
PPE Major Requirement		
PHIL 1160	Introduction to Economic Justice	4
Foundational Courses		
ECON 2316	Microeconomic Theory	4
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Methods Coursework		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
PPE Elective Coursework		
Complete one course from the following ranges:		
ECON 1200–1999 or 3000–4689 or 4900–4999 or 5200–5999 or POLS 2000–5999		4

Business Requirements

Code	Title	Hours
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
FINA 2201	Financial Management	4
INNO 2301	Innovation!	4
MISM 2301	Introduction to Information Systems and Digital Technologies	4
or SCHM 2301	Supply Chain and Operations Management	
MKTG 2201	Introduction to Marketing	4
ORGB 3201	Organizational Behavior	4
Supporting Courses		
BUSN 1102	Personal Skill Development for Business	1
or PHIL 1000	Philosophy at Northeastern	
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	
ECON 1116	Principles of Microeconomics	4

ECON 2350	Statistics for Economists	4
or MGSC 2301	Business Statistics	
or POLS 2400	Quantitative Techniques	
MATH 1231	Calculus for Business and Economics	4-6
or MATH 1341	Calculus 1 for Science and Engineering	
or MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	

Business Concentration

Complete one of the following concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Integrative Course

Code	Title	Hours
PHIL 1170	Business, Ethics, and Human Rights	4

Business Cooperative Education

Code	Title	Hours
Complete one cooperative education experience:		
COOP 3945	Co-op Work Experience	0
or COOP 3946	Co-op Work Experience--Half Time	
or COOP 3947	Co-op Work Experience Abroad--Half Time	
or COOP 3948	Co-op Work Experience Abroad	

Business GPA Requirement

A minimum 2.000 GPA in business courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study - Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ACCT 2301	4	MISM 2301 or SCHM 2301	4	DD NUpath	4
BUSN 1102 or PHIL 1000	1	ECON 1116	4	MKTG 2201	4	Open elective	4
MATH 1231	4	ENGW 1111	4				

PHIL 1160	4	MGSC 2301, ECON 2350, or POLS 2400	4				
POLS 1150 or 1155	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op		Co-op		ORGB 3201	4
ECON 2316	4					Open elective	4
FINA 2201	4						
INNO 2301	4						
PHIL 1170	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2303 or 3822	4	Co-op		Co-op		ENGW 3315, 3304, or 3308	4
POLS 1160	4					Open elective	4
Concentration class	4						
Concentration class	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHIL 3435 or 2325	4	Capstone class	4
POLS 3405	4	Concentration class	4
Concentration class	4	Open elective	4
PPE elective	4	Open elective	4
	16		**16**

Total Hours: 130

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102 or PHIL 1000	1	ENGW 1111	4	MKTG 2201	4	DD NUpath	4
ACCT 1201	4	ECON 2350, MGSC 2301, or POLS 2400	4	MISM 2301 or SCHM 2301	4	Open elective	4
PHIL 1160	4	ECON 1116	4				
POLS 1150 or 1155	4	ACCT 2301	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
FINA 2201	4	POLS 1160	4	Open elective	4	Co-op	
INNO 2301	4	Concentration class	4	Open elective	4		
ECON 2316	4	Open elective	4				
PHIL 1170	4	PHIL 2303 or 3822	4				
		BUSN 1103 or EESH 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ORGB 3201	4	ENGW 3315, 3304, or 3308	4	Co-op	
		Concentration class	4	PPE elective	4		
		POLS 3405	4				

		Open elective	4		
	0		**16**	**8**	**0**

Core Term 1

Fall	**Hours**	**Spring**	**Hours**
Co-op		Concentration class	4
		Concentration class	4
		Capstone class	4
		PHIL 3435 or 2325	4
	0		**16**

Total Hours: 130

Black Feminist Studies, Minor

This interdisciplinary minor offers students opportunities to critically engage with the histories and theories that sit at the intersections of race, gender, class, and sexuality. This minor will allow students to centralize the study of Black women from diverse disciplinary perspectives and provide students with opportunities to engage comparative and transnational Black feminist studies frameworks for analyzing gender, sexuality, and other concepts within the broader disciplines of Africana and women's, gender, and sexuality studies.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	4
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	

Electives

Code	Title	Hours
Complete two of the following:		8
AFAM 1113	Black Popular Culture	
AFRS 3900	Gender and Black World Literatures	
ENGL 2455	American Women Writers	
SOCL 4520	Race, Class, and Gender	
WMNS 1225	Gender, Race, and Medicine	
WMNS 2505	Digital Feminisms	
WMNS 3100	Gender, Social Justice, and Transnational Activism	

Computational Social Science, Minor

This minor introduces and develops the essential skills for employing mathematical, formal, and computational methods in the social sciences. Students completing this minor will have a grasp of the fundamentals necessary for pursuing more in-depth studies in the emerging fields of computational social science and big data. The foundational courses emphasize skills in probability, statistics, and introductory programming. Other courses focus on the application of formal and computational methods in the social sciences including digital analysis of texts, maps, and networks. An additional elective provides breadth in social scientific studies of computation or the foundational principles of logic and computation.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Foundational Courses

Code	Title	Hours
MATH 2280	Statistics and Software	4
or CRIM 3700	Analyzing and Using Data on Crime and Justice	
or ECON 2350	Statistics for Economists	
or SOCL 2320	Statistical Analysis in Sociology	
or POLS 2400	Quantitative Techniques	
or PSYC 2320	Statistics in Psychological Research	
INSH 1500	Digital Methods for Social Sciences and Humanities	4
or CS 2500	Fundamentals of Computer Science 1	
or DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	

Applications of Computational Approaches in the Social Sciences

Code	Title	Hours
Complete two courses from the following:		8
(Students may complete a capstone project under the direction of a faculty member in lieu of an application course.)		
COMM 2105	Social Networks	
DS 3000	Foundations of Data Science	
or DS 4200	Information Presentation and Visualization	
or DS 4300	Large-Scale Information Storage and Retrieval	
or DS 4400	Machine Learning and Data Mining 1	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
MISM 2301	Introduction to Information Systems and Digital Technologies	
or MISM 2510	Fundamentals of Information Analytics	
PHIL 2001	Ethics and Evolutionary Games	
POLS 3310	Public Opinion, Voting, and Elections	
PPUA 5262	Big Data for Cities	

Elective in Social Inquiry, Computation, and Logic

Code	Title	Hours
Complete one course from the following:		4
CS 2800	Logic and Computation	
ECON 4681	Information Economics and Game Theory	
IS 2000	Principles of Information Science	
MATH 3081	Probability and Statistics	
PHIL 1115	Introduction to Logic	
or MATH 1215	Mathematical Thinking	
PHIL 4515	Advanced Logic	
SOCL 4528	Computers and Society	

GPA Requirement

2.000 GPA required in the minor

Digital Methods in the Humanities, Minor

The Minor in Digital Methods in the Humanities introduces fundamental computational and digital methods for research in the humanistic disciplines and for assessing the impact of digital methods on the production of knowledge. Foundational courses provide practice in programming, textual encoding, data mining, and information visualization. Additional coursework highlights the historical and social contexts and the ethical questions associated with digital methods of producing, consuming, and analyzing culture and cultural artifacts. Students completing this minor will be well equipped for advanced study in the digital humanities and for employment in fields across the humanities.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Complete two courses from each group and an additional course from either group.		20
Digital and Computational Methods		
COMM 2105	Social Networks	
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 3340	Technologies of Text	
INSH 1500	Digital Methods for Social Sciences and Humanities	
or CS 2500	Fundamentals of Computer Science 1	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
JRNL 3610	Digital Storytelling and Social Media	
PHIL 2001	Ethics and Evolutionary Games	
Culture, Society, and Value in the Digital Age		
CLTR 3418	Nationalism	
COMM 1255	Communication in a Digital Age	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 3340	Technologies of Text	
MSCR 3420	Digital Media Culture	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 4528	Computers and Society	
WMNS 2505	Digital Feminisms	

GPA Requirement

2.000 GPA required in the minor

Food Systems Sustainability, Health, and Equity, Minor

The minor in food systems sustainability, health, and equity is an interdisciplinary exploration of the contemporary food system, with particular attention to how the system evolved; its diverse societal, health, and environmental impacts; and ideas for making the food system more sustainable, healthy, and equitable for all.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Complete four courses from the list below. Two of the courses must be upper-level (numbered 3000 or higher). Only one course can be from the major.		16-17
Upper-Level Courses		
ECON 3404	International Food Policy	
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 3150	Food Security and Sustainability	
INNO 4506	Integrated Studies in Social Innovation and Entrepreneurship	
PPUA 4701	Food Systems Sustainability, Health, and Equity Practicum	
PPUA 5263	Geographic Information Systems for Urban and Regional Policy	
PPUA 5270	Food Systems and Public Policy	
Additional Courses		
ENVR 1101	Environmental Science	
HSCI 1106	Contemporary Issues in Nutrition	
INNO 2206	Global Social Enterprise	
INSH 1102	Food in Contemporary Context	
PHIL 1185	The Ethics of Food	

GPA Requirement

2.000 GPA required in the minor

Global Asian Studies, Minor

The Minor in Global Asian Studies requires students to gain a broad interdisciplinary understanding of Asia and the global Asian diaspora. The minor requires one core course and four electives. The core course East Asian Studies (ASNS 1150) provides students with an understanding of the interlinkages in the historical, social, and political development of the region. Students can then choose four elective courses related to Asian languages and the histories, societies, politics, economies, and cultures of Asia and the global Asian diaspora.

Minor Requirements

Complete the core course, then four additional electives. Electives not included on the list can be substituted upon consultation with advisor. Please note that no more than two out of the four electives may be language courses.

Code	Title	Hours
Core Course		
ASNS 1150	East Asian Studies	4
or HIST 1150	East Asian Studies	
Elective Courses		
Complete four of the following (they may include up to two courses taken as part of an approved study-abroad program and up to two language courses):		16
Nonlanguage Courses		
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4520	Chinese Society and Culture	
ARCH 2310	History of Chinese Architecture	
ARCH 2320	Modern Chinese Architecture	
ASNS 2245	Introduction to Asian American Studies	
CLTR 1260	Japanese Film	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
ECON 3290	History of the Global Economy	
ENGL 2470	Asian-American Literature	
HIST 1246	World War II in the Pacific	
or ASNS 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
or CLTR 1500	Modern Chinese History and Culture	
HIST 2011	Capitalism and Business: A Global History	
HIST 2308	Law, Justice, and Society in Modern China	
HIST 2351	Modern Japan	
HIST 2360	History of Capitalism in East Asia	
HIST 3330	The Global Cold War	
INTB 2501	Competing to Win in Emerging Markets	
PHIL 1130	Comparative Ethics	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
or ASNS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
or ASNS 3485	China: Governance and Foreign Policy	
POLS 3487	Politics of Developing Nations	
Language Courses		
Language dialogues or language immersion courses in Asian languages may count toward the language requirement. Students who demonstrate advanced proficiency may also substitute advanced language courses, including special topics in Japanese and Chinese, toward the language course requirement.		
CHNS 1101	Elementary Chinese 1	4

CHNS 1102	Elementary Chinese 2	4
CHNS 2101	Intermediate Chinese 1	4
CHNS 2102	Intermediate Chinese 2	4
CHNS 2301	Intermediate Chinese Immersion 1	4
CHNS 2302	Intermediate Chinese Immersion 2	4
CHNS 3101	Advanced Chinese 1	4
CHNS 3102	Advanced Chinese 2	4
CHNS 3800	Special Topics in Chinese	1-4
CHNS 4800	Special Topics in Chinese	1-4
JPNS 1101	Elementary Japanese 1	4
JPNS 1102	Elementary Japanese 2	4
JPNS 2101	Intermediate Japanese 1	4
JPNS 2102	Intermediate Japanese 2	4
JPNS 3101	Advanced Japanese 1	4
JPNS 3102	Advanced Japanese 2	4
JPNS 3800	Special Topics in Japanese	1-4

GPA Requirement

2.000 GPA required in the minor

Global Health, Minor

The area of global health has become a critical field of study across and within diverse disciplines, because of the cross-border and cross-national implications of health-related risks for national security, commerce, transportation, and healthcare delivery itself. In collaboration with the College of Social Sciences and Humanities, the minor in global health is designed to provide undergraduate students an opportunity to explore and discuss the implications with an interdisciplinary lens. The minor is comprised of five courses: one foundation and one core course, three electives, and a global health experience to be approved by the global health minor advisor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Foundation Course

Code	Title	Hours
AFRS 1270	Introduction to Global Health	4
or PHTH 1270	Introduction to Global Health	

Core Course

Code	Title	Hours
Complete one of the following. If additional courses are taken, they may be used as electives.		3-4
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
PHTH 4120	Global Perspectives on Discrimination and Health	
PHTH 5230	Global Health	

Elective Courses

Code	Title	Hours
Complete three courses from the following areas. Only two courses from any one area may count toward the minor electives. No more than two required courses in the student's major may count toward the minor electives. At least one of the minor electives must be at the 3000-level or above.		9-12
Area 1: Community and Public Health		
AFRS 4939	Community Health, Culture, and Development in Kenya (Dialogue of Civilizations only)	
CAEP 2050	Health Systems, Services, and Education in Ghana (Dialogue of Civilizations only)	
ENVR 1110	Global Climate Change	
PHTH 1261	Comparative Healthcare Systems (Dialogue of Civilizations only)	
PHTH 2301	Communication Skills for the Health Professions—Global (Dialogue of Civilizations only)	
PHTH 2350	Community and Public Health	
or PHTH 2351	Community and Public Health - Global	
or NRSG 4604	Public Health Community Nursing	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
PHTH 4540	Health Education and Program Planning	
Area 2: Biology of Health and Disease		
BIOL 1141	Microbes and Society	
BIOL 1143	Biology and Society	
BIOL 2327	Human Parasitology	
EEMB 3466	Disease Ecology	
Area 3: Society and Cultural Health / Area Studies		
AFRS 2900	Swahili, Culture, and Politics in Kenya (Dialogue of Civilizations only)	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ECON 1230	Healthcare and Medical Economics	
HIST 2233	The History of Medicine in North America	
LACS 1220	Latino, Latin American, and Caribbean Studies	

PHIL 1165	Moral and Social Problems in Healthcare
WMNS 3100	Gender, Social Justice, and Transnational Activism
or POLS 3100	Gender, Social Justice, and Transnational Activism
or ANTH 3100	Gender, Social Justice, and Transnational Activism
Area 4: Globalization and Development	
CRIM 1400	Human Trafficking
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3413	Health Economics and Healthcare Policy
ECON 3416	Behavioral Economics
ECON 5292	Gender and Development Economics
HLTH 2100	Interprofessional Ethics for Individual and Population Health
INTL 1101	Globalization and International Affairs
POLS 1160	International Relations

Global Health Experience

Complete a global health experience that has been approved by the global health minor advisor.

Recommended

Competency in another language other than English is recommended.

Completion of the Minor

All coursework must be completed at a minimum grade of B and courses may not be taken Pass/Fail.
Complete a minimum of 16 semester hours.

3.000 GPA required in the minor.

Health, Humanities, and Society, Minor

The health, humanities, and society minor is designed for students who would like to learn how to think capaciously and creatively about health using the rigorous, precise, and flexible skills trained by the social sciences and the humanities. The social sciences teach students to think about the social, economic, and political factors that structure health conditions and outcomes in particular societies, while the humanities train students to navigate the complexities of interpersonal interaction and their ethical implications, to relate the micro to the macro and texts to contexts, to historicize encounters, to communicate accurately and effectively across a variety of media, and to engage in creative analytical thinking about healthcare. The landscape of healthcare is quickly changing, and this training will equip students well not only for the diverse forms of health work that exist today, but for as yet unimaginable varieties of health-related work in the future.

This minor is structured around the particular competencies that the social sciences and humanities train. Those competencies are narrative and historical perspective, critical attention and observation, ethics and judgment, performance and creativity, and social and structural proficiency. Rather than adopting the more traditional approach of connecting particular skills to particular disciplines (say, narrative to literature and observation to art history), this minor builds from discipline-specific health knowledge while training students to think across disciplines. Thus, it will not be unusual for students to find a single course addressing multiple competencies or to take courses in different disciplines that address the same competency from distinct but complementary perspectives.

This minor is housed in the Humanities Center of the College of Social Sciences and Humanities in partnership with the Bouvé College of Health Sciences.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

No more than two courses, in addition to the introductory course, may be taken under the 2000 level.

Code	Title	Hours
Introductory Course		
INSH 1300	Introduction to Health and Humanities	4
Humanities Requirement		
Complete two of the following:		8
ENGL 2770	Writing to Heal	
ENGL 3140	19th-Century Literatures	
ENGL 3700	Narrative Medicine	
ENGL 4710	Capstone Seminar	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
WMNS 1225	Gender, Race, and Medicine	
Social Sciences Requirement		
Complete two of the following:		8
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4580	Special Topics in Anthropology	
ECON 1230	Healthcare and Medical Economics	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 1270	Introduction to Global Health	
PHTH 2300	Communication Skills for the Health Professions	
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 4120	Global Perspectives on Discrimination and Health	
PHTH 5202	Introduction to Epidemiology	
PHTH 5234	Economic Perspectives on Health Policy	
SOCL 1295	Drugs and Society	
SOCL 2303	Gender and Reproductive Justice	
SOCL 3441	Sociology of Health and Illness	
Total Hours		**20**

GPA Requirement

2.000 GPA required in the minor

Human Services, Minor

Overview

The human services minor is designed to prepare students for careers in social change by providing the theoretical and skill-based background necessary for practice and research. Students have an opportunity to develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at individual and structural levels. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning. The minor provides a nice complement to students who are interested in the role of social change through counseling, nonprofits interventions, or social policy as it relates to their major.

The minor in human services may help lead to careers in many diverse areas of social change or to graduate programs in social work, health, counseling, rehabilitation, and law. Human services professions are among the fastest-growing occupations in the nation. Society recognizes the necessity, value, and reward of dedicating time and energy to helping people and communities. Combining a human services minor with any major gives students the opportunity to learn about the individual, community, and political interventions for social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Course

Code	Title	Hours
HUSV 1101	Social Change and Human Services	4

Human Services Electives

Code	Title	Hours
Complete four HUSV courses.		16
HUSV 2300	Counseling in Human Services	
HUSV 2320	Techniques in Individual and Group Counseling	
HUSV 2340	Mindfulness in Mental Health	
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 2370	Restorative Justice: Transforming the System	
HUSV 2401	Food Justice and Community Development	
HUSV 2500	Science of Play	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
HUSV 2970	Research Methods for Human Services	
HUSV 3520	Child Intervention and Treatment	
HUSV 3540	Addiction and Recovery	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	
HUSV 3590	Nonprofit Communications	
HUSV 3900	Social Policy	
HUSV 4994	Human Services Internship	

GPA Requirement

2.000 GPA required in the minor

Jewish Studies, Minor

The Jewish studies minor provides a broad-based introduction to the history, religion, and cultures of the Jewish people while also offering a unique opportunity to bring students' major fields of study to bear on Jewish studies topics. In JWSS 4660 Jewish Studies Module, minors integrate their work in Jewish studies into their major field.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
JWSS 4660	Jewish Studies Module	1
Complete one of the following:		4
JWSS 1285	Jewish Religion and Culture	
or PHIL 1285	Jewish Religion and Culture	
JWSS 1294	History of the Jews in the Modern World	
or HIST 1294	History of the Jews in the Modern World	

Elective Courses

Code	Title	Hours
Complete an additional four courses from the following lists. A maximum of two courses may be taken from the Affiliated Courses list below.		16
Jewish Studies Courses		
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
HBRW 1101	Elementary Hebrew 1	
HBRW 1102	Elementary Hebrew 2	
HBRW 2101	Intermediate Hebrew 1	
INTL 2100	Modern Israel	
JWSS 1285	Jewish Religion and Culture	
or PHIL 1285	Jewish Religion and Culture	
JWSS 1294	History of the Jews in the Modern World	
or HIST 1294	History of the Jews in the Modern World	
JWSS 2282	The Holocaust and Comparative Genocide	
or POLS 2282	The Holocaust and Comparative Genocide	
or HIST 2282	The Holocaust and Comparative Genocide	
JWSS 1990	Elective	
JWSS 2259	Sex, Gender, and Judaism	
or PHIL 2259	Sex, Gender, and Judaism	
or WMNS 2259	Sex, Gender, and Judaism	
JWSS 2285	America and the Holocaust	
or JRNL 2285	America and the Holocaust	
or HIST 2285	America and the Holocaust	
JWSS 2430	Digital Histories of Ethnic Boston	
JWSS 2431	Immigration and Identity in the American Jewish Experience	
or HIST 2431	Immigration and Identity in the American Jewish Experience	
JWSS 2990	Elective	
JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
JWSS 3685	Modern and Contemporary Jewish Literature	
or ENGL 3685	Modern and Contemporary Jewish Literature	
JWSS 3990	Elective	
JWSS 4992	Directed Study	

Affiliated Courses [1]

HIST 1272	Europe in the Middle Ages, 500–1500
HIST 2370	Renaissance to Enlightenment
PHIL 1110	Introduction to Religious Studies
PHIL 1271	Sex in Judaism, Christianity, and Islam
POLS 2370	Religion and Politics

[1] Additional affiliated courses may be approved by the program director by semester.

GPA Requirement

2.000 GPA required in the minor

Latino/a, Latin American and Caribbean Studies, Minor

Overview

Latino/a, Latin American, and Caribbean Studies (LLACS) offers an interdisciplinary minor. It explores the historical, cultural, social, political, and economic foundations of and linkages between U.S. Latino society, Latin America, and the Caribbean. It draws from the heritages of the Americas that are grounded in predominantly indigenous, African, and European cultures.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Proficiency in Spanish or Portuguese to course number 3101 or above is strongly encouraged.

Required Courses

Code	Title	Hours
LACS 1220	Latino, Latin American, and Caribbean Studies	4

Culture and Literature Electives

Code	Title	Hours
Complete three of the following:		12
CLTR 1240	Latin American Film	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 4655	Latin American Literature	

History and Social Sciences Electives

Note: With the approval of the director of Latino/a, Latin American, and Caribbean Studies, up to four study-abroad or Dialogue of Civilization courses may be used toward the minor.

Code	Title	Hours
Complete two of the following:		8
ANTH 4500	Latin American Society and Development	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
SOCL 3270	Race, Ethnicity, and Inequality	

GPA Requirement

2.000 GPA required in the minor

Law and Public Policy, Minor

Overview

The law and public policy (LPP) minor offers students an opportunity to obtain a deep understanding of the U.S. legal system and apply that knowledge to current law and policy debates. In the LPP minor core courses, students have the opportunity to watch a criminal and/or civil trial, debate their classmates, and listen to speakers from both the public and private sector (state and federal judges, public defenders, and government lawyers). While the minor is well suited for students interested in pursuing a career in law and/or policy, it is invaluable for students in any field of practice, as law affects all professions and society at large.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
A grade of B or higher is required in the following two courses:		
LPSC 1101	Introduction to Law	4
LPSC 2301	Introduction to Law, Policy, and Society	4

Law and Public Policy Course

Code	Title	Hours
Complete one of the following:		4
LPSC 3303	Topics in Law and Public Policy	
LPSC 3307	Understanding the Modern Supreme Court	

Elective Courses

Code	Title	Hours
Complete two of the following courses not used to satisfy the requirements above:		8
AFAM 1225	Gender, Race, and Medicine	
ANTH 4580	Special Topics in Anthropology	
COMM 1331	Legal Argumentation, Advocacy, and Citizenship	
COMM 1412	Social Movement Communication	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
COMM 3501	Free Speech: Law and Practice	
CRIM 1110	Criminal Due Process	
CRIM 1120	Criminology	
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2350	Policing a Democratic Society	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
CRIM 4040	Crime Prevention	
CRIM 4120	Courts and Sentencing	
CRIM 4660	Communities and Crime	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
ECON 1230	Healthcare and Medical Economics	
ECON 1240	Economics of Crime	

ECON 1260	Contested Issues in the U.S. Economy
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ECON 3410	Labor Economics
ECON 3412	Women's Labor and the Economy
ECON 3414	Economics of Human Capital
ECON 3420	Urban Economic Issues
ECON 3423	Environmental Economics
ECON 3424	Law and Economics
ENGL 3325	Rhetoric of Law
ENGW 3311	Advanced Writing for Prelaw
ENVR 5210	Environmental Planning
FINA 4312	Issues in Corporate Governance (for business students only)
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 2011	Capitalism and Business: A Global History
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 2299	Uses and Abuses of History: Historical Reasoning in U.S. Global and Domestic Policy
HIST 2303	Gender and Reproductive Justice
HIST 2308	Law, Justice, and Society in Modern China
HIST 3335	History of Modern Terrorism
HUSV 2800	Sexual Orientation and Gender Expression
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change
HUSV 3900	Social Policy
INTL 3400	International Conflict and Negotiation
JRNL 3550	The First Amendment and the Media
LPSC 3303	Topics in Law and Public Policy
LPSC 3307	Understanding the Modern Supreme Court
LPSC 5201	Law and the City
MUSI 2235	Copyright in the Creative Industries
PHIL 1160	Introduction to Economic Justice
PHIL 1165	Moral and Social Problems in Healthcare
PHIL 1170	Business, Ethics, and Human Rights
PHIL 1180	Environmental Ethics
PHIL 1185	The Ethics of Food
PHIL 2301	Philosophical Problems of Law and Justice
PHIL 2303	Social and Political Philosophy
PHIL 3500	Sexuality, Gender, and the Law
PHIL 4901	Topics in Philosophy Seminar
POLS 2340	Business and Government
POLS 2345	Urban Policies and Politics
POLS 2356	Democratic Erosion
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2358	Current Issues in Cities and Suburbs
POLS 2385	U.S. Health and Welfare Policy
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3100	Gender, Social Justice, and Transnational Activism
POLS 3302	Judicial Process and Behavior
POLS 3307	Public Policy and Administration
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
POLS 3324	Law and Society
POLS 3405	International Political Economy

POLS 3406	International Law
POLS 3409	Global Governance
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties
PPUA 5232	Immigration and Urban America
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change
SOCL 1245	Sociology of Poverty
SOCL 1246	Environment and Society
SOCL 1260	Sociology of Gender
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2205	Law and Social Justice
SOCL 2303	Gender and Reproductive Justice
SOCL 3270	Race, Ethnicity, and Inequality
SOCL 4518	Law and Society in a Digital World
WMNS 2303	Gender and Reproductive Justice
WMNS 3100	Gender, Social Justice, and Transnational Activism
WMNS 3500	Sexuality, Gender, and the Law

GPA Requirement

3.000 GPA required in the minor

Urban Studies, Minor

Overview

The urban studies minor offers students interested in cities an opportunity to take advantage of the resources of an urban university situated in a major metropolitan area. The minor seeks to equip students with an understanding of the dynamics of urban growth and development and includes the study of urban social and political institutions. Many courses cover climate change, sustainability, housing, and the urban economy. The minor complements many social science majors as well as architecture, business, and engineering. The minor is designed to provide a solid background for graduate study and professional careers in urban planning and policy, social work, and related fields.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
SOCL 2358	Current Issues in Cities and Suburbs	

Elective Courses

Code	Title	Hours
Complete two of the following:		8
ANTH 2305	Global Markets and Local Culture	
ARCH 2330	Architecture and the City in the Nineteenth Century	
ARCH 2340	Modern Architecture	
ARCH 4850	Urban and Architectural History Abroad	
ECON 1240	Economics of Crime	
ECON 3420	Urban Economic Issues	
POLS 2345	Urban Policies and Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 3307	Public Policy and Administration	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
SOCL 2358	Current Issues in Cities and Suburbs	
SOCL 4522	Environmental Justice	

GPA Requirement

2.000 GPA required in the minor

Women's, Gender, and Sexuality Studies, Minor

Overview

Northeastern offers an interdisciplinary minor for undergraduate students who wish to explore gender and sexuality in relation to other axes of power and identity, including race, class, ethnicity, and dis/ability. Women's, gender, and sexuality studies covers a wide variety of theoretical and empirical scholarship both within traditional disciplines and in cutting-edge, interdisciplinary frames. WGSS students have an opportunity to:

- Learn about approaches to gender and sexuality in the social sciences and humanities and through frameworks that bridge traditional fields
- Explore gender and sexuality in the global community by dipping into disciplines ranging throughout the social sciences, arts, humanities, and physical sciences
- Study politics and pop culture, sociology and psychology, writing and religion, and much more
- Open up new ways of thinking, bringing gender and sexuality studies to bear on important social and intellectual questions

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified. Please note that special topics courses in some areas may also count as electives toward a minor in women's, gender, and sexuality studies in certain semesters, pending approval of the syllabus by the WGSS program director. In the case of cross-listed courses, students may enroll under any of the departmental designations, regardless of major or minor affiliation.

Required Course

Code	Title	Hours
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	4

Elective Courses

Code	Title	Hours
Complete three of the following:		12
At least one elective must be taken at the 2000 level or above and electives must be drawn from at least two different departments:		
WMNS 1101	Sex, Gender, and Popular Culture	
or SOCL 1102	Sex, Gender, and Popular Culture	
WMNS 1105	Introduction to Trans Studies	
or HIST 1105	Introduction to Trans Studies	
WMNS 1225	Gender, Race, and Medicine	
or AFAM 1225	Gender, Race, and Medicine	
or HIST 1225	Gender, Race, and Medicine	
WMNS 1990	Elective	
WMNS 2259	Sex, Gender, and Judaism	
or JWSS 2259	Sex, Gender, and Judaism	
or PHIL 2259	Sex, Gender, and Judaism	
WMNS 2303	Gender and Reproductive Justice	
or HIST 2303	Gender and Reproductive Justice	
or SOCL 2303	Gender and Reproductive Justice	
WMNS 2325	Black Feminist Studies	
or AFRS 2325	Black Feminist Studies	
WMNS 2373	Gender and Sexuality in World History	
or HIST 2373	Gender and Sexuality in World History	
WMNS 2455	American Women Writers	
or ENGL 2455	American Women Writers	
WMNS 2505	Digital Feminisms	
or MSCR 2505	Digital Feminisms	
WMNS 2990	Elective	
WMNS 2991	Research Practicum	
WMNS 3100	Gender, Social Justice, and Transnational Activism	
or ANTH 3100	Gender, Social Justice, and Transnational Activism	
or POLS 3100	Gender, Social Justice, and Transnational Activism	
WMNS 3305	Beyond the Binary: Race, Sex, and Science	

or AFRS 3305	Beyond the Binary: Race, Sex, and Science
or HIST 3305	Beyond the Binary: Race, Sex, and Science
WMNS 3500	Sexuality, Gender, and the Law
or PHIL 3500	Sexuality, Gender, and the Law
or POLS 3500	Sexuality, Gender, and the Law
WMNS 3900	Gender and Black World Literatures
or AFRS 3900	Gender and Black World Literatures
or ENGL 3900	Gender and Black World Literatures
WMNS 3990	Elective
WMNS 4990	Elective
WMNS 4992	Directed Study
WMNS 4994	Internship
WMNS 5240	Feminist Resistance
or HIST 5240	Feminist Resistance
or SOCL 5240	Feminist Resistance
ANTH 2302	Gender and Sexuality: A Cross-Cultural Perspective
or WMNS 2302	Gender and Sexuality: A Cross-Cultural Perspective
COMM 2304	Communication and Gender
or WMNS 2304	Communication and Gender
COMM 3530	Communication and Sexualities
CRIM 3110	Gender, Crime, and Justice
or WMNS 3110	Gender, Crime, and Justice
ECON 3412	Women's Labor and the Economy
ECON 5292	Gender and Development Economics
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity
or WMNS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity
GAME 2755	Games and Social Justice
HUSV 2800	Sexual Orientation and Gender Expression
or WMNS 2800	Sexual Orientation and Gender Expression
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
JRNL 5250	Gender in the Newsroom
LING 3456	Language and Gender
MSCR 3392	Gender and Film
or WMNS 3392	Gender and Film
MSCR 3437	Media and Identity
MSCR 3700	Queer Media
MUSC 2340	Divas, DJs, and Double Standards
NRSG 3302	Nursing with Women and Families
NRSG 3303	Clinical for NRSG 3302 (When taken with NRSG 3302)
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion
or WMNS 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion
PHIL 1271	Sex in Judaism, Christianity, and Islam
or WMNS 1271	Sex in Judaism, Christianity, and Islam
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
SOCL 1255	Sociology of the Family
or WMNS 1255	Sociology of the Family
SOCL 1260	Sociology of Gender
or WMNS 1260	Sociology of Gender
SOCL 4520	Race, Class, and Gender
or WMNS 4520	Race, Class, and Gender
THTR 2500	Breaking the Glass Ceiling: Women in Theatre

or WMNS 2501	Breaking the Glass Ceiling: Women in Theatre
THTR 3200	Queer Theatre and Performance
or WMNS 3200	Queer Theatre and Performance

GPA Requirement

2.000 GPA required in the minor

School of Criminology and Criminal Justice

Website (https://cssh.northeastern.edu/sccj/)

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The School of Criminology and Criminal Justice prepares students for meaningful careers in criminology, justice policy, the law, criminal justice, and related fields, including professional research careers. We do this by applying multidisciplinary social science tools that predict and explain crime, as well as deepening the understanding of policies that improve our systems of justice. We encourage each student to plan a program of study consistent with their interests and future aims. Our approach is experiential and our methods for teaching are rooted in knowledge creation as a top-tier research program. Our goal is to create ethical problem solvers who are prepared to tackle important crime and justice issues facing society. Our educational goals for students include a commitment to identify and address the role of systemic racism and intersecting dimensions of oppression in the development and application of justice system policies and practices, crime and justice theory, and research.

Our student interests traverse a diverse range of fields and careers. Our program is flexibly designed to allow students to take different paths to pursue different goals and interests:

- ***Understand, investigate, and stop crime.*** Develop cutting-edge skills in fields such as psychology of crime, cybercrime and cybersecurity, white-collar crime investigation, corporate security, and national security.
- ***Build a foundation for law school.*** Pursue a career in criminal law as a prosecutor, defense attorney, a judge, or explore another area of the law or politics.
- ***Reform justice policies and practices.*** Effect change and address systemic problems in our laws and justice systems. Explore the broader goal of helping to fix or reform the criminal justice system by working with politicians, policymakers and researchers, advocacy groups, and other political organizations.
- ***Help victims of crime or those harmed by the justice system.*** Become involved with victim advocacy groups and victim assistance programs. Help those harmed by their contact with the criminal justice system by working with vulnerable populations. Help those who are incarcerated and those transitioning from prison.
- ***Improve national security, the administration of justice, and protect human rights on a global scale.*** Prepare for careers in Interpol, the United Nations, the Department of Justice, and similar organizations.

Our curriculum is structured into four levels of learning, across multiple pathways. The first, or foundations level, is where students acquire a base understanding of three substantive pillars of our field: crime, the law, and the justice system. This level also introduces students to topical issues related to crime and justice and guidance to develop digital skills.

In our second level, institutions and systems, students develop a solid understanding of the systems and institutions tasked with providing justice. We do so by promoting experience and interaction with local criminal justice institutions.

Our third level, crime problems and justice system challenges, engages students with specific crime problems such as violence, drug addiction, organized crime, or terrorism. This level cultivates knowledge that deals with problems in the criminal justice system, focusing on disparities and biases, including those related to gender and race.

Finally, in solutions and reform, our fourth level, students apply all the skills and knowledge obtained through the three previous levels. Students will analyze how to navigate and solve problems encountered through capstone projects, research, theses, study cases, and other work. Our curriculum enables students to explore and analyze crime and justice issues through courses on computational methods, statistical data, analytical techniques, and experiential practice. The skills students learn will continue to serve them throughout their professional life.

Our faculty are renowned scholars in their fields and are dedicated to exploring and analyzing pressing issues facing our society. They are actively engaged in research, and undergraduates have opportunities to work closely with faculty to collaborate on projects related to crime and justice issues: crime prevention, human trafficking, police accountability, hate crimes, mass incarceration, and much more.

The School of Criminology and Criminal Justice was established in 1967 as one of the first schools devoted to matters of crime and justice. It remains one of the top-ranked research programs in criminology, something that is unique to universities with highly ranked undergraduate programs. We invite you to further explore our course offerings and combined-major degrees with psychology, cybersecurity, political science, and others.

Academic Progression Standards

Same as university-wide standards described under “Academic Status (p. 88).”

Programs

Bachelor of Science (BS)

- Criminology and Criminal Justice (p. 1831)
- Computer Science and Criminal Justice (p. 775)
- Criminal Justice and Journalism (p. 444)
- Criminal Justice and Philosophy (p. 1843)
- Criminal Justice and Political Science (p. 1847)
- Criminal Justice and Psychology (p. 1637)
- Criminal Justice and Sociology (p. 1857)
- Cybersecurity and Criminal Justice (p. 862)
- Data Science and Criminal Justice (p. 891)
- Human Services and Criminal Justice (p. 1760)

Bachelor of Arts (BA)

- English and Criminal Justice (p. 1816)
- History and Criminal Justice (p. 1821)
- International Affairs and Criminal Justice (p. 1824)

Minor

- Criminal Justice (p. 1872)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

English and Criminal Justice, BA

The Department of English and School of Criminology and Criminal Justice offer a combined major in English and criminal justice. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. English courses prepare students to analyze and interpret various representations of crime, criminality, the law, justice, and ethics in both literary and nonliterary texts as they study the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures; analyze writing practices and related media; and practice a variety of approaches to the study of language, rhetoric, writing, and literature.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	

ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4

ENGL 2700	Creative Writing
ENGL 2710	Style and Editing
ENGL 2730	Digital Writing
ENGL 2740	Writing and Community Engagement
ENGL 2760	Writing in Global Contexts
ENGL 2770	Writing to Heal
ENGL 2850	Writing for Social Media: Theory and Practice
ENGL 3375	Writing Boston
ENGL 3376	Creative Nonfiction
ENGL 3377	Poetry Workshop
ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace

English Electives

Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses successful students will develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
CRIM 3540	Addiction and Recovery	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4

Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000, or 5000 level.		8

Other Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
CRIM 1000	Criminal Justice at Northeastern	1
ENGL 1000	English at Northeastern	1
Integrative Course		
Complete one of the following:		4
ENGL 3325	Rhetoric of Law	
ENGL 3426	British and American Literature and Politics	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
or CRIM 4949	Senior Capstone Seminar	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours
CRIM 1000 or ENGL 1000	1	ENGL 1160 or 1410	4
ENGW 1111	4	CRIM 1110	4
CRIM 1100	4	CRIM 1120	4
ENGL 1400	4	Elective	4
Current crime and justice issues CRIM course	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-19th-century ENGL	4	19th-, 20th-, or 21st-century ENGL	4	Elective	4	Elective	4
Systems and institutions CRIM course	4	Crime problems elective	4				
ENGL theory/methods	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**4**		**4**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	Co-op		Co-op		Elective	4
CRIM 3700	4					Elective	4

ENGL comparative literature		4					
ENGL writing		4					
		16		**0**		**0**	**8**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Systemic issues CRIM elective	4	Solutions and reform course	4
ENGL elective	4	ENGL diversity	4
ENGL elective	4	Capstone	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

History and Criminal Justice, BA

This combined major educates students in history and criminal justice, emphasizing the complementarity between these two disciplines. Students successfully completing this program will be able to critically evaluate and draw connections between past and present practices in law, punishment, incarceration, justice, and the social institutions and cultural contexts in which these systems operate.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level Elective		
Complete one other course from HIST 1001 to HIST 1999 (excluding HIST 1100, HIST 1200, and HIST 1201).		4
Intermediate/Advanced Level Elective		
Complete two HIST courses numbered 2000 or above (excluding HIST 2301 and HIST 2302).		8
Advanced Level Elective		
Complete one HIST course numbered 3000 or above.		4
History Elective		
Complete two courses in any field at any level.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2311	Colonialism/Imperialism	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses successful students will develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000 or 5000-level.		8

Other Requirements

Code	Title	Hours
A minimum of one history course must be taken between the methods and capstone requirements.		
Methods		
Complete one of the following:		4
CRIM 3600	Criminal Justice Research Methods	
HIST 2301	The History Seminar	
Capstone		
Complete one of the following:		4

CRIM 4949	Senior Capstone Seminar	
HIST 4701	Capstone Seminar	
Integrative Course		
HIST 1100	Law and History	4

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years with One Co-op

Year 1

Fall	Hours	Spring	Hours
CRIM 1100	4	CRIM 1110	4
ENGW 1111	4	CRIM 1120	4
HIST 1200	1	HIST 1100	4
HIST 1201	4	Introductory-level history course	4
Current crime and justice issues CRIM course	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours
Systems and institutions CRIM course	4	Methods course	4	Elective	4
Intermediate history elective	4	Intermediate/advanced history elective	4	Elective	4
Pre-1800 history elective	4	Elective	4		
Elective	4	Elective	4		
	16		**16**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op		Co-op		Elective	4
EESH 2000	1						
Crime problems elective	4						
Intermediate/advanced history elective	4						
Elective	4						
	17		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CRIM 3000	1	Capstone	4
Advanced history course	4	Solutions and reform CRIM course	4
Intermediate/advanced history elective	4	Elective	4
Systemic issues CRIM elective	4	Elective	4
Elective	4	Elective	1
	17		**17**

Total Hours: 128

International Affairs and Criminal Justice, BA

This combined major fosters an awareness of crime and justice issues within their international, transnational, and global contexts since the early 20th century. The scope and sequence of international affairs courses provide students with a foundation in topics such as interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship). Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Upon graduation, students are equipped with the skills and knowledge needed to work across national cultures in fields that relate to understanding and addressing criminal behavior.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Code	Title	Hours
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		
International Affairs Foreign Language Requirement		
Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). Note: Completing this requirement satisfies the language requirement for the BA degree.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	

INTL 3520	Global Political Economy
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics

Code	Title	Hours
Complete one of the following. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements:		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	

POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	

COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses:		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	

POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	

Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000 or 5000-level.		8

Introduction and Methods Options

Code	Title	Hours
Introduction		
Complete one of the following:		1
CRIM 1000	Criminal Justice at Northeastern	
INTL 1000	International Affairs at Northeastern	
Research Methods		
Complete one of the following:		4
CRIM 3600	Criminal Justice Research Methods	
INTL 2718	Research Methods in International Affairs	

Supporting Courses

Code	Title	Hours
Computer or Data Science		
Complete one of the following:		4
CS 1100	Computer Science and Its Applications	
DS 2000	Programming with Data	
Co-op Integration Requirements		
Complete before the first co-op:		1
EESH 2000	Professional Development for Co-op	
Complete after the first co-op:		1
CRIM 3000	Co-op Integration Seminar 2	
Complete after the second co-op:		1
CRIM 4000	Co-op Integration Seminar 3	

Integrative Requirement

Code	Title	Hours
Integrative Course and Capstone		
CRIM 3030	Global Criminology	4
INTL 4700	Senior Capstone Seminar in International Affairs	4
or CRIM 4949	Senior Capstone Seminar	

Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	ANTH 1101, HIST 2211, or HIST 2311	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
ENGW 1111	4	ECON 1115 or 1116	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000 or CRIM 1000	1	CRIM thematic elective	4				
INTL 1101	4	Foreign language course	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		CRIM elective	4
CRIM 1120	4					INTL elective	4
EESH 2000	1						
POLS 1160	4						
Foreign language course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	Co-op		Co-op		INTL elective (Dialogue of Civilizations possible)	4
CRIM 1700	4					Elective (Dialogue of Civilizations possible)	4
CRIM 3000	1						
INTL 2718 or CRIM 3600	4						
INTL 3400	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CRIM 3030	4	INTL 4700 or CRIM 4949	4
CRIM 3700	4	CRIM elective	4
CRIM 4000	1	CRIM elective	4
CRIM elective	4	INTL elective	4
POLS 1155	4		
	17		**16**

Total Hours: 132

Criminology and Criminal Justice, BS

The Bachelor of Science in Criminology and Criminal Justice degree is designed to prepare students for professional and research careers in criminal justice, criminology, and related fields by applying multidisciplinary and comparative social science to understand, predict, and explain crime and contribute to the development of public policy. Using an experiential learning approach, the criminology and criminal justice major seeks to develop its students intellectually and ethically, while providing them with a keen appreciation for the complexities of crime and public and private efforts to make communities safer and ensure justice.

Program Requirements

Fundamentals

Code	Title	Hours
Introduction to College		
CRIM 1000	Criminal Justice at Northeastern	1
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses successful students will develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4 or 5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science Practicum section)	

Criminal Justice Institutions and Systems

Code	Title	Hours
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete two of the following:		8
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Preparing for Co-op		
The following course is designed to prepare students to apply for and embark on their first co-op. Students who do not take a co-op may replace EESH 2000, CRIM 3000, and CRIM 4000 with an additional CRIM elective.		
EESH 2000	Professional Development for Co-op	1

Crime Problems and Justice System Challenges

Code	Title	Hours
Creating Knowledge About Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Crime Problems		
The following courses offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3020	Victims of Crime	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
AFAM 2355	Race, Identity, Social Change, and Empowerment	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Returning from Co-op		
Allows students the opportunity to reflect on their co-op experience and its connection to their ongoing coursework and future plans:		
CRIM 3000	Co-op Integration Seminar 2 (required after first co-op)	1

Solutions and Reform

Code	Title	Hours
Solutions and Reform		
How do we reinvent criminal justice institutions and their practice? The capstone experience is project based and solution oriented, drawing on knowledge gained in the classroom and through co-op and other experiences.		
CRIM 4949	Senior Capstone Seminar	4
Student-Generated Knowledge		
Opportunities for student research (optional):		
CRIM 4991	Research	
CRIM 4970	Junior/Senior Honors Project 1 (may serve as a substitute for the "Solutions and Reform" requirement)	
CRIM 4971	Junior/Senior Honors Project 2	
Returning from Co-op		
Allows students the opportunity to reflect on their co-op experience and its connection to their ongoing coursework and future plans:		
CRIM 4000	Co-op Integration Seminar 3	1
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete four additional CRIM electives. Three must be from the 3000, 4000, or 5000-level.		16

Criminal Justice Sequence Requirements

Complete three courses from the same department, two of which must be numbered 2000 or above, or complete a minor.

Criminal Justice Credit Requirement

Complete 63 credit hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1000	1	CRIM 1110	4	Elective	4	Vacation	
CRIM 1100	4	CRIM 1120	4				
Current crime and justice issues course	4	Digital skills course and lab	5				
ENGW 1111	4	Elective	4				
Elective	4						
	17		**17**		**4**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Systems and institutions course	4	Systems and institutions course	4	Elective	4	Vacation	0
CRIM elective	4	CRIM 3600	4				
Sequence elective	4	CRIM elective	4				
Elective	4	Elective	4				
	16		**16**		**4**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op	0	Co-op	0	Elective	4
Crime problems elective	4						
Systemic issues elective	4						
Elective	4						
EESH 2000	1						
	17		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CRIM elective	4	Solutions and reform course	4
Sequence elective	4	CRIM elective	4
Elective	4	Sequence elective	4
Elective	4	Elective	4
CRIM 3000	1		
	17		**16**

Total Hours: 128

Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1000	1	CRIM 1110	4	Sequence elective	4	Elective	4
CRIM 1100	4	CRIM 1120	4	Elective	4		
Current crime and justice issues course	4	Digital skills course and lab	4				
ENGW 1111	4	Elective	4				
Elective	4						
	17		**16**		**8**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Systems and institutions course	4	Systems and institutions course	4	Elective	4	Co-op	
CRIM elective	4	CRIM 3600	4	Elective	4		
Sequence elective	4	CRIM elective	4				
Elective	4	Elective	4				
		EESH 2000	1				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3700	4	CRIM elective	4	Co-op	
		Crime problems elective	4	Elective	4		
		Systemic issues elective	4				
		Elective	4				
		CRIM 4000	1				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Solutions and reform course	4
		CRIM elective	4
		Sequence elective	4
		Elective	4
		CRIM 4000	1
	0		**17**

Total Hours: 128

Computer Science and Criminal Justice, BS

For students interested in criminal justice in an increasingly digital world, the computer science and criminal justice combined degree offers a strong programming foundation coupled with academic and experiential knowledge of the criminal justice system. Successful students will learn the principles, practices, and responsibilities of criminal justice professionals alongside the computer science skills necessary for practical applications in the field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or CRIM 1000	Criminal Justice at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 16 credits of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		16
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Criminal Justice Courses

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4

CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? These courses cover how to harness data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Criminal Justice Capstone		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete one additional criminal justice elective from the 3000, 4000, or 5000 level.		4

Integrative Course Requirement

Code	Title	Hours
Complete one of the following:		4
CRIM 3060	Political Crime and Terrorism	
CRIM 4040	Crime Prevention	

Supporting Course

Code	Title	Hours
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	

HIST 2220	History of Technology
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 credits of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study
Sample Plan of Study:
Four Years, 2 Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3500 and CS 3501	5	Elective	4
CS 1200	1	CRIM 1120	4	Elective	4		
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4						
	19		**17**		**9**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	Co-op		Co-op		Elective	4
CS 1210 or EESH 2000	1					Elective	4
CS 3000	4						
CS 3200	4						
Current Crime and Justice Issues	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op		Co-op		Elective	4
Crime Problems and Criminal Justice Institutions	4	ENGW 3302, 3308, or 3315	4			Elective	4
Khoury elective 1	4						
Khoury elective 2	4						
	16		**4**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CJ Systemic Issues	4	CRIM 4949	4
CJ Elective	4	CJ integrative course	4
Computing and social issues	4	Khoury elective 4	4
Khoury elective 3	4	Elective	4
	16		**16**

Total Hours: 134

Four Years, 2 Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3000	4	Elective	4
CS 1200	1	CRIM 1120	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CRIM 3700	4	Elective	4	Co-op	
CS 3500 and CS 3501	5	CS 1210	1	Elective	4		
Current Crime and Justice Issues	4	CS 3200	4				
Elective	4	Crime Problems and Criminal Justice Institutions	4				
		Khoury Elective 1	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Computing and social issues	4	ENGW 3302, 3308, or 3315	4	Co-op	
		CJ Elective	4	Elective	4		
		CJ Systemic Issues	4				
		Khoury Elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CRIM 4949	4
		CJ integrative course	4
		Khoury Elective 3	4
		Khoury Elective 4	4
	0		**16**

Total Hours: 134

Criminal Justice and Journalism, BS

The School of Criminology and Criminal Justice and School of Journalism offer a combined major in criminal justice and journalism. Criminology and criminal justice courses provide a foundation for understanding crime and our criminal justice system. Journalism courses provide students with the skills and experience needed to succeed as a journalist. Together, the combined major is designed to prepare students to report important stories about crime and justice.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Creating Knowledge about Crime and Justice		

How do we know what we know about crime and justice—and how do we develop new knowledge? These courses study harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Solutions and Reform		
How do we reinvent criminal justice institutions and their practice? The capstone experience is project-based and solution-oriented, drawing on knowledge gained in the classroom and through co-op and other experiences.		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete one additional criminal justice elective from the 3000, 4000, or 5000 level.		4

Journalism Requirements

Code	Title	Hours
Introductory Journalism Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundation Courses		
A grade of C or better is required.		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Ethics		
JRNL 4650	Ethics and Issues in Journalism	4

Journalism Electives

Code	Title	Hours
Complete three additional journalism courses.		12

Supporting Courses

Code	Title	Hours
Introduction		
CRIM 1000	Criminal Justice at Northeastern	1
or JRNL 1000	Journalism at Northeastern	
Computer or Data Science		
Complete one of the following:		4
CS 1100	Computer Science and Its Applications	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
JRNL 3700	Data Storytelling	
Co-op Integration Requirements		
Complete before the first co-op:		
EESH 2000	Professional Development for Co-op	
or EEAM 2000	Professional Development for Co-op	
Complete after a criminal justice co-op:		
CRIM 3000	Co-op Integration Seminar 2	

Integrative Requirements

Code	Title	Hours
JRNL 3550	The First Amendment and the Media	4
CRIM 1700	Crime, Media, and Politics	4

Program Requirement

129 total semester hours required

Plan of Study
Four Years, Two Co-ops
Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1000 or JRNL 1000	1	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
CRIM 1100	4	Criminology thematic elective	4	Elective	4	Elective	4
ENGW 1111	4	Computer or data requirement	4				
JRNL 1150	4	Elective	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		Criminology survey elective	4
CRIM 1120	4					Elective	4
EESH 2000 or EEAM 2000	1						
JRNL 2201	4						
Journalism elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1700	4	Co-op		Co-op		Elective	4
CRIM 3000	1					Elective	4
CRIM 3600	4						
JRNL 2301	4						
Journalism elective 2	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CRIM 3700	4	CRIM 4949	4
JRNL 3550	4	JRNL 4650	4
JRNL 3610	4	Criminology elective	4
Criminology systemwide elective	4	Journalism elective 3	4
	16		**16**

Total Hours: 132

Criminal Justice and Philosophy, BS

The School of Criminology and Criminal Justice and the Department of Philosophy and Religion offer a combined major in criminal justice and philosophy. This combined major educates students in criminal justice and philosophy and in the interface between the two disciplines. The scope and sequence of philosophy courses provide students with a foundation in topics such as social and political philosophy, philosophy of law, and moral philosophy, while also offering students an opportunity to develop robust analytical and evaluative skills. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students completing this program should have depth of knowledge with respect to analyzing and addressing criminal behavior, as well as with respect to the philosophical and ethical aspects of topics such as law, punishment, justice, and social institutions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses below ask how justice works and for whom and introduce students to the systems and institutions tasked with providing justice. Each one includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses below offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	

CRIM 3120	Race, Crime, and Justice	
Creating Knowledge About Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? These courses study how to harness data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Co-op Integration Seminars		
Co-op students should complete the seminars below. Non—co-op students should complete a 4-semester-hour CRIM elective.		
Complete two of the following. EESH 2000 and CRIM 3000 are required for the first co-op. CRIM 4000 is required if a second co-op is taken.		2-4
EESH 2000	Professional Development for Co-op	
CRIM 3000	Co-op Integration Seminar 2	
CRIM 4000	Co-op Integration Seminar 3	
Solutions and Reform		
How do we reinvent criminal justice institutions and their practice? The capstone experience is project based and solution oriented, drawing on knowledge gained in the classroom and through co-op and other experiences.		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete one additional CRIM elective from the 3000, 4000, or 5000 level.		4

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement and at least one at the 4000 or 5000 level.		12
Philosophy 4000/5000 Elective		
Complete one of the following not used to satisfy other requirements:		4
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
PHIL 4903	Seminar in Religion	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Critical Philosophy Elective		
Complete one of the following not used to fulfill other requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	

PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete one additional PHIL course not used to fulfill other requirements.		4

Integrative Requirement

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
Philosophy Integrative Course		
PHIL 2301	Philosophical Problems of Law and Justice	4
Criminal Justice Integrative Course		
CRIM 1400	Human Trafficking	4

Criminal Justice and Philosophy Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	Elective	4	Elective	4
ENGW 1111	4	CRIM 1120	4	Elective	4	Elective	4
PHIL 1000	1	PHIL 2303	4				
PHIL 1115	4	PHIL 2325 or POLS 2325	4				
CRIM thematic elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CRIM thematic elective	4	Elective	4	Co-op	
EESH 2000	1	CRIM elective	4	Elective	4		
PHIL 2330	4	PHIL advanced elective	4				
CRIM survey elective	4	Elective	4				
Critical philosophy elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3000	1	PHIL advanced elective	4	Co-op	
		CRIM 3700	4	PHIL elective	4		
		CRIM systemwide elective	4				
		PHIL 4000/5000 elective	4				
		PHIL 4000/5000 elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CRIM 1400	4
		CRIM 4000	1
		CRIM 4949	4
		PHIL 2301	4

	PHIL capstone	4
	0	**17**

Total Hours: 132

Criminal Justice and Political Science, BS

This combined major educates students in criminal justice and political science and in the interface between the two disciplines. The scope and sequence of political science courses provide students with a foundation in topics such as American government, comparative politics, international relations, and security and resilience. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students completing this program should be able to understand the relationships between the fields as they relate to understanding and addressing criminal behavior.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		

Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4 or 5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science Practicum section)	

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

Research Methods and Electives

Complete Option A, Option B, or Option C, below. *Note:* These options enable the student to take research methods courses (including statistics/quantitative techniques) as either CRIM courses or as POLS courses.

OPTION A

Code	Title	Hours
Research Methods		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Criminal Justice Electives		
Complete two additional courses in the following range:		8
CRIM 3001 to CRIM 5999		
Political Science Electives		
Complete five courses in the following range:		20
POLS 2000 to POLS 5999		

OPTION B

Code	Title	Hours
Research Methods		
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Criminal Justice Electives		
Complete three additional courses in the following range:		12
CRIM 3001 to CRIM 5999		
Political Science Electives		
Complete four courses in the following range:		20
POLS 2000 to POLS 5999		

OPTION C

Code	Title	Hours
Research Methods		
Complete one of the following sequences:		8
CRIM 3600 and POLS 2400	Criminal Justice Research Methods and Quantitative Techniques	
CRIM 3700 and POLS 2399	Analyzing and Using Data on Crime and Justice and Research Methods in Political Science	
Criminal Justice Electives		
Complete two additional courses in the following range:		8
CRIM 3001 to CRIM 5999		
Political Science Electives		
Complete four courses in the following range:		20
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 1850).

- American Political Institutions (p. 1850)
- Campaigns and Elections (p. 1850)
- Comparative Politics (p. 1850)
- Identity, Culture, and Politics (p. 1850)
- International Relations and Diplomacy (p. 1851)
- Law and Legal Studies (p. 1851)
- Public Policy (p. 1851)
- Security Studies (p. 1851)

Integrative Requirement

Code	Title	Hours
Senior Capstone Requirement		
CRIM 4949	Senior Capstone Seminar	4
or POLS 4701	Political Science Senior Capstone	
Due Process		
CRIM 1110	Criminal Due Process	4
Integrative Elective Courses		
Complete two of the following:		8
CRIM 1700	Crime, Media, and Politics	
CRIM 2310	Courts: The Third Branch of Government	
CRIM 4120	Courts and Sentencing	
POLS 3302	Judicial Process and Behavior	
POLS 3324	Law and Society	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Political Science Concentrations (Optional)

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	

POLS 2370	Religion and Politics
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
POLS 3324	Law and Society

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	

POLS 3487	Politics of Developing Nations
POLS 5408	International Security

Plan of Study

Sample Plan of Study: Four Years, Two Co-Ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	POLS 1155	4	Elective	4	CRIM Elective	4
CS 1100	4	CRIM Elective	4	Elective	4	POLS Elective	4
CS 1101	1	POLS Elective	4				
POLS 1150	4	Elective	4				
POLS 1160	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		CRIM Elective	4
CRIM 1120	4					POLS Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op		Co-op		Elective	4
POLS 2400	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CRIM Advanced Elective	4	POLS 4701	4
POLS Advanced Elective	4	Integrative Course 2	4
Integrative Course 1	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Criminal Justice and Psychology, BS

This combined major educates students in criminal justice and psychology and the interface between the two disciplines. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including the biological and psychosocial bases of behavior, learning, personality, and cognition. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students completing this program should be able to understand the relationships between the fields, as they relate to understanding and addressing criminal behavior.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
CRIM 3600	Criminal Justice Research Methods	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4

CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science Practicum section)	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000 or 5000-level.		8

Psychology Requirements

Code	Title	Hours
Introductory Course		
PSYC 1101	Foundations of Psychology	4
Mathematics		
Choose one of the following:		4
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
Statistics		
Complete the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
PSYC 2320	Statistics in Psychological Research	
Personality/Social Bases of Behavior		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior		
Complete two of the following:		8
PSYC 3450	Learning and Motivation	
or PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
Research Experience		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
Psychology Seminar		
Complete one of the following:		4

PSYC 4656	Seminar in Biological Psychology
PSYC 4658	Seminar in Psycholinguistics
PSYC 4660	Seminar in Cognition
PSYC 4662	Seminar in Personality
PSYC 4664	Seminar in Social Psychology
PSYC 4666	Seminar in Clinical Psychology
PSYC 4668	Seminar in Sensation and Perception
PSYC 4674	Seminar in Cognitive Neuroscience
PSYC 4676	Seminar in Developmental Psychology

Electives

Complete two PSYC courses. 8

Integrative Requirement

Code	Title	Hours
CRIM 3040	Psychology of Crime	4

Criminal Justice and Psychology Combined Major Credit Requirement

Complete 92 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CRIM 1120	4	NU Path EI	4
ENGW 1111	4	CS 1100	4	PSYC 3402	4	Open Elective	4
MATH 1215	4	PSYC 3400	4				
PSYC 1000	1	PSYC 3450	4				
PSYC 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PSYC 2320	4	EESC 2000	1	PSYC Elective	4	Co-op	
PSYC 3458	4	NU Path DD	4	Open Elective	4		
CRIM Justice Thematic Elective	4	CJ Survey Elective	4				
NU Path IC	4	PSYC Elective	4				
		Open Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3040	4	Adv. Writing	4	Co-op	
		CRIM 3600	4	NU Path ER	4		
		PSYC 4612	4				
		CRIM Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Psychology Seminar	4
		CJ System Wide Elective	4
		CRIM Elective	4

	Open Elective	4
	0	**16**

Total Hours: 130

Criminal Justice and Sociology, BS

This combined major educates students in criminal justice and sociology and in the interface between the two disciplines. The scope and sequence of sociology courses provide students with a foundation in social theory and social systems. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students successfully completing this program should be able to understand the ways that crime and the justice system are situated in larger social systems and structures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Criminal Justice Electives		
These courses round out our knowledge of crime and justice.		
Complete three additional criminal justice electives. Two must be from the 3000, 4000, or 5000 level.		12

Sociology Requirements

Code	Title	Hours
Complete a minimum of nine courses in sociology from the requirements below.		
Sociology Requirements		
SOCL 1101	Introduction to Sociology	4
SOCL 3300	Social Theory	4
Sociology Introductory Electives		
Complete two courses in the following range:		8
SOCL 1200 to SOCL 1999		
Sociology Intermediate Electives		
Complete two courses in the following range:		8
SOCL 2000 to SOCL 3999		
Sociology Advanced Elective		
Complete one course in the following range:		4
SOCL 4000 to SOCL 5999		

Introduction, Methods, and Statistics

Code	Title	Hours
Introduction		
Complete one of the following:		1
CRIM 1000	Criminal Justice at Northeastern	
SOCL 1000	Sociology at Northeastern	
Research Methods		
SOCL 2321	Research Methods in Sociology	4
Statistics		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4

Supporting Courses

Code	Title	Hours
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4 or 5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum ((Social Science Practicum section))	
Co-op Integration Requirements		
Complete before the first co-op:		1
EESH 2000	Professional Development for Co-op	
Complete after the first co-op:		1
CRIM 3000	Co-op Integration Seminar 2	
Complete after the second co-op:		1
CRIM 4000	Co-op Integration Seminar 3	

Integrative Requirement

Code	Title	Hours
Senior Capstone Requirement		
CRIM 4949	Senior Capstone Seminar	4
or SOCL 4600	Senior Seminar	
Integrative Elective Courses		
Complete one of the following:		4
CRIM 3030	Global Criminology	
CRIM 3110	Gender, Crime, and Justice	

CRIM 3120	Race, Crime, and Justice	
Complete the following:		4
SOCL 1245	Sociology of Poverty	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1000 or SOCL 1000	1	SOCL 3300	4	Vacation	0	Elective	4
CRIM 1100	4	Criminology thematic elective	4			Elective	4
SOCL 1101	4	Sociology introductory elective	4				
CS 1100 or DS 2000	4	Elective	4				
MATH 1215	4						
	17		**16**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		Criminology survey elective	4
CRIM 1120	4					Sociology intermediate elective	4
Sociology introductory elective	4						
Elective	4						
EESH 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2321	4	Co-op		Co-op		Elective	4
CRIM 3700	4					Criminal justice elective	4
Elective	4						
Elective	4						
CRIM 3000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Criminology systemwide elective	4	CRIM 4949 or SOCL 4600	4	Elective	4
Sociology advanced elective	4	Integrative course 2	4		
Integrative course 1	4	Elective	4		
Criminal justice elective	4	Elective	4		
	16		**16**		**4**

Total Hours: 127

Cybersecurity and Criminal Justice, BS

The cybersecurity and criminal justice combined degree applies a multidisciplinary approach to ensuring the reliability and security of cyberspace. The program will provide students with a strong programming foundation coupled with academic and experiential knowledge of the criminal justice system. Students learn how social behavior, policy, and legal rules can affect cybersecurity and utilize comparative social science to understand, predict, and explain crime.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or CRIM 1000	Criminal Justice at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamentals Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4740	Network Security	4
Cybersecurity Elective		
Complete one of the following:		4
COMM 2551	Free Speech in Cyberspace	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
CS 4710	Mobile and Wireless Systems	
or CS 6710	Wireless Network	
CY 4770	Cryptography	
CY 5010	Foundations of Information Assurance	

CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5770	Software Vulnerabilities and Security
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534
IS 4300	Human Computer Interaction
LPSC 1101	Introduction to Law
LPSC 2301	Introduction to Law, Policy, and Society
LPSC 3303	Topics in Law and Public Policy
MATH 3527	Number Theory 1
MATH 4575	Introduction to Cryptography
PHIL 1145	Technology and Human Values
POLS 2390	Science, Technology, and Public Policy
POLS 3307	Public Policy and Administration
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism

Supporting Courses

Code	Title	Hours
Complete the following course:		
MATH 1341	Calculus 1 for Science and Engineering	4

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
Complete one of the following:		4
ENGW 1111	First-Year Writing	
ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3311	Advanced Writing for Prelaw	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	

CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3070	Corporate and White-Collar Crime	
CRIM 3540	Addiction and Recovery	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Elective		
Rounding out knowledge of crime and justice.		
Complete one additional criminal justice elective from the 3000, 4000 or 5000-level.		4
Criminal Justice Capstone		
Complete one of the following:		4
CRIM 4949	Senior Capstone Seminar	
CY 4930	Cybersecurity Capstone	

Criminal Justice Co-op Integration

Code	Title	Hours
Co-op students should complete at least one of the following courses. CRIM 3000 is required for the first co-op. CRIM 4000 is required if a second co-op is taken:		
CRIM 3000	Co-op Integration Seminar 2	1
CRIM 4000	Co-op Integration Seminar 3	1

Integrative Requirement

Code	Title	Hours
Cybersecurity Integrative Course		
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
Criminal Justice Integrative Course		
Complete one of the following:		4
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 3060	Political Crime and Terrorism	

CRIM 4040	Crime Prevention
CRIM 5900	Topics in Criminal Justice and Criminology

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

134 total semester hours required.

Plan of Study

Sample Plan of Study:

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3500 and CS 3501	5	General Elective	4
CS 1200	1	CRIM 1120	4	MATH 1341	4	General Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5				
CS 2500 and CS 2501	5	CY 2550	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CS 1210	1	CS 3000	4	Co-op	
CRIM 3700	4	CS 4700 or 4730	4	General Elective	4		
CS 3650	4	Crime Problems/CJ Institutions	4				
Elective	4	Current Crime and Justice Issues	4				
		CRIM Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3000	1	ENGW 3302, 3308, 3311, or 3315	4	Co-op	
		CY 3740	4	General Elective	4		
		CJ Systemic Issues	4				
		Cybersecurity Elective	4				

		CRIM Integrative	4		
	0		**17**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		CY 4740	4
		CRIM 4000	1
		CY 4170 or 5240	4
		Capstone	4
		Elective	4
	0		**17**

Total Hours: 136

Data Science and Criminal Justice, BS

Overview

This combined major offers students the opportunity to gain cutting-edge data science skills and expertise in important and urgent social issues: crime, the law, and the criminal justice system. Data science classes allow students to develop skills in the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Criminology and criminal justice courses provide a foundation for understanding crime, the law, and our criminal justice system. Together, the combined major is designed to prepare students to apply data science skills to crime and justice topics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or CRIM 1000	Criminal Justice at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 credits of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		4

CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Criminal Justice Courses

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Creating Knowledge About Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? This course covers how to harness data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
Criminal Justice Capstone		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000, or 5000 level.		8

Integrative Course Requirement

Code	Title	Hours
Complete one of the following:		4
CRIM 4040	Crime Prevention	
CRIM 4800	Crime Mapping	

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics Foundation		
ECON 2350	Statistics for Economists	4
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 credits of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	CS 3200	4	Elective	4
CS 1200	1	CRIM 1120	4	Elective	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5				
DS 2000 and DS 2001	4	MATH 1341	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CS 1210	1	CJ elective	4	Co-op	
DS 3000	4	DS 4200	4	Elective	4		
DS 3500	4	ECON 2350	4				
CJ current issues elective	4	CJ survey elective	4				
		Khoury elective 1	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4300	4	ENGW 3302	4	Co-op	
		Computing and social issues		Elective	4		
		CJ general elective	4				
		CJ problems and institutions elective	4				
		CJ systemic elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CRIM 4949	4
		DS 4400	4
		CJ integrative course	4
		Elective	4
	0		**16**

Total Hours: 132

Human Services and Criminal Justice, BS

Overview

A combined major in human services and criminal justice appeals to students interested in the intersection of social and legal issues and institutions. The human services major prepares students for careers in social change by providing students with the theoretical and skill-based background necessary for practice and research. Students with criminal justice course work gain a rigorous interdisciplinary and experiential education in the causes and consequences of crime and the responses of criminal justice. The addition of human services course work complements a criminal justice perspective and considers the role of social services and community-based organizations to prevent, intervene, and treat the causes and consequences of crime. The degree allows students to combine interests in the justice system, political advocacy, and community development. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, and internship opportunities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Required Human Services Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
Human Services Internship		
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete four additional HUSV courses.		16

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	

CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science practicum section)	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives. One must be from the 3000, 4000 or 5000-level.		8

Additional Courses

Code	Title	Hours
CRIM 1000	Criminal Justice at Northeastern	1
or HUSV 1000	Human Services at Northeastern	
Research Methods		
CRIM 3600	Criminal Justice Research Methods	4
or HUSV 2970	Research Methods for Human Services	
Cooperative Education		
Students going on co-op should take:		
EESH 2000	Professional Development for Co-op	1
Students returning from co-op should take:		
CRIM 3000	Co-op Integration Seminar 2	1
CRIM 4000	Co-op Integration Seminar 3	1
Additional Elective		
Complete one additional course in either CRIM or HUSV.		4

Integrative Course

Code	Title	Hours
CRIM 4949	Senior Capstone Seminar	4
or HUSV 4700	Senior Seminar in Human Services	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Four Year, 2 Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	CRIM 1300, 1400, 1500, or 1700	4	Elective	4	Elective	4
ENGW 1111	4	CS 1100	4	Elective	4	Elective	4
HUSV 1000	1	HUSV 2300	4				
HUSV 1101	4	HSVC elective	4				
MATH 1215	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1120	4	EESH 2000	1	CJ Elective	4	Co-op	0
CRIM 3600	4	CJ concentration elective	4	Elective	4		
HSVC intermediate/ advanced undergraduate elective	4	CJ concentration elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CRIM 3000	1	Elective	4	Co-op	0
		CRIM 3700	4	Elective	4		
		HUSV 3900	4				
		HSVC organization course	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CRIM 4000	1
		CRIM 4949	4
		ENGW 3315	4
		CJ system-wide elective	4
		Elective	4
	0		**17**

Total Hours: 132

Criminal Justice, Minor

Minors in the School of Criminology and Criminal Justice (SCCJ) take the foundational courses in criminology and criminal justice. Minors can also specialize further in their elective courses. These may include courses covering topics such as policing democratic societies, corporate security, punishment and mass incarceration, and juvenile justice. A minor in criminology and criminal justice in combination with a student's major can enhance the student's career possibilities and open new avenues for research experiences.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4

Criminal Justice Electives

Code	Title	Hours
Complete two of the following:		8
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
CRIM 4040	Crime Prevention	
CRIM 4120	Courts and Sentencing	
CRIM 4660	Communities and Crime	
CRIM 4710	Law and Psychology	

GPA Requirement

2.000 GPA required in the minor

Cultures, Societies, and Global Studies

The Department of Cultures, Societies, and Global Studies is an open and dynamic academic platform for interdisciplinary research and teaching on the transformative power of culture as an instrument for social change and innovation. We approach the challenges facing humanity through perspectives that are primarily, though not exclusively, informed by the experiences of the peoples from the Global South (Africa, Asia, the Caribbean, and Latin America) and its diasporas. As we search for the tools to foster sustainable economic growth and social well-being on a global scale, we aim to reevaluate and learn from the historical experiences, belief systems, intellectual traditions, and pressing concerns of the greater part of the world's population. This requires a critical reexamination of the persistence of Eurocentric postulates that were developed to support modern colonialism and nationalism with their variegated world of "otherness." As such, we adhere to the broadest and most inclusive definition of languages and cultures as we aim to understand, shape, and thrive in a global community characterized by increased social connectivity, economic integration, intellectual exchange, and cultural hybridity.

Programs

Bachelor of Arts (BA)

- Africana Studies (p. 1874)
- Africana Studies and English (p. 1878)
- Africana Studies and Human Services (p. 1883)
- Africana Studies and Media and Screen Studies (p. 324)
- Africana Studies and Political Science (p. 1889)
- History, Culture, and Law (p. 1748)
- Religious Studies and Africana Studies (p. 1899)
- Spanish (p. 1902)
- Spanish and International Affairs (p. 1904)
- Spanish and Linguistics (p. 1910)

Bachelor of Science (BS)

- Africana Studies (p. 1913)
- American Sign Language—English Interpreting (p. 1917)
- American Sign Language and Human Services (p. 1920)
- American Sign Language and Linguistics (p. 1923)
- American Sign Language and Psychology (p. 1625)
- American Sign Language and Theatre (p. 529)

Minors

- African American Studies (p. 1932)
- African Studies (p. 1933)
- Africana Studies (p. 1934)
- American Sign Language (p. 1935)
- Arabic (p. 1936)
- Black Feminist Studies (p. 1793)
- Chinese (p. 1938)
- Film and International Cultures (p. 1939)
- French (p. 1945)
- German (p. 1940)
- Global Health (p. 1329)
- Italian (p. 1943)
- Japanese (p. 1944)
- Portuguese (p. 1946)
- Russian (p. 1947)
- Spanish (p. 1948)

Africana Studies, BA

Africana studies is an interdisciplinary field of study devoted to the critical and systematic examination of the cultural, political, social, economic, and historical experiences of the African Diaspora across the globe. Students are able to focus on either African American, African, or Africana studies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Concentrations

Complete one of the following:

- Africana Studies (Without Concentration) (p. 1874)
- Africana Studies with African American Studies Concentration (p. 1875)
- Africana Studies with Africa Studies Concentration (p. 1875)

Africana Studies Major Credit Requirements

Complete 48 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

AFRICANA STUDIES (WITHOUT CONCENTRATION)

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1113	Black Popular Culture	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science		

Complete two of the following, not already used for the introductory requirement:		8
AFAM 1225	Gender, Race, and Medicine	
AFAM 2600	Issues in Race, Science, and Technology	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
CAEP 3310	Say It Loud: The Black Power Movement and Higher Education	
Electives (can include cross-listed courses)		
Complete three courses at or above the 2000 level, not already taken.		12
Complete three courses at or above the 3000 level, not already taken.		12
Capstone		
AFAM 4700	Capstone	4

AFRICAN AMERICAN STUDIES CONCENTRATION

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 2296	Early African-American Literature	
AFAM 2455	American Women Writers	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science		
Complete two of the following:		8
AFAM 1225	Gender, Race, and Medicine	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 3270	Race, Ethnicity, and Inequality	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
Electives (may include cross-listed courses)		
Complete three courses at or above the 2000 level, not already taken.		12
Complete three courses at or above the 3000 level, not already taken.		12
Capstone		
AFAM 4700	Capstone	4

AFRICA STUDIES CONCENTRATION

Code	Title	Hours
Foundational Course		
AFRS 1101	Introduction to African Studies	4
Introductory Course		
Complete one of the following:		4
AFAM 1113	Black Popular Culture	
AFAM 1225	Gender, Race, and Medicine	

AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1113	Black Popular Culture	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1225	Gender, Race, and Medicine	
AFAM 2600	Issues in Race, Science, and Technology	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
Electives (may include cross-listed courses)		
Complete three courses at or above the 2000 level, not already taken.		12
Complete three courses at or above the 3000 level, not already taken.		12
Capstone		
AFAM 4700	Capstone	4

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1101	4	AFAM 1113	4	Elective	4	Elective	4
AFAM 1104	4	AFAM 1225	4	Elective	4	Elective	4
CLTR 1000	1	AFAM 2296	4				
ENGW 1111	4	AFAM Social Science Course	4				
MATH 1215	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1135	4	EESH 2000	1	Elective	4	Co-op	0
AFAM 1225	4	AFAM intermediate/ advanced undergraduate elective	4	Elective	4		
AFRS 3900	4	Foreign language course	4				
Foreign language course	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	AFRS 2410	4	Upper-division elective	4	Co-op	0
		ENGW 3315	4	Elective	4		
		AFAM Humanities Course	4				
		Foreign language course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	AFAM 4700	4
		AFRS 2307	4
		AFRS 2464	4
		AFRS 3424	4
	0		**16**

Total Hours: 130

Africana Studies and English, BA

Overview

The combined major in Africana studies and English offers students the opportunity to integrate their studies of both disciplines and explore the historical, practical, and theoretical relationships between the two disciplines. In addition to considering the significant points of contention, students explore the ways in which insights from Africana studies can be brought to bear on the disciplinary issues and questions of English studies. Within the combined major, students may also choose to focus their studies on a range of topics related to literature, writing, narrative, and cultural production in the United States, the Americas, Europe, Africa, and across the global African Diaspora.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Introduction to College		
CLTR 1000	Cultures, Societies, and Global Studies at Northeastern	1
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete three of the following:		12
AFAM 2296	Early African-American Literature	
AFAM 2619	Race and Religion in Film	
AFAM 2690	Boston in Literature	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Sciences		
Complete three of the following:		12
AFAM 2355	Race, Identity, Social Change, and Empowerment	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 2618	Community Psychology	
AFAM 3120	Race, Crime, and Justice	
AFAM 3270	Race, Ethnicity, and Inequality	

AFAM 5001	Special Topics in Race and the Law
AFRS 2307	Africa Today
AFRS 2325	Black Feminist Studies
AFRS 2464	Natural Resources and Sustainable Development
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
AFRS 3460	Contemporary Government and Politics in Africa
CAEP 3310	Say It Loud: The Black Power Movement and Higher Education

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	

ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	

English Electives	
Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Integrative Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2296	Early African-American Literature	
or ENGL 2296	Early African-American Literature	
AFAM 3404	African American Rhetorical Traditions	
or ENGL 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
or ENGL 3664	Black Poetry and the Spoken Word	
AFRS 3900	Gender and Black World Literatures	
or ENGL 3900	Gender and Black World Literatures	

Capstone

Code	Title	Hours
Complete one capstone in either Africana Studies or English from the following:		4
AFAM 4700	Capstone	
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Africana Studies and English Combined-Major Credit Requirement

Complete 86 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required.

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	ENGL 1400	4	ENGL elective	4	Elective	4
ENGL 1160	4	Africana studies social sciences course	4	Foreign language course	4	Elective	4
ENGW 1111	4	Foreign language course	4				
Africana studies foundational course	4	Integrative course	4				
Africana studies introductory course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Africana studies humanities course	4	Africana studies social sciences course	4	Africana studies humanities course	4	Co-op	
Africana studies social sciences course	4	Africana studies humanities course	4	Elective	4		
Africana studies social sciences course	4	ENGL diversity course	4				
Comparative ENGL course	4	ENGL Pre-19th century course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Advanced Writing in the Disciplines	4	ENGL writing course	4	Co-op	
		ENGL 19th/20th/21st-century literature course	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Capstone course	4
		ENGL theories and methods course	4
		ENGL elective	4
		Elective	4
	0		**16**

Total Hours: 129

Africana Studies and Human Services, BA

Overview

A combined major in Africana studies and human services offers students the opportunity to integrate their studies of the cultural, political, socioeconomic, and historical experiences of the peoples of the global African Diaspora with preparation for careers in social change by providing them with the theoretical and skill-based background necessary for practice and research.

Students take academically rigorous courses relevant to the field while honing their skills through our extensive experiential educational opportunities. Through courses, service-learning, co-op, and internships, students may acquire theoretical and professional skills related to critical race cultural literacies, historical analysis, counseling, nonprofit management, political advocacy, as well as organizational and community development.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete three of the following:		12
AFAM 2296	Early African-American Literature	
AFAM 2619	Race and Religion in Film	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Sciences		
Complete three of the following:		12
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 2618	Community Psychology	
AFAM 3120	Race, Crime, and Justice	
AFAM 3270	Race, Ethnicity, and Inequality	
AFAM 5001	Special Topics in Race and the Law	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	

AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
Electives		
Complete one AFAM or AFRS course at the 2000 level or above.		4
Complete one AFAM or AFRS course at the 3000 level or above.		4

Human Services Requirements

Code	Title	Hours
Foundational Courses		
HUSV 1000	Human Services at Northeastern	1
or CLTR 1000	Cultures, Societies, and Global Studies at Northeastern	
EESH 2000	Professional Development for Co-op	1
Human Services Overview		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2355	Race, Identity, Social Change, and Empowerment	4
HUSV 2970	Research Methods for Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Electives		
Complete two electives in HUSV not used to fulfill other requirements for the degree.		8

Integrative Course

Code	Title	Hours
AFAM 2618	Community Psychology	4

Senior Capstone

Code	Title	Hours
Complete one of the following:		
AFAM 4700	Capstone	4
or HUSV 4700	Senior Seminar in Human Services	

Africana Studies and Human Services Major Credit Requirement

Complete 86 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1101	4	HUSV 2300	4	Africana studies humanities course	4	Africana studies 3000-level elective	4
ENGW 1111	4	Africana studies humanities course	4	Foreign language course	4	NUpath elective	4
HUSV 1000 or CLTR 1000	1	Africana studies social sciences course	4				
HUSV 1101	4	Foreign language course	4				

Africana studies introductory course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Africana studies humanities course	4	AFAM 2355	4	Africana studies 2000-level elective	4	Co-op	
Africana studies social sciences course	4	EESH 2000	1	Elective	4		
NUpath elective	4	HUSV 3570	4				
NUpath elective		HUSV elective	4				
		HUSV elective	4				
	12		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HUSV 3900	4	ENGW 3308 or 3315	4	Co-op	
		HUSV 4994	6	Elective	4		
		HUSV elective	4				
		Elective	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		AFAM 2618	4
		AFAM 4700 or HUSV 4700	4
		HUSV elective	4
		Elective	4
	0		**16**

Total Hours: 128

Africana Studies and Media and Screen Studies, BA

Overview

The combined major in Africana studies and media and screen studies integrates critical and systemic examination of the cultural, political, social, economic, and historical experiences of the peoples of the global African diaspora along with the analysis, research, and production of traditional and emerging media.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following:		8
AFAM 2296	Early African-American Literature	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Sciences		
Complete two of the following:		8
AFAM 2355	Race, Identity, Social Change, and Empowerment	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 2618	Community Psychology	
AFAM 3270	Race, Ethnicity, and Inequality	
AFAM 5001	Special Topics in Race and the Law	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
Electives		

Complete one AFAM or AFRS course at the 2000 level or above.		4
Complete one AFAM or AFRS course at the 3000 level or above.		4
Senior Capstone		
AFAM 4700	Capstone	4

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3600	Film Theory	
MSCR 3422	Media Audiences	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from the following:		12
MSCR courses at the 1000 level or above		
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Integrative Requirement

Code	Title	Hours
AFAM 2619	Race and Religion in Film	4
MSCR 2335	Race and Social Justice in American Film	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirements

Minimum 2.000 GPA required

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1101	4	AFAM 2690	4	Foreign language course	4	Elective	4
AFAM 1104	4	AFRS 2307	4	Elective	4	Elective	4
AFAM 1113	4	MSCR 1220	4				
CLTR 1000	1	Foreign language course	4				
ENGW 1111	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 2296	4	AFAM 3270	4	AFAM 3664	4	Co-op	
AFRS 2464	4	MSCR 2220	4	COMM 3655	4		
AFRS 3424	4	MSCR 2505	4				
MSCR 1320	4	MSCR 3420	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		AFAM 2619	4	MSCR elective	4	Co-op	
		ARTD 2380	4	Elective	4		
		COMM 2655	4				
		MSCR 2335	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		AFAM 4700	4
		COMM 4755	4
		NUpath elective	4
		NUpath elective	4
	0		**16**

Total Hours: 129

Africana Studies and Political Science, BA

The combined major in Africana studies and political science offers students the opportunity to integrate their studies of both disciplines and explore the historical, practical, and theoretical relationships between the two disciplines. In addition to considering the significant points of contention, students explore the ways in which insights from Africana studies can be brought to bear on the disciplinary issues and questions of political science. Within the combined major, students may also choose to concentrate their studies on a range of topics related to political behaviors and institutional developments in the United States, the Americas, Europe, Africa, and across the global African Diaspora.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Foundational		
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFRS 1101	Introduction to African Studies	
Introductory		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following:		8
AFAM 2296	Early African-American Literature	
AFAM 2690	Boston in Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science		
Complete two of the following:		8
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
African American/African Studies Electives		
Complete one AFAM/AFRS course at the 2000 level or above.		4
Complete one AFAM/AFRS course at the 3000 level or above.		4

Political Science Requirements

Code	Title	Hours
Core Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three POLS courses at the 2000 level and above.		12

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 1891)
- Campaigns and Elections (p. 1891)
- Comparative Politics (p. 1891)
- Identity, Culture, and Politics (p. 1892)
- International Relations and Diplomacy (p. 1892)
- Law and Legal Studies (p. 1892)
- Public Policy (p. 1892)
- Security Studies (p. 1893)

Supporting Courses for Political Science

Code	Title	Hours
Mathematics		
Complete one of the following to fulfill the prerequisite for POLS 2400:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1341	Calculus 1 for Science and Engineering	

Integrative Requirements

Code	Title	Hours
Integrative Courses		
Complete one course from each discipline.		
Africana/African American Studies		
Complete one of the following:		4
AFAM 5001	Special Topics in Race and the Law	
AFRS 3460	Contemporary Government and Politics in Africa	
Political Science		
Complete one of the following:		4
POLS 2385	U.S. Health and Welfare Policy	
POLS 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3418	Nationalism	
POLS 3487	Politics of Developing Nations	

Capstone Requirement		
Complete one of the following:		4
AFAM 4700	Capstone	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4

POLS 4915	Model Arab League
POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000 or POLS 1000	1	POLS 1155	4	Africana social science course	4	Elective	4
ENGW 1111	4	POLS 1160	4	Foreign language course	4	Elective	4
POLS 1150	4	POLS supporting course	4				
Africana foundational course	4	Foreign language course	4				
Africana introductory course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	Africana humanities course	4	POLS 2399	4	Co-op	0
Africana elective above 2000 level	4	Africana social science course	4	Elective	4		
Africana humanities course	4	POLS political thought course	4				
Foreign language course	4	POLS elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PSYC 1101 (ND NUpath)	4	Advanced Writing in the Disciplines	4	Co-op	
		Africana elective above 3000 level	4	Elective	4		
		Integrative course	4				
		POLS elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone	4
		Integrative course	4
		POLS elective	4
		POLS elective	4
	0		**16**

Total Hours: 129

History, Culture, and Law, BA

History, culture, and the law is an interdisciplinary major that offers students an opportunity to understand how legal systems are shaped by cultural norms and historical developments, as well as how social change has been and can be created through legal processes. After studying principles of historical method and jurisprudence, students bring to bear the interdisciplinary frameworks they have begun to develop in one of seven culturally focused concentrations: Africana studies and culture; Asian studies and culture; culture and colonialism; digital humanities; film and international cultures; gender and sexuality; and Latino/a, Latin American, and Caribbean studies and culture. Students have opportunities to develop flexibility in perspectives, to exercise ability to work in interdisciplinary frameworks, and to foster appreciation of cultural diversity that will enable them to make a positive impact in their chosen spheres of action.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: No more than two courses taken for this major may be counted toward another major or minor.

Law and History Core

Code	Title	Hours
Foundational Core Courses		
ENGL 3325	Rhetoric of Law	4
or ENGL 1160	Introduction to Rhetoric	
or ENGL 3404	African American Rhetorical Traditions	
HIST 1100	Law and History	4
LPSC 2301	Introduction to Law, Policy, and Society	4
or LPSC 1101	Introduction to Law	
Foundational Core Elective		
Complete two of the following not used to fulfill the previous requirement. Note that POLS prerequisites are waived for the 3000- and 4000-level POLS classes for students in this major.		8
LPSC 2301	Introduction to Law, Policy, and Society	
LPSC 3303	Topics in Law and Public Policy	
LPSC 3307	Understanding the Modern Supreme Court	
PHIL 2301	Philosophical Problems of Law and Justice	
POLS 3302	Judicial Process and Behavior	
POLS 3406	International Law	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	
Research Methods		
Complete one of the following:		4
HIST 2301	The History Seminar	
INSH 1500	Digital Methods for Social Sciences and Humanities	

Culture Concentrations

Select one four-course concentration from the following:

- Africana Studies and Culture (p. 1750)
- Asian Studies and Culture (p. 1750)
- Culture and Colonialism (p. 1750)
- Digital Humanities (p. 1751)
- Film and International Cultures (p. 1751)
- Gender and Sexuality (p. 1751)
- Latino/a, Latin American, and Caribbean Studies and Culture (p. 1751)

Major Electives

Code	Title	Hours
Complete three of the following not already used to fulfill one of the requirements above. Courses not used above to fulfill a requirement may also be used to fulfill this elective requirement. However, only one course used to fulfill this requirement may be at the 1000 level.		12
Complete three courses (including courses cross-listed) not used to fulfill other requirements:		
AFAM 3120	Race, Crime, and Justice	
ANTH 2305	Global Markets and Local Culture	
CLTR 3418	Nationalism	
CRIM 2350	Policing a Democratic Society	
CRIM 3110	Gender, Crime, and Justice	
ENGL 2690	Boston in Literature	
ENGL 3325	Rhetoric of Law	
ENGL 3375	Writing Boston	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or WMNS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	
HIST 2000	Native American Resistance: Past and Present	
HIST 2011	Capitalism and Business: A Global History	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
HIST 2285	America and the Holocaust	
HIST 2311	Colonialism/Imperialism	
HIST 3334	Assassinations in World History	
LPSC 3303	Topics in Law and Public Policy	
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1112	Debating Ethical Controversies	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
SOCL 4522	Environmental Justice	

Capstone

Code	Title	Hours
Complete one of the following:		4
AFAM 4700	Capstone	
ASNS 4900	Asian Studies Capstone Directed Study	
ENGL 4720	Capstone Project	
HIST 4701	Capstone Seminar	
PHIL 5001	Global Justice	

Major GPA Requirement

Minimum 3.000 GPA required in all major courses

Major Credit Requirement

Complete 52 hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

CONCENTRATION IN AFRICANA STUDIES AND CULTURE

Code	Title	Hours
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFRS 1101	Introduction to African Studies	
Complete one of the following as a writing-intensive course:		4
ANTH 4510	Anthropology of Africa	
SOCL 4520	Race, Class, and Gender	
Complete two of the following, at least one of which must be at the 3000 level or above:		8
AFAM 1104—AFAM 5001		
AFRS 1270—AFRS 4939		

CONCENTRATION IN ASIAN STUDIES AND CULTURE

Code	Title	Hours
ASNS 1150	East Asian Studies	4
or HIST 1150	East Asian Studies	
Complete one of the following as a writing-intensive course:		4
ANTH 4515	Culture and Politics in Modern India	
HIST 2308	Law, Justice, and Society in Modern China	
PHIL 2395	Japanese Buddhism	
Complete two of the following. If HIST 2308 or PHIL 2395 is the writing-intensive course, at least one of these electives must be at the 3000 level or above:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
CLTR 1260	Japanese Film	
CLTR 1500	Modern Chinese History and Culture	
or HIST 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1253	History of Vietnam Wars	
HIST 2011	Capitalism and Business: A Global History	
HIST 2351	Modern Japan	
PHIL 1130	Comparative Ethics	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	

CONCENTRATION IN CULTURE AND COLONIALISM

Code	Title	Hours
POLS 2325	Ancient Philosophy and Political Thought	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Complete three of the following, at least one of which must be at the 3000 level or above:		12
CLTR 1501	Introduction to French Culture	

CLTR 1504	Cultural History of Spain
ENGL 2296	Early African-American Literature
ENGL 2450	Postcolonial Literature
ENGL 2470	Asian-American Literature
ENGL 3404	African American Rhetorical Traditions
ENGL 3664	Black Poetry and the Spoken Word
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2011	Capitalism and Business: A Global History
HIST 2311	Colonialism/Imperialism
HIST 3335	History of Modern Terrorism
PHIL 3343	Existentialism
PHIL 3435	Moral Philosophy

CONCENTRATION IN DIGITAL HUMANITIES

Code	Title	Hours
ENGL 1450	Reading and Writing in the Digital Age	4
or ENGL 3340	Technologies of Text	
Complete three of the following not previously taken, at least one of which must be at the 3000 level or above:		12
COMM 1255	Communication in a Digital Age	
COMM 2105	Social Networks	
ENGL 3340	Technologies of Text	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
PHIL 1145	Technology and Human Values	
PHIL 2001	Ethics and Evolutionary Games	
SOCL 4518	Law and Society in a Digital World (Note that this course has prerequisites.)	
SOCL 4528	Computers and Society (Note that this course has prerequisites.)	

CONCENTRATION IN FILM AND INTERNATIONAL CULTURES

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
Complete three of the following:		
CLTR 1240	Latin American Film	
CLTR 1260	Japanese Film	
CLTR 2001	World Cultures through Film	
ENGL 3487	Film and Text (Abroad)	
HIST 2025	Latin American History through Film	
PHIL 1260	Apocalypticism in Film	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
WMNS 3392	Gender and Film	

CONCENTRATION IN GENDER AND SEXUALITY

Code	Title	Hours
Complete four WMNS subject code courses (including cross-listed courses) not used to fulfill any other requirement for the major.		16

CONCENTRATION IN LATINO/A, LATIN AMERICAN, AND CARIBBEAN STUDIES AND CULTURE

Code	Title	Hours
LACS 1220	Latino, Latin American, and Caribbean Studies	4
Complete the following as the writing-intensive course:		
ANTH 4500	Latin American Society and Development	4

Complete two of the following:		8
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3715	New Narratives: Latin America after 1989	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 2025	Latin American History through Film	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	ASNS 1150 (Concentration core course)	4	Elective	4	Elective	4
ENGW 1111	4	CLTR 3418 (Major elective)	4	Elective	4	Elective	4
MATH 1215 (Potential option to cover NUPath requirement)	4	LPSC 2301 (Foundational core elective)	4				
LPSC 1101 (Foundational core course)	4	Foreign language	4				
Foreign language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1260 (Concentration elective)	4	Co-op		Co-op		Elective	4
EESH 2000	1					Elective	4
HIST 1100 (Foundational core course)	4						
PHIL 1112 (Major elective)	4						
Foreign language	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 4515 (Concentration writing-intensive course)	4	Co-op		Co-op		Elective	4
HIST 2000 (Major elective)	4					Elective	4
INSH 1500 (Research methods)	4						
POLS 4500 (Foundational core elective)	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ANTH 4350 (Concentration Elective)	4	HIST 4701 (Capstone)	4
HIST 1246 (Concentration Elective)	4	Foreign language	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Religious Studies and Africana Studies, BA

The Department of Philosophy and Religion and the Program in Africana Studies offer an interdisciplinary combined major in religious studies and Africana studies. Students interested in the combined major integrate the study of religious traditions, religious praxis, and religious ethics with critical and systematic examination of the cultural, political, social, economic, and historical experiences of African Americans throughout the hemisphere and peoples of African descent around the world.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Religious Studies Major Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2619	Race and Religion in Film	
or AFAM 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
or AFAM 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		

Complete five of the following courses, one of which must be 2000-level or above and another one of which must be 3000-level or above, that is not used to satisfy another requirement:		20
PHIL 1111	Introduction to World Religions	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2390	Cults and Sects	
PHIL 2619	Race and Religion in Film	
or AFAM 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
PHIL 4992	Directed Study	
Capstone		
Complete the following course that is not used to satisfy another requirement:		
PHIL 4903	Seminar in Religion	4

Africana Studies Requirements

Code	Title	Hours
Foundational		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory		
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following:		8
AFAM 2296	Early African-American Literature	
AFAM 2318	New England Stories: Storytelling and the African American Experience	
AFAM 2690	Boston in Literature	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
Social Sciences		
Complete two of the following:		8
AFRS 2307	Africa Today	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
Electives		
Note: Electives may not double count for other AFAM or HIST combined-major requirements.		
Complete one AFAM/AFRS course at the 2000 level or above		4
Complete one AFAM/ AFRS course at the 3000 level or above		4

Senior Capstone		
AFAM 4700	Capstone	4

Integrative Requirement

Code	Title	Hours
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	4
or AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1101 or AFRS 1101	4	Introductory Course	4	Elective	4	Elective	4
ENGW 1111	4	Lived Religion Elective	4	Elective	4	Elective	4
PHIL 1110	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative Religion Elective	4	Co-op		Co-op		Elective	4
Social Sciences Course	4					Elective	4
PHIL 2000 Level Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Humanities Course	4	Co-op		Co-op		Elective	4
Social Sciences Course	4					Elective	4
AFAM/AFRS 2000 Level Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
AFAM/AFRS 3000 Level Elective	4	Capstone	4
PHIL 3000 Level Elective	4	Humanities Course	4
Elective	4	Integrative Requirement Course	4
Elective	4	PHIL Advanced Level Elective	4
	16		**16**

Total Hours: 128

Spanish, BA

Spanish is the second most spoken language in the world. It is used in more than twenty countries, including the United States. In fact, in terms of the number of speakers, the United States is the second largest Spanish-speaking country in the planet. Being a Spanish speaker is a major professional and cultural asset as it prepares you to be successful in any career path. Yet, in our society, knowing Spanish is not just an asset; it is increasingly a necessity. Not only does proficiency in Spanish prepare you to be a leader in a country where Hispanics are the fastest growing segment of the population and where Spanish-speakers are the vast majority of the population in the hemisphere. Knowing Spanish also makes you a truly global citizen. Our Spanish BA certifies that you have attained advanced levels of listening, speaking, reading and writing proficiency in the language. It also opens before you a fascinating cultural and intellectual world in and beyond the classroom with a myriad of opportunities to travel, live and work abroad.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Spanish Major Requirements

Code	Title	Hours
Spanish Requirements		
SPNS 2102	Intermediate Spanish 2: Becoming a Global Citizen	4
SPNS 3101	Advanced Spanish 1: Deconstructing Borders	4
SPNS 3102	Advanced Spanish 2: Hispanic and Latinx Identity	4
SPNS 3502	Authentic Spanish Grammar	4
Language and Linguistics		
CLTR 1120	Introduction to Languages, Literature, and Culture	4
LING 1150	Introduction to Language and Linguistics	4
Culture, Literature & History		
Complete four of the following:		16
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 2001	World Cultures through Film	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 3720	Literature, Arts, and Poverty in Latin America	
CLTR 3805	Culture, Politics, and Media in Spain	
CLTR 4655	Latin American Literature	
CLTR 4944	Cultural Engagement Abroad	
LACS 1220	Latino, Latin American, and Caribbean Studies	
Spanish Electives		
Complete two of the following courses.		8
SPNS 2900	Specialized Instruction in Spanish	
SPNS 3401	Spanish for Healthcare Professionals 1	
SPNS 3601	Exploring Spoken Spanish	

SPNS 3602	Introduction to Spanish Linguistics	
SPNS 3603	Special Topics in Spanish Linguistics	
SPNS 3800	Special Topics in Spanish	
SPNS 3900	Specialized Instruction in Spanish	
Study Abroad/Experiential Learning		
SPNS 3601	Exploring Spoken Spanish	4
See department for further details.		
Capstone		
LANG 4700	Capstone Seminar	4

Spanish Major Credit Requirement

Complete 56 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	LING 1150	4	NUpath course or elective	4	NUpath course or elective	4
CLTR 1120	4	SPNS 3101	4	NUpath course or elective	4	NUpath course or elective	4
ENGW 1111	4	Culture Elective	4				
MATH 1215	4	Elective	4				
SPNS 2102	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SPNS 3102	4	EESH 2000	1	NUPath Course	4	Co-op	0
NUpath course or elective	4	SPNS 3502	4	Elective	4		
NUPath course or elective	4	Culture Elective	4				
Culture Elective	4	NUpath course or elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Spanish Elective	4	ENGW 3315	4	Co-op	0
		Elective	4	NUpath course or elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	LANG 4700	4
		SPNS 3601	4
		Culture Elective	4
		Spanish Elective	4
	0		**16**

Total Hours: 130

Spanish and International Affairs, BA

This combined major offers undergraduates the opportunity to develop an awareness of global affairs and international issues since the 19th century through diverse and cross-disciplinary theories of interstate relations: conflict, cooperation, hierarchies; civil society, transnational advocacy networks, global social movements; the politics of culture, linguistic and cultural diversity, religious and ideological divides; and state-society relations: democracy, authoritarianism, inequalities, citizenship.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Spanish Language Requirements

Code	Title	Hours
Spanish Language Requirements		
SPNS 2102	Intermediate Spanish 2: Becoming a Global Citizen	4
SPNS 3101	Advanced Spanish 1: Deconstructing Borders	4
SPNS 3102	Advanced Spanish 2: Hispanic and Latinx Identity	4
Language and Linguistics		
Complete one of the following:		4
CLTR 1120	Introduction to Languages, Literature, and Culture	
LING 1150	Introduction to Language and Linguistics	
Culture, Literature, and History		
Complete four of the following:		16
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 2001	World Cultures through Film	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 3720	Literature, Arts, and Poverty in Latin America	
CLTR 3805	Culture, Politics, and Media in Spain	
CLTR 4655	Latin American Literature	
CLTR 4944	Cultural Engagement Abroad	
HIST 1187	Introduction to Latin American History	
LACS 1220	Latino, Latin American, and Caribbean Studies	
Spanish Electives		
Complete two of the following:		8
SPNS 2900	Specialized Instruction in Spanish	
SPNS 3401	Spanish for Healthcare Professionals 1	
SPNS 3502	Authentic Spanish Grammar	
SPNS 3601	Exploring Spoken Spanish	
SPNS 3602	Introduction to Spanish Linguistics	
SPNS 3603	Special Topics in Spanish Linguistics	

SPNS 3800	Special Topics in Spanish
SPNS 3900	Specialized Instruction in Spanish
Study Abroad/Experiential Learning	
See department for details.	

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title
INTL 2480	Women and World Politics
INTL 2500	Race and Global Human Mobility
INTL 3150	Global Philanthropy
INTL 3200	Cities in a Global Context
INTL 3406	International Law
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
INTL 3520	Global Political Economy
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		8

Code	Title
Environment	
ENVR 1110	Global Climate Change
ENVR 2515	Sustainable Development
ENVR 3150	Food Security and Sustainability
INTL 5100	Climate and Development
INTL 5268	International Environmental Policy
or PPUA 5268	International Environmental Policy
SOCL 1246	Environment and Society
Law, Diplomacy, and Global Governance	
COMM 2303	Global and Intercultural Communication
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3520	Global Political Economy
INTL 5010	International Human Rights Law and Policy
POLS 1155	Comparative Politics

POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
POLS 4910	Model United Nations
Human Rights and Social Justice	
HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	

AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following courses, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	

or AFRS 2464	Natural Resources and Sustainable Development
Asia	
ANTH 4515	Culture and Politics in Modern India
ASNS 1150	East Asian Studies
or HIST 1150	East Asian Studies
CLTR 1500	Modern Chinese History and Culture
CLTR 1506	Introduction to Chinese Popular Culture
CLTR 1700	Introduction to Japanese Pop Culture
HIST 1246	World War II in the Pacific
HIST 1252	Japanese Literature and Culture
HIST 1500	Modern Chinese History and Culture
HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Integrative Courses

Code	Title	Hours
Research Methods		
INTL 2718	Research Methods in International Affairs	4
Capstone		
INTL 4700	Senior Capstone Seminar in International Affairs	4

Spanish and International Affairs Combined Major Credit/GPA Requirements

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
CLTR 1120	4	ECON 1115 or 1116	4	SPNS elective	4	Elective	4
ENGW 1111	4	MATH 1215	4	Elective	4	Elective	4
INTL 1000	1	SPNS 3101	4				
INTL 1101	4	Elective	4				
SPNS 2102	4						
	17		**16**		**8**		**8**
Year 2							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
SPNS 3102	4	INTL elective	4	Culture elective	4	Co-op	0
INTL elective	4	SPNS elective	4	INTL elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**
Year 3							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
Co-op	0	Culture elective	4	Culture elective	4	Co-op	0
		Culture elective	4	INTL elective	4		
		INTL elective	4				
		INTL elective	4				
	0		**16**		**8**		**0**
Year 4							
Fall	**Hours**	**Spring**	**Hours**				
Co-op	0	ENGW 3315	4				
		INTL 3400	4				
		INTL 4700	4				
		Elective	4				
	0		**16**				

Total Hours: 129

Spanish and Linguistics, BA

In the combined major in Spanish and linguistics, students integrate study of the Spanish language in particular with study of language systems more generally. Students hone their proficiency in the production and comprehension of the Spanish language and apply this knowledge to explore aspects of Hispanic culture, literature, and history. At the same time, students study the structures and analysis of human languages across multiple levels (sounds, words, phrases and sentences, meaning), as well as the position of language within communities of users. Students emerge with the transcultural skills and linguistic competence to communicate in and analyze one of the world's major languages and with a deep understanding of how this system has flourished across space and time.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Spanish Requirements

Code	Title	Hours
Spanish Language and Culture Requirements		
SPNS 2102	Intermediate Spanish 2: Becoming a Global Citizen	4
SPNS 3101	Advanced Spanish 1: Deconstructing Borders	4
SPNS 3102	Advanced Spanish 2: Hispanic and Latinx Identity	4
Culture, Literature, and History		
CLTR 1120	Introduction to Languages, Literature, and Culture	4
Complete two of the following:		8
CLTR 1240	Latin American Film	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 3720	Literature, Arts, and Poverty in Latin America	
CLTR 3805	Culture, Politics, and Media in Spain	
CLTR 4655	Latin American Literature	
CLTR 4944	Cultural Engagement Abroad	
Spanish Electives		
Complete two of the following:		8
SPNS 2900	Specialized Instruction in Spanish	
SPNS 3401	Spanish for Healthcare Professionals 1	
SPNS 3502	Authentic Spanish Grammar	
SPNS 3800	Special Topics in Spanish (Special topics courses may be repeated with different topics.)	
SPNS 3900	Specialized Instruction in Spanish	
Experiential Learning		
Complete one of the following options (courses used to satisfy this requirement will also typically satisfy another major requirement):		0-4
International co-op in a Spanish-speaking country		
Study abroad in a Spanish-speaking country		

Dialogue of Civilizations in a Spanish-speaking country	
SPNS 3601	Exploring Spoken Spanish

Linguistics Requirements

Code	Title	Hours
Foundational Courses		
LING 1150	Introduction to Language and Linguistics	4
or LING 1449	English Now and Then	
LING 2350	Linguistic Analysis	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Seminar		
LING 4654	Seminar in Linguistics	4
Research Experience		
Complete at least one of the following:		4
LING 3150	Field Linguistics	
LING 4891	Research Seminar in Linguistics	
With prior linguistics program approval, one of the following experiences can be used to fulfill the Research Experience:		
LING 4991	Directed Study Research	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
Linguistics Electives		
Complete two four-semester-hour electives that haven't already been taken to fulfill other major requirements from the following:		8
DEAF 2700	ASL Linguistics	
LING 3000–4999 [1]		
Students may repeat LING 4654 from the seminar requirement above if each iteration is a different seminar topic.		

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000–4999 range.

Spanish/Linguistics Integrative Requirements

Code	Title	Hours
Integrative Coursework		
LING 3412	Language and Culture	4
Complete two of the following:		8
SPNS 3601	Exploring Spoken Spanish	
SPNS 3602	Introduction to Spanish Linguistics	
SPNS 3603	Special Topics in Spanish Linguistics	

Spanish/Linguistics Combined Major Credit Requirement

Complete 80 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	LING 2350	4	SPNS elective	4	NUpath or elective	4
CLTR 1120	4	SPNS 3101	4	SPNS elective	4	NUpath or elective	4
LING 1150	4	LING elective	4				
SPNS 2102	4	NUpath or elective	4				
NUpath or elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
LING 3412	4	EESH 2000	1	NUpath or elective	4	COOP 3948	0
SPNS 3102	4	SPNS 3601 or 3602	4	NUpath or elective	4		
LING structure course	4	LING structure course	4				
SPNS culture elective	4	LING elective	4				
		NUpath or elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COOP 3948	0	SPNS 3601 or 3602	4	NUpath or elective	4	COOP 3948	0
		LING structure course	4	NUpath or elective	4		
		NUpath or elective	4				
		NUpath or elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
COOP 3948	0	LING 4891	4
		LING 4654	4
		SPNS culture elective	4
		NUpath or elective	4
	0		**16**

Total Hours: 130

Africana Studies, BS

Africana studies is an interdisciplinary field of study devoted to the critical and systematic examination of the cultural, political, social, economic, and historical experiences of Africans, African Americans throughout the hemisphere, and peoples of African descent around the world. Students are able to choose focused concentrations in African American or Africa studies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Program Options

Complete one of the following concentrations:

- Africana Studies (Without Concentration) (p. 1913)
- Africana Studies with African American Studies Concentration (p. 1914)
- Africana Studies with Africa Studies Concentration (p. 1914)

Africana Studies Major Credit Requirements

Complete 52 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

AFRICANA STUDIES (WITHOUT CONCENTRATION)

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities Courses		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science Courses		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1225	Gender, Race, and Medicine	
AFAM 2600	Issues in Race, Science, and Technology	

AFAM 3270	Race, Ethnicity, and Inequality	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 2325	Black Feminist Studies	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
CAEP 3310	Say It Loud: The Black Power Movement and Higher Education	
Electives		
Complete three AFAM or AFRS courses at or above the 2000 level, not already taken.		12
Complete three AFAM or AFRS courses at or above the 3000 level, not already taken.		12
Capstone		
AFAM 4700	Capstone	4

AFRICAN AMERICAN STUDIES CONCENTRATION

Code	Title	Hours
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
Humanities Courses		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
Social Science Courses		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1225	Gender, Race, and Medicine	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 3270	Race, Ethnicity, and Inequality	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
CAEP 3310	Say It Loud: The Black Power Movement and Higher Education	
Electives		
Complete three AFAM courses at or above the 2000 level, not already taken.		12
Complete three AFAM courses at or above the 3000 level, not already taken.		12
Capstone		
AFAM 4700	Capstone	4

AFRICA STUDIES CONCENTRATION

Code	Title	Hours
Foundational Course		
AFRS 1101	Introduction to African Studies	4
Introductory Course		

Complete one of the following:		4
AFAM 1113	Black Popular Culture	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities Courses		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1113	Black Popular Culture	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science Courses		
Complete two of the following, not already used for the introductory requirement:		8
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
Electives		
Complete three AFRS courses at or above the 2000 level, not already taken.		12
Complete three AFRS courses at or above the 3000 level, not already taken.		12
Capstone		
AFAM 4700	Capstone	4

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	Humanities course	4	Elective	4	Elective	4
ENGW 1111	4	Elective	4	Elective	4	Elective	4
MATH 1215	4	Social science course	4				
Foundational course	4	Elective	4				
Introductory course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	EESH 2000	1	Elective	4	Co-op	
Elective	4	Foreign language course	4	Elective	4		
Elective	4	Humanities course	4				
Elective	4	Social science course	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Upper-division elective	4	Co-op	
		Foreign language course	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

1916 Africana Studies, BS

Year 4

Fall	Hours	Spring	Hours
Co-op		Capstone	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

American Sign Language—English Interpreting, BS

Website (https://cssh.northeastern.edu/asl/)

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American Sign Language (ASL) is estimated to be the third most used language in the United States, and its visibility in society is on the rise in recent years. There are between 500,000–2,000,000 Deaf, DeafBlind, or hard of hearing people in the United States who use ASL as their primary language and a large number of non-Deaf signers who use or learn ASL as a second language. A disproportionate percentage of Deaf Community members experience socioeconomic disadvantage due to their dual status as members of both a cultural linguistic minority group and a disability group. As a result, there is a broad societal misunderstanding of Deaf, signing people's minority language and culture—their lived experience—which creates barriers to educational and economic opportunity. While state and federal legislation enables improved civic engagement by Deaf, hard of hearing, and DeafBlind individuals, there is continued need to elevate quality of life, equity, and the rich contributions of the diverse members of the American Deaf Community.

The curriculum in the NU American Sign Language and Interpreting program addresses social inequalities and contributes to cultural resilience by raising awareness of the minority population of ASL users: Deaf, hard of hearing, and DeafBlind individuals. Students acquire the complex skills of ASL-English interpreting through intensive faculty instruction and direct student support and guidance, which is similar to training in other practice professions (such as law, medicine, and social work).

Professional ASL-English interpreting is an important service that supports Deaf, hard of hearing, and DeafBlind people's efforts to participate, be recognized, and contribute to civic society equally at all levels. There continues to be a shortage of qualified sign language interpreters in all domains of civic life since the emergence of the profession in the early 1960s. There is ongoing need for advancing research on ASL and on sign language interpreting to contribute to the growing literature.

The Bachelor of Science in American Sign Language-English Interpreting curriculum is a rigorous program of study that integrates a foundation of ASL and Deaf studies with intensive interpreting skill development. This program is designed to assist students in acquiring competence in ASL, developing an understanding of the diverse American Deaf Community and its culture, and applying linguistic, analytic, and sociocultural skills and knowledge in order to contribute to civic engagement and social justice for Deaf citizens. The major in ASL-English Interpreting is a sequence of courses in linguistic, cognitive, human relations, and ethical decision-making skills as well as the sociocultural knowledge necessary to prepare students for future state or national credentialing as professional ASL-English interpreters. The program offers a wide array of courses as well as volunteer, internship, and practicum opportunities to learn from Deaf citizens' lived experiences through community and industry connections and research. To supplement ASL and Deaf cultural learning, students have the option to do an ASL immersion semester through our Gallaudet University semester study option by the end of the sophomore year or a co-op with a Deaf community-based organization. Academic and co-op advising and discussion with the program director is required for students electing these options.

The program also has alternative, combined majors (https://cssh.northeastern.edu/asl/program/american-sign-language-combined-majors/) for students who want to master ASL and cultural skills to work alongside and on behalf of Deaf, hard of hearing, or DeafBlind people in the disciplines of human services, psychology, linguistics, or theatre/arts.

Academic Progression Standards for ASL-English Interpreting Majors

- To begin the interpreting skills course sequence (INTP course numbers 3510 and higher), students must pass an ASL competency assessment at the intermediate/advanced level and maintain a minimum 2.750 GPA in all AMSL, INTP, and DEAF courses as well as maintain a minimum 2.500 overall GPA.
- Due to the fiduciary responsibility of professional sign language interpreters, there are technical, ethical, and dispositional standards required of progression to graduation in the ASL-English interpreting program. An individual must be able to meet the following competency standards to continue to graduation:

  - Human relations
  - Communication ability
  - Cognitive skills
  - Ethical conduct

HUMAN RELATIONS

Students must demonstrate collegiality by showing respect and courtesy to colleagues, consumers, employers/site placements, and taking responsibility for one's work. Compassion, integrity, motivation, effective interpersonal skills, and concern for others are personal attributes required of those in the interpreting profession. The student must be able to work under supervision of a site instructor or preceptor; this is essential to ensure rights, safety, and privacy of interpreting clients/consumers. The student must exercise good judgment and promptly complete all responsibilities in

the classroom and practical fieldwork settings. The ability to establish culturally competent relationships with individuals and groups and to respond effectively to clients who have different language and cognitive capacities is critical to interpreting practice.

COMMUNICATION ABILITY

The student must communicate verbally in order to elicit information and to convey that information to others. Each student must have the ability to read and write accurately and comprehensively in English. The student must be able to thoroughly comprehend and fluently use ASL and speak the English language so as to facilitate communication with Deaf and hearing community members and stakeholders, including colleagues, instructors, and other students. The student must also be able to present information in a professional, logical manner and to articulate decisions that enable effective interpreting.

COGNITIVE SKILLS

The student must show evidence of progression toward effectively integrating academic and world knowledge during simultaneous and consecutive interpretation, using appropriate cultural adjustments while managing internal and external factors and processes that result in accurate and reliable interpretations in both ASL and English.

ETHICAL CONDUCT

The student must demonstrate self-awareness and discretion by monitoring and managing personal and professional behaviors and integrity by avoiding conflicts of interest and adhering to values reflected in the Registry of Interpreters for the Deaf (RID) professional code of conduct.

Program Requirements

Major Requirements

To begin the interpreting skills course sequence (INTP course numbers 3510 and higher), students must pass an American Sign Language (ASL) competency assessment at the intermediate/advanced level and maintain a minimum of 2.750 GPA in all AMSL, INTP, and DEAF courses. Students must also maintain an overall minimum 2.500 GPA.

Students with prior ASL skills may be allowed to waive up to the first four AMSL courses by taking the language placement assessment. Waived courses must be replaced by electives.

Code	Title	Hours
American Sign Language		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
AMSL 3102	Advanced ASL 2	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Linguistics		
LING 1150	Introduction to Language and Linguistics	4
DEAF 2700	ASL Linguistics	4
Interpreting		
INTP 3500	The Interpreting Profession	2
INTP 3510	Interpreting Inquiry Texts	4
INTP 3515	Interpreting Narrative Texts	4
INTP 3550	Interpreting Scripted Texts	4
INTP 4510	Interpreting Expository Texts	4
INTP 4515	Interpreting Persuasive Texts	4
Interpreting Practicum		
INTP 4995	Interpreting Practicum	4
Ethics		
INTP 4650	Ethical Decision Making	4
INTP 4651	Ethical Fieldwork	2
Research Capstone		
INTP 3970	Research Methods for Interpreting and Translation	4
INTP 4940	Interpreting Research Capstone	4

GPA Requirement

Minimum 2.750 GPA required in all AMSL, INTP, and DEAF courses
Minimum 2.500 overall GPA required

Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

129 total semester hours required

Plan of Study

Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DEAF 1500	4	AMSL 1102	4	Vacation	0	Vacation	0
AMSL 1101	4	MATH 1215	4				
ENGW 1111	4	LING 1150	4				
INTP 1000	1	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DEAF 2500	4	AMSL 2102	4	Vacation	0	Vacation	0
AMSL 2101	4	DEAF 2700	4				
INTP 3500	2	Elective	4				
Elective	4	Elective	4				
	14		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INTP 3510	4	INTP 3515	4	Vacation	0	Vacation	0
ENGW 3315	4	INTP 3550	4				
AMSL 3101	4	AMSL 3102	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
INTP 4650	4	INTP 4515	4
INTP 4510	4	INTP 4995	4
INTP 4651	2	INTP 4940	4
Elective	4	Elective	4
INTP 3970	4		
	18		**16**

Total Hours: 129

American Sign Language and Human Services, BS

Website (https://cssh.northeastern.edu/asl/)

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American Sign Language (ASL) is estimated to be the third most used language in the United States and its visibility in society is on the rise in recent years. There are roughly 500,00 to 2,000,000 Deaf, DeafBlind, or hard of hearing people in the United States who use ASL as their primary language, and a large number of non-Deaf signers use or learn ASL as a second language. A disproportionate percentage of Deaf people experience socioeconomic disadvantage due to their dual status as members of both a cultural linguistic minority group and a disability group. As a result, there is a broad societal misunderstanding of Deaf, signing people's minority language and culture—their lived experience—which creates barriers to educational and economic opportunity. While state and federal legislation enables improved civic engagement by Deaf, hard of hearing, and DeafBlind individuals, there is continued need to elevate quality of life, equity, and the rich contributions of the diverse members of the American Deaf communities.

The Bachelor of Science in American Sign Language and Human Services is an integrated program of study dedicated to preparing individuals to interact in a positive and supportive manner with members of the American Deaf Community. The curriculum is designed to assist students in acquiring competence in ASL, developing an understanding of the diverse American Deaf communities and Deaf culture, and applying linguistic and sociocultural skills and knowledge to the discipline of human services, in order to contribute to civic engagement and social justice for Deaf people.

The combined major offers a wide array of courses as well as volunteer, internship, and practicum opportunities to learn from Deaf people's lived experiences through community and industry connections. The program provides opportunities that will allow students an opportunity to acquire the linguistic, cognitive, and ethical decision-making skills as well as the sociocultural knowledge necessary to work in Deaf Community, sign-language-related disciplines. Students pursuing a combined major in human services integrate their foundation in ASL and the Deaf Community with human service organizations.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

American Sign Language Requirements

Code	Title	Hours
American Sign Language		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
AMSL 3102	Advanced ASL 2	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Linguistics		
LING 1150	Introduction to Language and Linguistics	4
DEAF 2700	ASL Linguistics	4
Performance Interpreting		
INTP 3500	The Interpreting Profession	2

Interpreting		
INTP 3510	Interpreting Inquiry Texts	4

Human Services Requirements

Code	Title	Hours
Human Services		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4700	Senior Seminar in Human Services	4
Human Services Electives		
Complete two courses in the HUSV subject area.		8

Integrative Requirement

Code	Title	Hours
INTP 4940	Interpreting Research Capstone	4
HUSV 4994	Human Services Internship	6

Combined Major GPA Requirement

Minimum 2.750 GPA required in all ASL courses

Minimum 2.500 overall GPA required

Combined Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Four Years, No Co-op

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
AMSL 1101	4	AMSL 1102	4	Vacation	0	Vacation	0
DEAF 1500	4	MATH 1215	4				
HUSV 1101	4	HSVC elective	4				
ENGW 1111	4	Elective	4				
	16		**16**		**0**		**0**

Year 2							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
AMSL 2101	4	AMSL 2102	4	Vacation	0	Vacation	0
LING 1150	4	DEAF 2700	4				
Elective	4	HUSV 2300	4				
INTP 3500	2	Elective	4				
	14		**16**		**0**		**0**

Year 3							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
DEAF 2500	4	HUSV 2970	4	Vacation	0	Vacation	0
INTP 3510	4	Elective	4				
AMSL 3101	4	ENGW 3315	4				

HSVC elective	4	AMSL 3102	4		
	16		**16**	**0**	**0**

Year 4

Fall	Hours	Spring	Hours
HUSV 3900	4	HUSV 4700	4
HUSV 4994	6	INTP 4940	4
Elective	4	Elective	4
Elective	4	Elective	4
	18		**16**

Total Hours: 128

American Sign Language and Linguistics, BS

The American Sign Language (ASL) & Linguistics combined major is an intensive program of study dedicated to preparing students to interact in a positive and supportive manner with members of the American Deaf Community while simultaneously providing students with an understanding of the theoretical, cultural, and social components of all human language, including ASL, so that they can better understand how ASL is related to spoken languages and other signed languages. This curriculum is designed to assist students in acquiring competence in American Sign Language; and in developing an understanding of the American Deaf Community and its culture, the acquisition and analysis of human languages (signed and spoken), and how human languages work in everyday use (e.g., comprehension, generation, translation).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

American Sign Language Requirements

Code	Title	Hours
Language Requirement		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Interpreting		
INTP 3500	The Interpreting Profession	2
INTP 3510	Interpreting Inquiry Texts	4

Linguistics Requirements

Code	Title	Hours
Linguistics Foundations		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Psychology of Language		
PSYC 1101	Foundations of Psychology	4
PSYC 2320	Statistics in Psychological Research	4
PSYC 3464	Psychology of Language	4
Linguistics Electives		
Complete two courses (not counted elsewhere) from the following:		8
LING 3420	Phonetics	
LING 3422	Phonology	

LING 3424	Morphology	
LING 3442	Sociolinguistics	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
LING 3460	Historical Linguistics	
LING 4654	Seminar in Linguistics	
LING 4891	Research Seminar in Linguistics	
or LING 4970	Junior/Senior Honors Project 1	
or LING 4971	Junior/Senior Honors Project 2	
or LING 4991	Directed Study Research	
or PSYC 4991	Directed Study Research	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4658	Seminar in Psycholinguistics	
Seminar Requirement		
Complete one course (not counted elsewhere) from the following:		4
LING 4654	Seminar in Linguistics	
LING 4891	Research Seminar in Linguistics	
PSYC 4658	Seminar in Psycholinguistics	

Integrative Courses

Code	Title	Hours
DEAF 2700	ASL Linguistics	4
INTP 4940	Interpreting Research Capstone	4
LING 3412	Language and Culture	4

Combined Major GPA Requirement

Minimum 2.750 GPA required in all ASL courses

Minimum 2.500 overall GPA required

Combined Major Credit Requirement

Complete 90 semester hours in the major.

Program Requirements

128 total semester hours required

Plan of Study

Sample, Four Years

Year 1

Fall	Hours	Spring	Hours
AMSL 1101	4	AMSL 1102	4
DEAF 1500	4	LING 2350	4
LING 1150	4	LING 3412	4
NUpath/Elective	4	NUpath/Elective	4
	16		**16**

Year 2

Fall	Hours	Spring	Hours
AMSL 2101	4	AMSL 2102	4
DEAF 2500	4	DEAF 2700	4
PSYC 1101	4	PSYC 2320	4
NUpath/Elective	4	NUpath/Elective	4
	16		**16**

Year 3

Fall	Hours	Spring	Hours
AMSL 3101	4	Linguistic Structure course	4
INTP 3500	2	Linguistic Structure course or Linguistics Elective	4
INTP 3510	4	PSYC 3464	4
Linguistic Structure course	4	NUpath/Elective	4
NUpath/Elective	4		
	18		**16**

Year 4

Fall	Hours	Spring	Hours
INTP 4940	4	Linguistics Seminar	4
Linguistics Elective or Linguistic Structure course	4	Linguistics Elective	4
NUpath/Elective	4	NUpath/Elective	4
NUpath/Elective	4	NUpath/Elective	4
	16		**16**

Total Hours: 130

American Sign Language and Psychology, BS

American Sign Language (ASL) is estimated to be the third most used language in the United States and its visibility in society is on the rise in recent years. There are roughly 500,000 to 2,000,000 Deaf, DeafBlind, or hard of hearing people in the United States who use ASL as their primary language, and a large number of non-Deaf signers use or learn ASL as a second language. A disproportionate percentage of Deaf people experience socioeconomic disadvantage due to their dual status as members of both a cultural linguistic minority group and a disability group. As a result, there is a broad societal misunderstanding of Deaf, signing people's minority language and culture—their lived experience—which creates barriers to educational and economic opportunity. While state and federal legislation enables improved civic engagement by Deaf, hard of hearing, and DeafBlind individuals, there is continued need to elevate quality of life, equity, and the rich contributions of the diverse members of the American Deaf communities.

The program offers a wide array of courses as well as volunteer, co-op, and research opportunities to learn from Deaf people's lived experiences through community and industry connections.

This combined major educates students in cognitive psychology, psycholinguistics, and the structures of human languages in general and ASL in particular. The curriculum is designed to assist students in acquiring competence in ASL, develop an understanding of the diverse American Deaf communities and Deaf culture, better understand cognitive efforts of interpreters' language transfer, as well as gain insights into various features of spoken language and experience firsthand the principles underlying the spatial organization of discourse required by signed languages. This knowledge and the psychology background from the major provide a foundation for more advanced studies of ASL and interpreting or psychology and Deaf people.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

American Sign Language Requirements

Code	Title	Hours
American Sign Language		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Linguistics		
LING 1150	Introduction to Language and Linguistics	4
DEAF 2700	ASL Linguistics	4
Interpreting		
INTP 3500	The Interpreting Profession	2
INTP 3510	Interpreting Inquiry Texts	4
INTP 3970	Research Methods for Interpreting and Translation (Research Methods for Interpreting and Translation)	4

Psychology Requirements

Code	Title	Hours
Psychology		
PSYC 1101	Foundations of Psychology	4
PSYC 2320	Statistics in Psychological Research	4
PSYC 3466	Cognition	4

Psychology Lab or Directed Study		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	
PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
PSYC 4991	Directed Study Research	
Personal/Social Bases of Behavior (Area A)		
Complete two of the following:		8
PSYC 3400	Personality	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3406	Clinical Psychology and Mental Health	
Biological/Cognitive Bases of Behavior (Area B)		
Complete one of the following:		4
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3458	Biological Psychology	
Language/Cognition Elective		
Complete one of the following:		4
PSYC 4520		
PSYC 4522	Psychology of Reading	
PSYC 4524	Cognitive Development	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4674	Seminar in Cognitive Neuroscience	

Integrative Requirements

Code	Title	Hours
INTP 4940	Interpreting Research Capstone	4
PSYC 3464	Psychology of Language	4

Combined Major GPA Requirement

Minimum 2.750 GPA required in all AMSL, INTP, and DEAF courses
Minimum 2.500 overall GPA required

Combined Major Credit Requirement

Complete 82 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 1101	4	AMSL 1102	4	Vacation	0	Vacation	0
DEAF 1500	4	LING 1150	4				
PSYC 1101	4	MATH 1215	4				
ENGW 1111	4	Elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 2101	4	AMSL 2102	4	Vacation	0	Vacation	0
DEAF 2500	4	PSYC 2320	4				
PSYC 3464	4	PSYC 3466	4				
INTP 3500	2	Elective	4				
Elective	1-4						
	15-18		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 3101	4	DEAF 2700	4	Vacation	0	Vacation	0
Psych Area A elective	4	Psych Area B elective	4				
ENGW 3315	4	Language/cognition elective	4				
INTP 3510	4	AMSL 3102	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
INTP 3970	4	INTP 4940	4
Elective	4	Psych lab elective	4
Elective	4	Psych Area A elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 127-130

American Sign Language and Theatre, BS

This major is designed for students who want to combine an understanding of the American Deaf Community; its language and culture to the study and making of theatre, including performance, design; and production. It offers both classroom and experiential learning on the creative, social, and linguistic relationship between theatre and the American Deaf Community. Students may study acting, dramatic literature, and production design to develop the skills to be able to make theatre accessible and to understand and create theatre with individuals from Deaf communities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

American Sign Language Requirements

Code	Title	Hours
A grade of C or higher is required in all ASL required courses.		
American Sign Language Requirements		
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4
AMSL 3101	Advanced ASL 1	4
AMSL 3102	Advanced ASL 2	4
Social and Cultural World		
DEAF 1500	Deaf People in Society	4
DEAF 2500	Deaf History and Culture	4
Linguistics		
DEAF 2700	ASL Linguistics	4
LING 1150	Introduction to Language and Linguistics	4
Interpreting		
INTP 3500	The Interpreting Profession	2

Theatre Requirements

Code	Title	Hours
A grade of C or higher is required for all theatre courses.		
Foundational Courses		
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts and Context		
Complete one of the following:		4
THTR 1220	Race, Power, and Performance	
THTR 2200	The American Black Theatre Experience	
THTR 2983	Topics in Theatre History and Culture	

THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3200	Queer Theatre and Performance	
Community Engaged Theatre		
Complete one of the following:		4
THTR 1215	Activism and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2340	Theatre and Society	
THTR 3100	Creative Storytelling for Social Engagement	
Intermediate or Advanced Courses		
Complete one of the following:		4
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3670	Mixed-Media Performance Lab	
THTR 4345	Advanced Acting for the Camera	
THTR 5700	Design for Immersive Performance	

Integrative Requirement

Code	Title	Hours
Integrative Requirement		
INTP 3550	Interpreting Scripted Texts	4
INTP 3970	Research Methods for Interpreting and Translation	4
Complete one of the following:		4
INTP 4940	Interpreting Research Capstone	
THTR 4702	Capstone: Creative Practice Research Project	
Supporting Courses		
INTP 1000	American Sign Language at Northeastern	1
or THTR 1000	Theatre at Northeastern	
ENGW 1111	First-Year Writing	4
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	4
or ENGW 3307	Advanced Writing in the Sciences	
or ENGW 3314	Advanced Writing in the Arts, Media, and Design	
EEAM 2000	Professional Development for Co-op	1

Electives

Complete general electives to fulfill the program total semester hours requirement.

Combined-Major GPA Requirement

Minimum 2.750 GPA required in all ASL, DEAF, INTP courses.

A minimum grade of C is required for all THTR and INAM courses.

A minimum grade of C is required for all ASL courses.

Minimum 2.500 overall GPA required

Combined-Major Credit Requirement

Complete 92 semester hours in the major.

Program Requirement

130 total semester hours required

Plan of Study

Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 1101	4	AMSL 1102	4	Elective	4	Vacation	0
DEAF 1500	4	THTR 1120	4	Elective	4		
THTR 1100	1	DEAF 2500	4				
THTR 1101	4	INAM 2000	4				
INTP 1000	1						
ENGW 1111	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AMSL 2101	4	AMSL 2102	4	Elective	4	Vacation	0
LING 1150	4	DEAF 2700	4	Elective	4		
INTP 3500	2	THTR 1131	4				
THTR 1270	4	THTR text and context course	4				
THTR 2000	1						
	15		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 3325	4	Co-op		Co-op	0	Elective	4
INTP 3550	4					Elective	4
AMSL 3101	4						
THTR community engaged theatre course	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3315	4	THTR 4702 or INTP 4940	4
THTR intermediate or advanced 2	4	AMSL 3102	4
INTP 3970	4	Elective	4
	12		**12**

Total Hours: 130

African American Studies, Minor

The African American studies minor offers students the opportunity to engage in focused analysis devoted to the critical and systematic examination of the cultural, political, social, economic, and historical theories, frameworks, and experiences of African-descended people in the United States of America.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Foundational		
AFAM 1101	Introduction to African American and Africana Studies	4
Humanities		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 2296	Early African-American Literature	
AFAM 2690	Boston in Literature	
AFAM 3120	Race, Crime, and Justice	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
Social Sciences		
Complete one of the following:		4
AFAM 1225	Gender, Race, and Medicine	
AFAM 2355	Race, Identity, Social Change, and Empowerment	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 2618	Community Psychology	
AFAM 3270	Race, Ethnicity, and Inequality	
AFAM 5001	Special Topics in Race and the Law	

Electives

Code	Title	Hours
Complete one AFAM or AFRS course at the 2000 level or above, not already taken.		4
Complete one AFAM or AFRS course at the 3000 level or above, not already taken.		4

GPA Requirement

2.000 GPA required in the minor

African Studies, Minor

The African studies minor is intended to offer students opportunities to explore the cultural, political, social, economic, and historical theories, frameworks, and experiences of the peoples and nations of the African continent.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Foundational		
AFRS 1101	Introduction to African Studies (A grade of C or higher is required)	4
Humanities		
Complete one of the following:		4
AFAM 1113	Black Popular Culture	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
Social Sciences		
Complete one of the following:		4
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
AFRS 3460	Contemporary Government and Politics in Africa	

ELECTIVES

Code	Title	Hours
Complete two of the following:		
One AFRS or AFAM course at the 2000-level or above, not already taken		4
One AFRS or AFAM course at the 3000-level or above, not already taken		4

GPA Requirement

2.000 GPA required in the minor

Africana Studies, Minor

The Africana studies minor offers students the opportunity to explore the interdisciplinary analysis of the cultural, political, social, economic, and historical aspects of the diaspora of African-descended people across the globe.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Foundational		
AFAM 1101	Introduction to African American and Africana Studies	4
Humanities		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 2296	Early African-American Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
Social Sciences		
Complete one of the following:		4
AFAM 1225	Gender, Race, and Medicine	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 3270	Race, Ethnicity, and Inequality	
AFRS 2307	Africa Today	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	

Electives

Code	Title	Hours
Complete one AFAM or AFRS course at the 2000 level or above, not already taken.		4
Complete one AFAM or AFRS course at the 3000 level or above, not already taken.		4

GPA Requirement

2.000 GPA required in the minor

American Sign Language, Minor

The American Sign Language and Interpreting Education (ASLIE) program curriculum is an intensive program of study dedicated to preparing individuals to interact in a positive and supportive manner with members of the American Deaf Community. This program is designed to assist students in acquiring competence in American Sign Language, developing an understanding of the American Deaf Community and its culture, and applying their linguistic and cultural skills and knowledge to a particular academic area of study.

The program offers a wide array of courses as well as volunteer, internship, and practicum opportunities. For students wishing to pursue a minor in ASL, the program is committed to providing opportunities that will allow them to acquire the linguistic, cognitive, and ethical decision-making skills as well as the sociocultural knowledge necessary to work in positive and supportive ways with Deaf people.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students are required to complete a minimum of seven classes. A maximum of two of those seven course requirements may be fulfilled by transfer credit.

Required Culture Courses

These courses must be taken at Northeastern University, not via study abroad or fulfilled via transfer credit.

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
DEAF 1500	Deaf People in Society	4

Required Language Courses

Students may waive up to four AMSL language courses by taking the ASL proficiency assessment in the ASL and Interpreting Education (ASLIE) program. Waived courses must be replaced by electives to meet the required number of courses in the minor.

Code	Title	Hours
AMSL 1101	Elementary ASL 1	4
AMSL 1102	Elementary ASL 2	4
AMSL 2101	Intermediate ASL 1	4
AMSL 2102	Intermediate ASL 2	4

Electives

Code	Title	Hours
Complete one of the following:		4
AMSL 3101	Advanced ASL 1	
AMSL 3102	Advanced ASL 2	
DEAF 2500	Deaf History and Culture	
DEAF 2700	ASL Linguistics	
AMSL 1511	ASL Classifiers	
DEAF 1550	Dynamics of the Deaf/Blind Community: Culture, History, and Communication	
AMSL 4992	Directed Study	

GPA Requirement

2.000 GPA required in the minor

Arabic, Minor

The Arabic minor focuses on two specific outcomes: developing students' linguistic proficiency and broadening their insights into Arab cultures so that students may engage in meaningful interactions with Arabic speakers throughout the world. The communication skills and transcultural awareness that students develop throughout the course of the minor prepare them for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Required Culture Course

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	
or ARAB 3101	Advanced Arabic 1	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
ARAB 2101	Intermediate Arabic 1	4
ARAB 2102	Intermediate Arabic 2	4

Electives

Please consult with the coordinator of the Arabic minor for specific course availability.

Code	Title	Hours
ARAB 3101	Advanced Arabic 1 (If not used for other requirements)	
ARAB 4992	Directed Study	
CLTR 1502	Introduction to Arabic Culture	
CLTR 4944	Cultural Engagement Abroad	
HIST 1185	Introduction to Middle Eastern History	
HIST 1290	Modern Middle East	
INTL 1160	Middle East Studies	
INTL 2200	America and the Middle East	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
POLS 3465	Government and Politics in the Middle East	

GPA Requirement

2.000 GPA required in the minor

Black Feminist Studies, Minor

This interdisciplinary minor offers students opportunities to critically engage with the histories and theories that sit at the intersections of race, gender, class, and sexuality. This minor will allow students to centralize the study of Black women from diverse disciplinary perspectives and provide students with opportunities to engage comparative and transnational Black feminist studies frameworks for analyzing gender, sexuality, and other concepts within the broader disciplines of Africana and women's, gender, and sexuality studies.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	4
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	

Electives

Code	Title	Hours
Complete two of the following:		8
AFAM 1113	Black Popular Culture	
AFRS 3900	Gender and Black World Literatures	
ENGL 2455	American Women Writers	
SOCL 4520	Race, Class, and Gender	
WMNS 1225	Gender, Race, and Medicine	
WMNS 2505	Digital Feminisms	
WMNS 3100	Gender, Social Justice, and Transnational Activism	

Chinese, Minor

The Chinese minor focuses on two specific outcomes: developing students' linguistic proficiency and broadening their insights into Chinese culture so that students may engage in meaningful interactions with Chinese speakers throughout the world. The communication skills and transcultural awareness that students develop throughout the course of the minor prepare them for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students are required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogue of Civilizations at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Required Culture Course

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
or CHNS 3101	Advanced Chinese 1	
or CHNS 3102	Advanced Chinese 2	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
CHNS 2101	Intermediate Chinese 1	4
or CHNS 2301	Intermediate Chinese Immersion 1	
CHNS 2102	Intermediate Chinese 2	4
or CHNS 2302	Intermediate Chinese Immersion 2	

Electives

Please consult with the coordinator of the Chinese minor for specific course availability. Complete two or more of the following to reach five total courses for the minor.

Code	Title	Hours
CHNS 3101	Advanced Chinese 1	
CHNS 3102	Advanced Chinese 2	
CHNS 3800	Special Topics in Chinese	
CHNS 4800	Special Topics in Chinese	
CHNS 4992	Directed Study	
CLTR 1500	Modern Chinese History and Culture	
or HIST 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 4944	Cultural Engagement Abroad	
HIST 2308	Law, Justice, and Society in Modern China	

GPA Requirement

2.000 GPA required in the minor

Film and International Cultures, Minor

The minor in Film and International Cultures allows students to study the rapidly expanding global visual culture. Students will explore the history, theory, aesthetics and criticism of film and other moving-image media on a global scale and in relation to culture, other arts, politics and propaganda. The minor also explores how the image and the film/propaganda industry shape the world we live in and the ways in which we conceive of ourselves and others.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: At least two of the courses taken for the minor must be at or above the 2000 level.

Required Culture Courses

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
CLTR 2001	World Cultures through Film	4

Film and Culture Study

Code	Title	Hours
Select one of the following pairings:		8
CLTR 1240 and CLTR 1505	Latin American Film and Latin American Culture, History, and Politics	
CLTR 1260 and CLTR 1700	Japanese Film and Introduction to Japanese Pop Culture	

Elective

Note: Courses taken for this requirement cannot be double-counted with courses taken to fulfill the film and culture study requirement.

Code	Title	Hours
Complete one of the following:		4
CLTR 1240	Latin American Film	
CLTR 1260	Japanese Film	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1501	Introduction to French Culture	
CLTR 1502	Introduction to Arabic Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 4655	Latin American Literature	

GPA Requirement

2.000 GPA required in the minor

German, Minor

We live in a truly global world where the leaders of tomorrow will dwell in and negotiate all transactions in spaces not claimed in exclusivity by a single people, language, or culture. Knowing German will help you become a truly global citizen. Successful completion of the minor demonstrates the attainment of intermediate to advanced proficiency in the language, as well as cultural understanding and agility. The minor also opens before you a fascinating cultural and intellectual world in and beyond the classroom with a myriad of opportunities to travel, live, and work abroad.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students are required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at NU. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Culture Course Requirement

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4

Language Requirement

Students may waive any of these courses by taking the language exam in the World Languages Center.

Code	Title	Hours
GRMN 2101	Intermediate German 1	4
GRMN 2102	Intermediate German 2	4

Electives

Code	Title	Hours
Complete two of the following courses:		
CLTR 4944	Cultural Engagement Abroad	
GRMN 3800	Special Topics in German	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
LING 1150	Introduction to Language and Linguistics	
LING 3412	Language and Culture	
PHIL 3343	Existentialism	
PHIL 3435	Moral Philosophy	
PSYC 3464	Psychology of Language	

GPA Requirement

2.000 GPA required in the minor

Global Health, Minor

The area of global health has become a critical field of study across and within diverse disciplines, because of the cross-border and cross-national implications of health-related risks for national security, commerce, transportation, and healthcare delivery itself. In collaboration with the College of Social Sciences and Humanities, the minor in global health is designed to provide undergraduate students an opportunity to explore and discuss the implications with an interdisciplinary lens. The minor is comprised of five courses: one foundation and one core course, three electives, and a global health experience to be approved by the global health minor advisor.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Foundation Course

Code	Title	Hours
AFRS 1270	Introduction to Global Health	4
or PHTH 1270	Introduction to Global Health	

Core Course

Code	Title	Hours
Complete one of the following. If additional courses are taken, they may be used as electives.		3-4
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
PHTH 4120	Global Perspectives on Discrimination and Health	
PHTH 5230	Global Health	

Elective Courses

Code	Title	Hours
Complete three courses from the following areas. Only two courses from any one area may count toward the minor electives. No more than two required courses in the student's major may count toward the minor electives. At least one of the minor electives must be at the 3000-level or above.		9-12
Area 1: Community and Public Health		
AFRS 4939	Community Health, Culture, and Development in Kenya (Dialogue of Civilizations only)	
CAEP 2050	Health Systems, Services, and Education in Ghana (Dialogue of Civilizations only)	
ENVR 1110	Global Climate Change	
PHTH 1261	Comparative Healthcare Systems (Dialogue of Civilizations only)	
PHTH 2301	Communication Skills for the Health Professions—Global (Dialogue of Civilizations only)	
PHTH 2350	Community and Public Health	
or PHTH 2351	Community and Public Health - Global	
or NRSG 4604	Public Health Community Nursing	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
PHTH 4540	Health Education and Program Planning	
Area 2: Biology of Health and Disease		
BIOL 1141	Microbes and Society	
BIOL 1143	Biology and Society	
BIOL 2327	Human Parasitology	
EEMB 3466	Disease Ecology	
Area 3: Society and Cultural Health / Area Studies		
AFRS 2900	Swahili, Culture, and Politics in Kenya (Dialogue of Civilizations only)	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ECON 1230	Healthcare and Medical Economics	
HIST 2233	The History of Medicine in North America	
LACS 1220	Latino, Latin American, and Caribbean Studies	

PHIL 1165	Moral and Social Problems in Healthcare
WMNS 3100	Gender, Social Justice, and Transnational Activism
or POLS 3100	Gender, Social Justice, and Transnational Activism
or ANTH 3100	Gender, Social Justice, and Transnational Activism
Area 4: Globalization and Development	
CRIM 1400	Human Trafficking
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3413	Health Economics and Healthcare Policy
ECON 3416	Behavioral Economics
ECON 5292	Gender and Development Economics
HLTH 2100	Interprofessional Ethics for Individual and Population Health
INTL 1101	Globalization and International Affairs
POLS 1160	International Relations

Global Health Experience

Complete a global health experience that has been approved by the global health minor advisor.

Recommended

Competency in another language other than English is recommended.

Completion of the Minor

All coursework must be completed at a minimum grade of B and courses may not be taken Pass/Fail.
Complete a minimum of 16 semester hours.

3.000 GPA required in the minor.

Italian, Minor

We live in a truly global world where the leaders of tomorrow will dwell in and negotiate all transactions in spaces not claimed in exclusivity by a single people, language or culture. Knowing Italian will help you become a truly global citizen. Successful completion of the minor demonstrates the attainment of intermediate to advanced proficiency in the language, as well as cultural understanding and agility. It also opens before you a fascinating cultural and intellectual world in and beyond the classroom with a myriad of opportunities to travel, live and work abroad.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at NU. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count towards the five classes in the minor.

Required Culture Courses

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4

Required Language Courses

Students may waive any of these courses by taking the language exam in the World Language Center.

Code	Title	Hours
ITLN 2101	Intermediate Italian 1	4
ITLN 2102	Intermediate Italian 2	4

Electives

Code	Title	Hours
CLTR 1503	Introduction to Italian Culture	
CLTR 4944	Cultural Engagement Abroad	
ITLN 3101	Advanced Italian 1	
ITLN 4992	Directed Study	

GPA Requirement

2.000 GPA required in the minor

Japanese, Minor

The Japanese minor focuses on two specific outcomes: developing students' linguistic proficiency and broadening their insights into Japanese culture so that students may engage in meaningful interactions with Japanese speakers throughout the world. The communication skills and transcultural awareness that students develop throughout the course of the minor prepare them for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five courses in the minor.

Required Course

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
or JPNS 3101	Advanced Japanese 1	
or JPNS 3102	Advanced Japanese 2	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
JPNS 2101	Intermediate Japanese 1	4
JPNS 2102	Intermediate Japanese 2	4

Electives

Please consult with the coordinator of the Japanese minor for specific course availability. Complete two or more of the following to reach five total courses for the minor.

Code	Title	Hours
ASNS 1150	East Asian Studies	
CLTR 1260	Japanese Film	
CLTR 1700	Introduction to Japanese Pop Culture	
CLTR 4944	Cultural Engagement Abroad	
HIST 1252	Japanese Literature and Culture	
HIST 2351	Modern Japan	
JPNS 3101	Advanced Japanese 1	
JPNS 3102	Advanced Japanese 2	
JPNS 3800	Special Topics in Japanese	
JPNS 4992	Directed Study	

GPA Requirement

2.000 GPA required in the minor

French, Minor

The French minor focuses on two outcomes: developing students' linguistic proficiency and broadening their insights into francophone cultures so that students may engage in meaningful interactions with French speakers throughout the world. The communication skills and transcultural awareness that students acquire throughout the course of the minor provide preparation for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Required Culture Course

This course must be taken on campus. Courses taken on Dialogue programs, through study abroad, or at another institution may not be substituted.

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
or FRNH 3101	Advanced French 1	
or FRNH 3102	Advanced French 2	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
FRNH 2101	Intermediate French 1	4
FRNH 2102	Intermediate French 2	4

Electives

Complete two or more of the following to reach five total courses for the minor. Consult with the coordinator of the French minor for specific course availability.

Code	Title	Hours
Complete two of the following:		
CLTR 1501	Introduction to French Culture	
CLTR 4944	Cultural Engagement Abroad	
FRNH 2900	Specialized Instruction in French	
FRNH 3101	Advanced French 1	
FRNH 3102	Advanced French 2	
FRNH 4800	Special Topics in French	

GPA Requirement

2.000 GPA required in the minor

Portuguese, Minor

The Portuguese minor focuses on two outcomes: developing students' linguistic proficiency and broadening their insights into Lusophone cultures so that students may engage in meaningful interactions with Portuguese speakers throughout the world. The communication skills and transcultural awareness that students develop throughout the course of the minor provide preparation for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any prerequisites or equivalent language placements where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Required Culture Course

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
or PORT 3101	Advanced Portuguese 1	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
PORT 2101	Intermediate Portuguese 1	4
PORT 2102	Intermediate Portuguese 2	4

Electives

Complete two or more of the following to reach five total courses for the minor.

Code	Title	Hours
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 4944	Cultural Engagement Abroad	
PORT 3101	Advanced Portuguese 1	

GPA Requirement

2.000 GPA required in the minor

Russian, Minor

The Russian minor focuses on two specific outcomes: developing students' linguistic proficiency and broadening their insights into Russian culture so that students may engage in meaningful interactions with Russian speakers throughout the world. The communication skills and transcultural awareness that students develop throughout the course of the minor prepare them for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Required Culture Course

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
or RSSN 3101	Advanced Russian 1	
or RSSN 3102	Advanced Russian 2	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
RSSN 2101	Intermediate Russian 1	4
RSSN 2102	Intermediate Russian 2	4

Electives

Please consult with the coordinator of the Russian minor for specific course availability. Complete two or more of the following to reach five total courses for the minor:

Code	Title	Hours
CLTR 4944	Cultural Engagement Abroad	
HIST 1286	History of the Soviet Union	
INTL 3455	Russian Foreign Policy	
RSSN 3101	Advanced Russian 1	
RSSN 4992	Directed Study	
RSSN 4993	Independent Study	

GPA Requirement

2.000 GPA required in the minor

Spanish, Minor

The Spanish minor focuses on two outcomes: developing students' linguistic proficiency and broadening their insights into Hispanic cultures so that students may engage in meaningful interactions with Spanish speakers throughout the world. The communication skills and transcultural awareness that students develop throughout the course of the minor prepare them for a wide range of opportunities and experiences, both in and beyond the classroom.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Students will be required to take a total of five classes. These classes may include courses and language classes at or above the intermediate level in Dialogues of Civilization at Northeastern University. A maximum of two courses of transfer credits, including transferable courses taken abroad, may count toward the five classes in the minor.

Required Culture Course

This course must be taken on campus. It may not be replaced by courses taken on Dialogue programs, through study abroad, or at another institution.

Code	Title	Hours
CLTR 1120	Introduction to Languages, Literature, and Culture	4
or SPNS 3101	Advanced Spanish 1: Deconstructing Borders	
or SPNS 3102	Advanced Spanish 2: Hispanic and Latinx Identity	

Required Language Courses

Students may replace one or both of the following courses with electives if they successfully complete the language exam in the World Languages Center. See the electives list for options.

Code	Title	Hours
SPNS 2101	Intermediate Spanish 1	4
SPNS 2102	Intermediate Spanish 2: Becoming a Global Citizen	4

Electives

Complete two or more of the following to reach five total courses for the minor.

Code	Title	Hours
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 3720	Literature, Arts, and Poverty in Latin America	
CLTR 3805	Culture, Politics, and Media in Spain	
CLTR 4655	Latin American Literature	
CLTR 4944	Cultural Engagement Abroad	
LACS 1220	Latino, Latin American, and Caribbean Studies	
SPNS 2900	Specialized Instruction in Spanish	
SPNS 3101	Advanced Spanish 1: Deconstructing Borders	
SPNS 3102	Advanced Spanish 2: Hispanic and Latinx Identity	
SPNS 3401	Spanish for Healthcare Professionals 1	
SPNS 3502	Authentic Spanish Grammar	
SPNS 3601	Exploring Spoken Spanish	
SPNS 3602	Introduction to Spanish Linguistics	
SPNS 3603	Special Topics in Spanish Linguistics	
SPNS 3800	Special Topics in Spanish	
SPNS 3900	Specialized Instruction in Spanish	

GPA Requirement

2.000 GPA required in the minor

Economics

Website (https://www.northeastern.edu/cssh/economics/)

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Economics is the study of how societies produce and exchange goods and services to satisfy needs. Undergraduates may study economics to develop specialized analytical skills useful in today's complex labor market. Economics is distinguished among the social sciences by having a systematic normative as well as a positive framework for evaluating public policy. The major in economics is also a good foundation for graduate studies in advanced economics, public policy, law, or business.

Macroeconomics, which focuses on the overall economy, deals with such problems as inflation, unemployment, growth and instability, economic development, and governmental monetary and fiscal policies.

Microeconomics examines the economic behavior of individuals, households, firms, industries, and trade among countries. It seeks to assess the economic effects of market power and environmental damage and analyzes the economic aspects of natural resources, poverty, health, income distribution, trade unions, crime, and government regulation.

Courses in economics cover international trade; the behavior of families, firms, and industries in the market economy; the environmental costs of growth; and the economic aspects of natural resources, poverty, health, labor market discrimination, trade unions, crime, and governmental oversight. International and comparative perspectives are emphasized, most directly in courses in studies of the developing world and economic history.

Students may pursue a BA, a BS, or a minor in economics. Additionally, economics majors in their junior year may qualify for admission to the PlusOne program that combines the BA or BS with a MS in economics. The department also offers combined majors with business administration, international business, computer science, cybersecurity, data science, environmental and sustainability sciences, history, international affairs, mathematics, philosophy, political science, psychology, human services, and journalism, as well as an interdisciplinary major in politics, philosophy, and economics.

Graduates may find jobs in major corporations; financial institutions; nonprofits; NGOs; or federal, state, and local governments. Their work may involve planning and forecasting, assessing labor needs, and undertaking financial studies. They may estimate consumer demand for new products, conduct research, teach, or provide specialized consulting services.

Academic Progression Standards

The following are the requirements to progress in the major:

Code	Title	Hours
The following three core courses should be completed first:		12
ECON 1115	Principles of Macroeconomics	
ECON 1116	Principles of Microeconomics	
MATH 1231	Calculus for Business and Economics	
The following four core courses should be completed by the end of sophomore year:		16
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

PlusOne Program (MS) in Economics

The PlusOne Program in Economics provides the opportunity for Northeastern's undergraduate majors to complete both the undergraduate degree program (BS or BA) and the professional master's program (MS) in economics in less time than if the programs were completed sequentially. Undergraduate students may apply to the program as early as the end of their sophomore year or the beginning of their junior year. Students must demonstrate a strong quantitative background. One additional year of graduate study is required to complete the master's program. Students interested in this option should consult with the departmental undergraduate and graduate directors.

Programs

Bachelor of Arts (BA)

- Economics (p. 1951)
- History and Economics (p. 1954)

- International Affairs and Economics (p. 1957)
- Political Science and Economics (p. 1964)

Bachelor of Science (BS)

- Economics (p. 1970)
- Computer Science and Economics (p. 785)
- Cybersecurity and Economics (p. 867)
- Data Science and Economics (p. 899)
- Economics and Business Administration (p. 625)
- Economics and Human Services (p. 1989)
- Economics and International Business (p. 628)
- Economics and Journalism (p. 451)
- Economics and Mathematics (p. 1533)
- Economics and Philosophy (p. 2002)
- Economics and Psychology (p. 1645)
- Environmental and Sustainability Studies and Economics (p. 1477)
- History and Economics (p. 2012)
- Political Science and Economics (p. 2016)

Minor

- Economics (p. 2021)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Economics, BA

The Bachelor of Arts degree in economics maintains the tradition of the liberal arts with the language and arts courses required to satisfy the university's BA degree requirements. Along with the six core courses in economics, students may choose from over 40 electives. Many of these electives continue this liberal arts tradition with courses that focus on economic literature, economic history, the history of economic thought, and political economy. Students considering future doctoral studies in economics are strongly encouraged to pursue a double major in economics (BS) and mathematics (BS) or choose our combined economics/mathematics major.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Major Requirements for BA

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Capstone		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	

Economics Electives for BA

Code	Title	Hours
Complete 5 courses that are found in the following ranges, with no more than one in the ECON 1200 to ECON 1999 range:		20
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Breadth Courses for Economics Major

Code	Title	Hours
Calculus		
MATH 1241 or higher is recommended.		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		

Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 (Selecting this 5 SH option will add one additional semester hour to your degree program.)	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Economics Major GPA/Credit Requirement

Grades in the following four courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Complete 56 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000	1	ECON 1116	4	ECON elective 1	4	Elective	4
ECON 1115	4	MISM 2510, CS 1100 ***and*** CS 1101, or DS 2000 ***and*** DS 2001	4-5	Elective	4	Elective	4
ENGW 1111	4	Foreign language core course	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	Elective	4				
Foreign language core course	4						
	17		**16-17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Elective	4	Co-op	0
ECON 2350	4	EESH 2000	1	Elective	4		
Foreign language core course	4	ECON elective 2	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	ECON elective 4	4	Co-op	0
		ENGW 3308	4	Elective	4		
		ECON elective 3	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692 or 4997	4
		ECON elective 5	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130-131

History and Economics, BA

The Department of History and the Department of Economics offer an interdisciplinary combined major in history and economics. Students interested in the combined major integrate the study of economic systems and theories with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Electives		
Complete two HIST courses at any level in any field.		8
Introductory-Level Elective		
Complete one history course from the 1000 level (excluding HIST 1200 and HIST 1201).		4
Intermediate/Advanced History Electives		
Complete two HIST courses numbered 2000 or above (excluding HIST 2301 and HIST 2302).		8
Advanced History Elective		
Complete one HIST course numbered 3000 or above (excluding HIST 4701).		4

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or HIST 1000	History at Northeastern	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ECON 3520	History of Economic Thought	4
Economics Electives		
Complete two economics elective courses that are found in the following ranges, with no more than one in the ECON 1200 to ECON 1999 range. Additionally, courses used to satisfy the integrative course requirement and ECON 3520 may not be used as economics electives:		8
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Supplemental Courses		
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Calculus		
It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Capstone Requirements

Code	Title	Hours
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
HIST 4701	Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
ECON 1292	Economic History of the Middle East	
ECON 3470	American Economic History	
HIST 2011	Capitalism and Business: A Global History	

History and Economics Major GPA/Credit Requirements

Grades in the following four economics courses must average a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Complete 90 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000 or HIST 1000	1	ECON 1116	4	ECON 2315	4	ECON elective 1	4
ECON 1115	4	MISM 2510, CS 1100 ***and*** CS 1101, or DS 2000 ***and*** DS 2001	4	HIST elective 3	4	Elective	4
HIST 1200	1	HIST elective 1	4				
HIST 1201	4	HIST elective 2	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
Foreign language or elective	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2316	4	ECON 2350	4	Elective	4	Co-op	
HIST 2301	4	EESH 2000	1	Elective	4		
HIST 2302	1	HIST elective 4	4				
Elective	4	HIST elective 5	4				
Elective	4	Foreign language or elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ECON elective 2	4	Co-op	
		ECON 3520	4	HIST elective 7	4		
		ENGW 3315	4				
		HIST elective 6	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ECON 3470, HIST 2011, or ECON 1292	4
		ECON 4692, 4997, or HIST 4701	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

International Affairs and Economics, BA

This combined major fosters an awareness of global affairs and international economic issues since the early 20th century through diverse and cross-disciplinary theories of economic development and growth; states, societies, and markets (the intersection of politics and economics); and the role of states, civil societies, and social movements in crafting or addressing economic strategies, inequalities, and citizenship rights.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
International Affairs/Economics at Northeastern		
INTL 1000	International Affairs at Northeastern	1
or ECON 1000	Economics at Northeastern	
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following with one course numbered 2000 or above. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements:		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	

POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business

JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses:		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		

ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 3520	History of Economic Thought	4

Economics Electives

Code	Title	Hours
Complete three Economics elective courses from the following ranges with no more than one in the ECON 1200 to ECON 1999 range. Additionally, courses used to satisfy international affairs requirements, courses used to satisfy the integrative requirement, and ECON 3520 may not be used as Economics electives.		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Supporting Courses

Code	Title	Hours
Calculus		
It is recommended that MATH 1241 or higher is chosen.		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Methods		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
INTL 2718	Research Methods in International Affairs	
MISM 2510	Fundamentals of Information Analytics	

Integrative Requirements

Code	Title	Hours
Development Economics		
ECON 1291	Development Economics	4
Senior Seminar		
Complete one of the following with a thesis or project that integrates both international affairs and economics:		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	
or INTL 4700	Senior Capstone Seminar in International Affairs	

International Affairs and Economics Combined-Major GPA

Grades in the following Economics courses must average a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4

International Affairs and Economics Combined-Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ECON 1116	4	ECON elective 1	4	Elective	4
ENGW 1111	4	HIST 2211	4	INTL elective	4	Elective	4
INTL 1000	1	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
INTL 1101	4	POLS 1160	4				
Foreign language core course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1100, MISM 2510, or DS 2000 ***and*** DS 2001	4	ECON 2316	4	ECON elective 2	4	Co-op	0
ECON 2315	4	ECON 2350	4	Elective	4		
Foreign language core course	4	Foreign language core course	4				
INTL elective	4	INTL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 3520	4	INTL elective	4	Co-op	0
		INTL 3400	4	Elective	4		
		INTL elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692 or 4997	4
		ECON elective 3	4
		INTL elective	4
		INTL elective	4
		or INTL 4700	
	0		**16**

Total Hours: 129

Political Science and Economics, BA

The combined major in political science and economics offers students the opportunity to integrate the study of politics and government with the study of economics. Students complete the core courses in political science along with core courses in economics that cover both macroeconomic and microeconomic perspectives. This combined major highlights the important role that the economy plays in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses POLS 2000 to POLS 5999		16

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below.

- American Political Institutions (p. 1966)
- Campaigns and Elections (p. 1966)
- Comparative Politics (p. 1966)
- Identity, Culture, and Politics (p. 1967)
- International Relations and Diplomacy (p. 1967)
- Law and Legal Studies (p. 1967)
- Public Policy (p. 1967)
- Security Studies (p. 1968)

Economics Requirements for BA

Code	Title	Hours
Breadth Courses		
Calculus		
It is recommended that MATH 1241 or higher is chosen.		
MATH 1231	Calculus for Business and Economics	4

or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 3520	History of Economic Thought	4
Economics Electives		
Complete 3 Economics elective courses that are found in the following ranges, with no more than 1 in the ECON 1200 to ECON 1999 range. Additionally, ECON 3520 may not be used as an Economics elective:		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Supporting Courses

Complete either of the statistics and departmental elective combinations listed below:

COMBINATION A

Code	Title	Hours
Statistics		
POLS 2400	Quantitative Techniques	4
Economics		
Complete one course within the following ranges, excluding ECON 3520. This course may not also be used as an Economics elective.		4
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

COMBINATION B

Code	Title	Hours
Statistics		
ECON 2350	Statistics for Economists	4
Political Science		
Complete one course in the following range:		4
POLS 2401 to POLS 5999		

Integrative Requirements

Code	Title	Hours
Senior Seminar/Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	

POLS 4701	Political Science Senior Capstone
POLS 4703	Senior Thesis

Combined Major GPA/Credit Requirement

Grades in the following required Economics courses and in Quantitative Techniques (POLS 2400) or Statistics for Economists (ECON 2350) must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	

Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		

Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111	4	ECON 1116	4	Elective	4	Elective	4
POLS 1155	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
Elective	4	POLS 1150	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Political Theory Course	4	Co-op	0
POLS 1160	4	POLS 2400 or ECON 2350	4	Elective	4		
ECON elective 1	4	POLS elective	4				
POLS elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 3520	4	ENGW 3315	4	Co-op	0
		ECON elective 2	4	ECON elective 3	4		
		POLS elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		POLS 4701, 4703, ECON 4692, or ECON 4997	4
		ECON or POLS elective (See Supporting Courses, Combinations A and B.)	4
		Elective	4

Elective	4
0	**16**

Total Hours: 128

Economics, BS

The Bachelor of Science degree focuses attention on the use of mathematics in economic models in the six core courses and many of the required seven electives. The BS degree allows ample room to take courses such as economic development, game theory, and mathematical economics in addition to more supporting courses in the mathematics and computer science departments. Students considering future doctoral studies in economics are strongly encouraged to pursue a double major in economics (BS) and mathematics (BS) or to choose our combined economics/mathematics major.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Required Courses

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Senior Seminar		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	

Electives

Code	Title	Hours
Complete seven courses found in the following ranges, with no more than two at the 1000 level:		28
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Breadth Courses

Code	Title	Hours
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 *	

DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum
MISM 2510	Fundamentals of Information Analytics

* Selecting this 5 SH option will add one additional semester hour to your degree program.

Economics Major GPA/Credit Requirement

Grades in the following 4 Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Complete 64 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000	1	ECON 1116	4	ECON elective 2	4	Elective	4
ECON 1115	4	MISM 2510, CS 1100 ***and*** CS 1101, or DS 2000 ***and*** DS 2001	4-5	Elective	4	Elective	4
ENGW 1111	4	ECON elective 1	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	Elective	4				
Elective	4						
	17		**16-17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	ECON elective 4	4	Co-op	0
ECON 2350	4	EESH 2000	1	Elective	4		
Elective	4	ECON elective 3	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	ECON elective 6	4	Co-op	0
		ENGW 3308	4	Elective	4		
		ECON elective 5	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692 or 4997	4
		ECON elective 7	4
		Elective	4

	Elective	4
	0	**16**

Total Hours: 130-131

Computer Science and Economics, BS

The combined major in computer science and economics integrates fundamental economics courses with a strong programming foundation. Studying both the behavior of individuals and the collective behavior of industries and governments, students will utilize computing skills to address complex issues within the field.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ECON 1000	Economics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
CS 2800	Logic and Computation	4
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Choose one of the following:		4
IS 4200	Information Retrieval	
or IS 4300	Human Computer Interaction	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 8 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4

ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete four ECON elective courses from the following ranges with no more than two at the ECON 1200-1999 range:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Economics Capstone		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	

Integrative Course Requirement

Code	Title	Hours
The following courses are used in other areas of the major:		
ECON 2560	Applied Econometrics	4
IS 2000	Principles of Information Science	4

Supporting Courses

Code	Title	Hours
Mathematics		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one course from the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	

ENGW 3308	Advanced Writing in the Social Sciences
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Economics GPA Requirement

Grades in the following required Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Exploring Creative Expression and Innovation
- Understanding Societies and Institutions
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Computer Science and Economics Major Credit Requirement

Minimum of 100 semester hours is required in the major

Program Requirement

133 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4	ECON 2315	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 2800	4	CS 1210	1	ECON elective 3	4	Co-op	0
CS 3000	4	CS 3200	4	Elective	4		
ECON 2350	4	ECON 2316	4				

ECON elective 1	4	ECON 2560	4				
		ECON elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Computing and social issues requirement	4	ENGW 3302, 3308, or 3315	4	Co-op	0
		ECON elective 4	4	Elective	4		
		Khoury Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692 or 4997	4
		Information Science Course	4
		Khoury elective	4
		Elective	4
	0		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	ECON 1116	4	ECON 2315	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	ECON elective 2	4
CS 2800	4					Elective	4
CS 3000	4						
ECON 2350	4						
ECON elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	ENGW 3302, 3308, or 3315	4
ECON 2316	4					Elective	4
ECON 2560	4						
ECON elective 3	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Computing and social issues	4	ECON 4692 or 4997	4
ECON elective 4	4	Information Science Course	4

Khoury Elective	4	Khoury elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 134

Cybersecurity and Economics, BS

The cybersecurity and economics combined degree applies a multidisciplinary approach integrating fundamental economics courses with a strong programming foundation. Students will study both the behavior of individuals and the collective behavior of industries and governments, utilizing computing skills to ensure the reliability and security of cyberspace.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cybersecurity Major Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ECON 1000	Economics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamentals Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3650	Computer Systems	4
CS 4700	Network Fundamentals	4
or CS 4730	Distributed Systems	
Cybersecurity Required Courses		
CY 2550	Foundations of Cybersecurity	4
CY 3740	Systems Security	4
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4
or CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
CY 4740	Network Security	4
Cybersecurity Elective		
Complete one of the following:		4
COMM 2551	Free Speech in Cyberspace	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 3030	Global Criminology	
CRIM 4040	Crime Prevention	
CS 2800	Logic and Computation	
CS 4400	Programming Languages	
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
CS 4710	Mobile and Wireless Systems	

CY 4770	Cryptography
CY 5200	Security Risk Management and Assessment
CY 5210	Information System Forensics
CY 5770	Software Vulnerabilities and Security
DS 4300	Large-Scale Information Storage and Retrieval
DS 4400	Machine Learning and Data Mining 1
EECE 2322 and EECE 2323	Fundamentals of Digital Design and Computer Organization and Lab for EECE 2322
EECE 3324	Computer Architecture and Organization
EECE 4534 and EECE 4535	Microprocessor-Based Design and Lab for EECE 4534
IS 4300	Human Computer Interaction
LPSC 1101	Introduction to Law
LPSC 2301	Introduction to Law, Policy, and Society
LPSC 3303	Topics in Law and Public Policy
MATH 3527	Number Theory 1
MATH 4575	Introduction to Cryptography
PHIL 1145	Technology and Human Values
POLS 2390	Science, Technology, and Public Policy
POLS 3307	Public Policy and Administration
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism

Supporting Course

Code	Title	Hours
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Economics Requirements

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
Electives		
Complete four ECON electives that are found in the following range with, at most, two at the 1000 level:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Integrative Requirement

Code	Title	Hours
Capstone		
Complete one of the following:		4
CY 4930	Cybersecurity Capstone	

ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
Integrative Requirement		
ECON 2560	Applied Econometrics	4

Writing Requirement

Code	Title	Hours
College Writing		
Complete one of the following:		4
ENGW 1102	First-Year Writing for Multilingual Writers	
ENGW 1111	First-Year Writing	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3311	Advanced Writing for Prelaw	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 credits of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Economics GPA Requirement

Grades in the following four Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Understanding Societies and Institutions
- Analyzing and Using Data
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required.

Plan of Study
Sample Plan of Study:
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	Elective	4	Elective	4

CS 1800 and CS 1802	5	CY 2550	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	ECON 1116	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210	1	ECON elective 1	4	Co-op	0
CS 3650	4	CS 3000	4	Elective	4		
ECON 2315	4	CS 4700 or 4730	4				
ECON 2350	4	ECON 2316	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	CY 3740	4	ECON elective 3	4	Co-op	0
		ECON 2560	4	ECON elective 4	4		
		ENGW 3302, 3308, 3311, or 3315	4				
		ECON elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CY 4170 or 5240	4
		CY 4740	4
		Capstone	4
		Cybersecurity Elective	4
	0		**16**

Total Hours: 134

Data Science and Economics, BS

The combined major in data science and economics integrates fundamental economics courses with a strong programming foundation. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Utilizing these skill sets allows students to address complex issues in the behavior of individuals and the collective behavior of industries and governments.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Requirements

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ECON 1000	Economics at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		

DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
Economics Electives		
Complete five ECON elective courses that are found in the following ranges, with no more than two in the ECON 1200 to ECON 1999 range:		20
ECON 1200–ECON 1999		
ECON 2990–ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		
Economics Capstone		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	

Integrative Course Requirement

Code	Title	Hours
ECON 2560	Applied Econometrics	4

Supporting Course Requirements

Code	Title	Hours
Mathematics		
MATH 1241 or higher is recommended.		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Economics GPA Requirement

Grades in the following four courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Exploring Creative Expression and Innovation
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

130 total semester hours required

Plan of Study

Sample Pattern: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 3200	4	CS 3200	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	Elective	4	Elective	4
DS 2000 and DS 2001	4	ECON 1116	4				
ECON 1115	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
ENGW 1111	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210	1	Elective	4	Co-op	
DS 3500	4	DS 4200	4	Elective	4		
ECON 2315	4	DS 4300	4				
ECON 2350	4	ECON 2316	4				

		ECON elective 1	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		DS 4400	4	ENGW 3302, 3308, or 3315	4	Co-op	
		ECON 2560	4	ECON elective 3	4		
		ECON elective 2	4				
		Khoury elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ECON 4692 or 4997	4
		Computing and social issues	4
		ECON elective 4	4
		ECON elective 5	4
	0		**16**

Total Hours: 132

Economics and Business Administration, BS

Economics and business administration is a popular combined major that integrates economic theories and models with their business applications. Students complete the core courses for economics and business, including at least one business concentration. Students have the opportunity to choose from a variety of electives from either discipline.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or BUSN 1102	Personal Skill Development for Business	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
or MGSC 2301	Business Statistics	
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete five courses from the following ranges, with no more than one at the introductory (1000) level:		20
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4692 or ECON 4997 (Capstone may be taken as an elective.)		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
International Business/Social Responsibility		
INTB 1203	International Business and Global Social Responsibility	4

Business Concentration

Complete one of the following business concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 (Selecting this 5 SH option will add one additional semester hour to your degree program.)	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	
Integrative and Capstone Requirement		
STRT 4501	Strategy in Action	4

Economics GPA Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or MGSC 2301	Business Statistics	
ECON 2560	Applied Econometrics	

Business GPA Requirement

A minimum 2.000 GPA is required in business courses.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ECON 1116	4	ECON 2315	4	FINA 2201	4
ECON 1000 or BUSN 1102	1	FINA 2201	4	NUpath DD	4	MKTG 2201	4
ECON 1115	4	INTB 1203	4				
ENGW 1111	4	MGSC 2301 or ECON 2350	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 2301	4	Co-op	0	Co-op	0	ORGB 3201	4
BUSN 1103 or EESH 2000	1					Elective	4
CS 1100, MISM 2510, or DS 2000 ***and*** DS 2001	4						
ECON 2316	4						
ECON elective 1	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2560	4	Co-op	0	Co-op	0	Advanced writing in the disciplines	4
Concentration course 1	4					Elective	4
Concentration course 2	4						
ECON elective 2	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
STRT 4501	4	Concentration course 4	4
Concentration course 3	4	ECON elective 4	4
ECON elective 3	4	ECON elective 5	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Economics and Human Services, BS

This combined degree in economics and human services provides students with the opportunity to obtain the skills and knowledge related to each of these areas of study and an in-depth understanding of how these fields inform and impact each other. The study of economics provides students with an understanding of how individuals, firms, governments, and other organizations behave and interact with each other at both a macro and micro level. The study and practice of human services organizations focus on the impact of economic conditions on individuals, families, and communities. Human services organizations and policies use economic theory to inform responses to societal and economic challenges. Students will pair this knowledge with an understanding of how economics uses data and economic reasoning to help decision makers, businesses, and governments develop better public policy. This degree provides students with both the theoretical and practical curricula utilizing interdisciplinary thinking about inequality and nonprofit/government responses.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Overview and Co-op Courses

Code	Title	Hours
ECON 1000	Economics at Northeastern	1
or HUSV 1000	Human Services at Northeastern	
EESH 2000	Professional Development for Co-op	1

Economics Requirements

Code	Title	Hours
Economic Requirements		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Elective Courses		
Complete three economics elective courses found in the following ranges, with no more than one at the 1000 level:		12
ECON 1200–ECON 1999		
ECON 2990–ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		

Human Services Requirements

Code	Title	Hours
Human Services Overview		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services and Diverse Populations		
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	

HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
Human Services Elective Courses		
Complete three additional HUSV courses.		12

Supporting Courses

Code	Title	Hours
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1245	Calculus with Applications	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Capstone

Complete one of the following capstone/senior seminar options:

Code	Title	Hours
Economics Capstone Option		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	
Complete one additional HUSV elective.		4
Human Services Capstone Option		
HUSV 4700	Senior Seminar in Human Services	4
Complete one additional ECON elective at the 3000 level or above.		4

Integrative Course

Code	Title	Hours
Complete one of the following:		4
ECON 3410	Labor Economics	
ECON 3412	Women's Labor and the Economy	
ECON 3413	Health Economics and Healthcare Policy	
ECON 3416	Behavioral Economics	

Economics Major Grade Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON 2315	4	Elective	4
ENGW 1111	4	ECON 1116	4	Elective	4	Elective	4
HUSV 1000 or ECON 1000	1	HUSV 2300	4				
HUSV 1101	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2316	4	ECON 2350	4	Elective	4	Co-op	
HS diverse populations course	4	EESH 2000	1	Elective	4		
HUSV 2355		HUSV 2970	4				
HUSV 2800		HUSV 3570	4				
HUSV 2960		ECON elective 2	4				
ECON elective 1	4						
HUSV elective 1	4						
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ENGW 3308 or 3315	4	Co-op	
		HUSV 3900	4	HUSV elective 2	4		
		HUSV 4994	6				
		ECON elective 3	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Integrative Requirement	4
		Capstone & Elective: HUSV 4700 + one ECON course (Option A) or ECON 4692 (or ECON 4997) + one HUSV course (Option B)	8
		Elective	4
	0		**16**

Total Hours: 132

Economics and International Business, BS

The combined economics and international business degree gives students the opportunity to learn about economic theory and applications and how an economics perspective guides strategy and conduct of international business operations. Economics provides theoretical underpinnings for international business in areas such as export and import activity, foreign investment decisions, choosing overseas locations for manufacturing and conducting R&D, deciding on technology transfer, the setting and movement of foreign exchange rates, the role of trade balances in influencing the macroeconomy, and government regulations affecting global antitrust issues and the freedom of action of multinational corporations. The combined major gives interested students a chance to learn how economic principles can be utilized by managers in directing international business activities.

Program Requirements

Economics Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
ECON 1000	Economics at Northeastern	1
or BUSN 1102	Personal Skill Development for Business	
Required Economics Courses		
A grade of C or higher is required for ECON courses.		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
Economics Elective		
Complete four ECON electives with, at most, one course within the 1000 level.		16

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Business Core Option		
Complete one of the following:		4
ACCT 2301	Managerial Accounting	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	

Required Business Concentration

- Global Business and Strategy (p. 663)

Integrative Course Requirements

Code	Title	Hours
Complete one of the following (may not overlap with courses used for ECON elective section):		4
ECON 3290	History of the Global Economy	
ECON 3635	International Economics	

Supporting Courses

Code	Title	Hours
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1

or EESH 2000	Professional Development for Co-op	
Statistics Requirement		
MGSC 2301	Business Statistics	4
or ECON 2350	Statistics for Economists	
Calculus		
Complete one of the following:		4
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1245	Calculus with Applications	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1340	Intensive Calculus for Engineers	
MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

International Experiential Learning

Code	Title	Hours
Complete one of the following:		
One semester of study-abroad experience		
One co-op abroad experience		
Two Dialogue of Civilizations (summer programs)		
Two summer traditional study-abroad experiences		
Two approved short-term programs abroad		

Second Business Concentration (Optional)

A second business concentration is optional and may be chosen from the following list:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Business GPA Requirement

Minimum 2.000 GPA required in business courses

Economics GPA Requirement

Grades in the following four ECON courses must average a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Program Requirement

128 total semester hours required

Plan of Study

The plan below is a sample. Students should consult with their academic advisor to confirm individual academic plans.

This program requires one of the following abroad options:

Semester-long study-abroad experience; cooperative education abroad experience; two Dialogue of Civilizations (summer programs); two summer traditional study-abroad experiences.

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102 or INTL 1000	1	ACCT 1201	4	FINA 2201	4	MKTG 2201	4
ECON 1115 or 1116	4	ECON 1116 or 1115	4	NUpath	4	ECON undergraduate elective	4
ENGW 1111	4	MGSC 2301 or ECON 2350	4				
INTB 1205	4	NUpath	4				
MATH 1231	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
ECON 2315 or 2316	4					Elective	4
INTB 2205	2					Student may choose to participate in a Dialogue of Civilizations experience	
INTB 2206	2						
Complete one of the approved business core:	4						
ACCT 2301, INNO 2301, MISM 2301, or SCHM 2301							
ECON undergraduate elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2316 or 2315	4	Co-op	0	Co-op	0	ENGW 3304, 3308, or 3315	4
ECON 2560	4					Elective	4
ORGB 3201	4						
Complete one of the following:	4						
FINA 4320, INTB 3310, INTB 4983, MKTG 4512, or SCHM 3301							
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ECON 3290 or 3635	4	INTB 4202	4
ECON undergraduate elective	4	NUpath	4
NUpath	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Economics and Journalism, BS

The combined major in economics and journalism integrates the analytical and critical thinking skills from economics with the versatile and dynamic world of journalism. Combined with studying the principles, practices, and responsibilities of journalism, students have an opportunity to develop analytical skills that are useful to understand today's current economic events and debates. The skill sets students acquire allow them to better communicate information in areas such as public policy, business, law, and the media. The combined major highlights the important role journalism plays in shaping how economic issues are conveyed to the public.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Introduction

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or ECON 1000	Economics at Northeastern	

Co-op Course

Code	Title	Hours
EESH 2000	Professional Development for Co-op	1
or EEAM 2000	Professional Development for Co-op	

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete three electives from the following ranges with one of those courses, at most, at the 1000 level:		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		

Journalism Requirements

Code	Title	Hours
Introductory		
JRNL 1150	Understanding Today's News	4
Foundation Courses		
A grade of C or higher is required:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4

Law and Ethics		
Taking either course fulfills both the capstone requirement and the journalism law and ethics requirement:		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete three JRNL electives.		12

Supporting Courses

Code	Title	Hours
Calculus		
It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Integrative Courses

Code	Title	Hours
Complete one of the following (may not overlap with courses used for electives):		4
JRNL 3680	Advanced Reporting	
JRNL 3700	Data Storytelling	
Complete one of the following (may not overlap with courses used for electives):		4
ECON 1260	Contested Issues in the U.S. Economy	
ECON 3423	Environmental Economics	
ECON 3440	Public Finance	
ECON 3635	International Economics	
ECON 4640	Financial Economics	

Capstone

Fulfilled by the journalism law and ethics requirement.

Economics GPA/Credit Requirements

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Program Requirements

89 semester hours in the major

129 overall semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, ***and*** CS 1101, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111 or 1102	4	ECON 1116	4	Elective	4	Elective	4
JRNL 1000 or ECON 1000	1	JRNL 1101 and JRNL 1102	5				
JRNL 1150	4	Elective	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Elective	4	Co-op	
JRNL 2201	4	ECON 2350	4	Elective	4		
ECON elective 1	4	EESH 2000 or EEAM 2000	1				
JRNL elective 1	4	JRNL 2301	4				
		JRNL elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ECON 1260, 3423, 3440, 3635, or 4640	4	Co-op	
		JRNL 3700 or 3680	4	Elective	4		
		JRNL 3610	4				
		ECON elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ECON 4692 or 4997	4
		JRNL 3550 or 4650	4
		ECON elective 3	4
		JRNL elective 3	4
	0		**16**

Total Hours: 131

Economics and Mathematics, BS

Given the mathematical and graphical models used extensively in economics, economics and mathematics are natural partners. Our combined major with mathematics is designed for students who want to further develop their mathematics skills to enhance their understanding and interest in economics. This combined major is strongly recommended for students with an interest in pursuing graduate studies in economics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or MATH 1000	Mathematics at Northeastern	
Required Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete 4 economics electives found in the following ranges, with no more than two in the ECON 1200 to ECON 1999 range:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Mathematics Requirements

Code	Title	Hours
Required Mathematics		
MATH 1365	Introduction to Mathematical Reasoning	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Mathematics Electives		
Complete two courses in the following range:		8
MATH 3001 to MATH 4999		
The following courses are recommended:		
MATH 3150	Real Analysis	
MATH 4581	Statistics and Stochastic Processes	

Breadth Course

Code	Title	Hours
Computer Science		
Choose one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 *	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

* Selecting this 5 SH option will add one additional semester hour to your degree program.

Integrative Requirements

Code	Title	Hours
Advanced Writing in the Disciplines		
ENGW 3308	Advanced Writing in the Social Sciences	4
Integrative Course		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
MATH 4025	Applied Mathematics Capstone	
MATH 5131	Introduction to Mathematical Methods and Modeling	

Combined Major GPA/Credit Requirement

Code	Title	Hours
Grades in the following 4 courses must average to a minimum of C (2.000):		
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2560	Applied Econometrics	
MATH 3081	Probability and Statistics	

A cumulative GPA of 2.000 is required in all math courses.
A grade of C or higher is required in all math courses numbered MATH 2999 or below; grades below C will not count toward the degree.

Economics and Mathematics Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required.

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON 1116	4	MATH 2321	4	Elective	4
ECON 1115	4	ENGW 3308	4	Elective	4	Elective	4
MATH 1000 or ECON 1000	1	MATH 1342	4				
MATH 1341	4	Elective	4				
MATH 1365	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	MATH 3081	4	Co-op	0
MATH 2341	4	MATH 2331	4	Elective	4		
Elective	4	ECON elective 1	4				

Elective	4	Math elective 1	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	Elective	4	Co-op	0
		ECON elective 2	4	Elective	4		
		Math elective 2	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692, MATH 4025, MATH 5131, or ECON 4997	4
		ECON elective 3	4
		ECON elective 4	4
		Elective	4
	0		**16**

Total Hours: 129

Economics and Philosophy, BS

Both philosophy and economics are the disciplines of critical thinking—thinking in concrete and abstract terms to help put the world in perspective. The combined economics and philosophy major provides students with training to critically evaluate and assess policies and issues on both economic and ethical grounds, including issues such as globalization, immigration, environmental protections, the minimum wage, a fair and just tax, just working environments, and many more.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Overview and Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		
ECON 1000	Economics at Northeastern	1
or PHIL 1000	Philosophy at Northeastern	
Supporting Courses		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ECON 3520	History of Economic Thought	4
Economics Electives		
Complete two ECON elective courses from the following ranges with no more than one in the ECON 1200-1999 range. Additionally, ECON 3520 may not be used as an ECON elective:		8
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4

PHIL 2330	Modern Philosophy	4
Advanced Philosophy Elective		
Complete one PHIL course with a designation of 3000 or above not used to satisfy another requirement.		4
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Electives		
Complete two additional electives in philosophy or religion. At least one must be numbered 2000 or above.		8

Integrative Requirements

Code	Title	Hours
Complete the capstone and one of the other courses listed below that has not been used in the above requirements.		
Capstone		
PHIL 4550	Philosophy of Economics	4
Choose one additional integrative course:		4
PHIL 3435	Moral Philosophy	
or PHIL 4500	Theory of Knowledge	
or PHIL 4510	Philosophy of Science	
or PHIL 5001	Global Justice	
or PHIL 5002	Ethics and Public Policy	

Major GPA/Credit Requirement

Complete 76 semester hours in the major.

Grades in the following four Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ECON 1115	4	ECON 1116	4	ECON elective 1	4	Elective	4
ENGW 1111	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	Elective	4	Elective	4
PHIL 1000 or ECON 1000	1	PHIL 1115	4				
Elective	4	POLS 2325	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	ENGW 3302, 3302, or 3315	4	Co-op	0
ECON 2350	4	ECON 2560	4	Critical Philosophy Elective	4		
PHIL 2330	4	PHIL Advanced Elective	4				
ECON elective 2	4	PHIL Integrative Course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	Elective	4	Co-op	0
		Computing and Social Issues Requirement	4	Elective	4		
		PHIL Integrative Course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 3520	4
		ECON 4692	4
		PHIL Capstone	4
		PHIL Intermediate/ Advanced Elective	4
	0		**16**

Total Hours: 129

Economics and Psychology, BS

This combined major educates students in economics and psychology and the interface between the two disciplines. Economics courses provide a foundation in macroeconomics, microeconomics, and applied econometrics. The scope and sequence of psychology courses provide students with a foundation in the interdisciplinary science of psychology, including such topics as cognition, decision making, learning, and motivation. Students completing this program of study should be able to understand how the two fields jointly contribute to explaining the complexity of human behavior in an economic context.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Economics Requirements

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	
Economics Electives		
Complete four ECON courses from the following ranges with no more than two at the ECON 1200–1999 range. The course used to satisfy the integrative course requirement may not be used as an economics elective:		16
ECON 1200–ECON 1999		
ECON 2990–ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		

Psychology Requirements

Code	Title	Hours
Required Courses		
PSYC 1101	Foundations of Psychology	4
PSYC 3402	Social Psychology	4
PSYC 3450	Learning and Motivation	4
PSYC 3466	Cognition	4
Statistics		
Complete the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission):		4-5
PSYC 2320	Statistics in Psychological Research	
Required Lab		
Complete one of the following:		4
PSYC 4600	Laboratory in Research Design	
PSYC 4606	Laboratory in Biological Psychology	
PSYC 4610	Laboratory in Psycholinguistics	
PSYC 4612	Laboratory in Cognition	
PSYC 4614	Laboratory in Social Psychology	
PSYC 4616	Laboratory in Personality	

PSYC 4622	Laboratory in Sensation and Perception	
PSYC 4624	Laboratory in Affective Science	
PSYC 4626	Laboratory in Life-Span Emotional Development	
PSYC 4628	Laboratory in Developmental Psychology	
Required Seminar		
Complete one of the following:		4
PSYC 4656	Seminar in Biological Psychology	
PSYC 4658	Seminar in Psycholinguistics	
PSYC 4660	Seminar in Cognition	
PSYC 4662	Seminar in Personality	
PSYC 4664	Seminar in Social Psychology	
PSYC 4666	Seminar in Clinical Psychology	
PSYC 4668	Seminar in Sensation and Perception	
PSYC 4674	Seminar in Cognitive Neuroscience	
PSYC 4676	Seminar in Developmental Psychology	
Psychology Electives		
Complete three PSYC courses not used to fulfill requirements above.		12

Other Requirements Outside Major

Code	Title	Hours
PSYC 1000	Psychology at Northeastern	1
or ECON 1000	Economics at Northeastern	
EESC 2000	Professional Development for Co-op	1
or EESH 2000	Professional Development for Co-op	
ENGW 1111	First-Year Writing	4
COOP 3945	Co-op Work Experience	0
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Integrative Course

Code	Title	Hours
ECON 4681	Information Economics and Game Theory	4
or ECON 3416	Behavioral Economics	

NUpath Not Fulfilled by Major

Code	Title	Hours
NUPath EI—Expression and Innovation		4
NUPath IC—Interpreting Culture		4
NUPath DD—Difference and Diversity		4
NUPath ER— Ethical Reasoning		4
NUPath WD—Advanced Writing in the Discipline		4

Open Electives

Code	Title	Hours
Complete three open electives.		12

Combined Major Credit/ GPA Requirement

Complete 84 semester hours in the major.

Grades in the following required courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2560	Applied Econometrics	
PSYC 2320	Statistics in Psychological Research	

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000 or PSYC 1000	1	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON elective	4	ECON elective	4
ECON 1115	4	ECON 1116	4	PSYC elective	4	Open elective	4
ENGW 1111	4	PSYC 2320	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	PSYC elective	4				
PSYC 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	NUpath DD	4	Co-op	0
PSYC 3402	4	EESC 2000 or EESH 2000	1	PSYC elective	4		
ECON elective	4	PSYC 3466	4				
NUpath EI	4	NUpath IC	4				
		Open elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	ECON 4692 or 4997	4	Co-op	0
		PSYC 3450	4	PSYC lab	4		
		ECON elective	4				
		NUpath ER	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4681 or 3416	4
		NUpath WD	4
		PSYC seminar	4
		Open elective	4
	0		**16**

Total Hours: 130

Environmental and Sustainability Sciences and Economics, BS

Through this combined major, students develop an awareness of the intrinsic connection between the environment and economics and understand how long-run economic growth is crucially dependent on policies that account for the sustainability and well-being of the environment and that are grounded on environmental science.

There are a number of interdisciplinary opportunities involving environmental and sustainability sciences. Due to curricular overlap, combinations of any environmental and sustainability sciences major, including combined majors, cannot occur with majors or minors in ecology and evolutionary biology or environmental studies or with the minor in geoscience.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental and Sustainability Sciences Requirements

Code	Title	Hours
Core Courses		
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	5
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	4-5
or ENVR 2200	Earth's Changing Cycles	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	5
ENVR 2515	Sustainable Development	4
Complete one of the following skills courses:		4-5
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	
ENVR 5260	Geographical Information Systems	
Complete four courses from these lists:		16
Earth Oceans and Environmental Change		
ENVR 2310 and ENVR 2311	Earth Materials and Lab for ENVR 2310	
ENVR 3125	Global Oceanic Change	
ENVR 3600	Oceanography	
ENVR 4500 and ENVR 4501	Applied Hydrogeology and Lab for ENVR 4500	
ENVR 5600	Coastal Processes, Adaptation, and Resilience	
ENVR 5670	Global Biogeochemistry	
Conservation, Restoration, and Management		
EEMB 2400	Introduction to Evolution	
EEMB 3460	Conservation Biology	
EEMB 3465	Ecological and Conservation Genomics	
EEMB 4001	Landscape and Restoration Ecology	
ENVR 4505	Wetlands	
ENVR 5700	Streams and Watershed Ecology	
Sustainable Planning and Development		
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	

ENVR 5150	Climate and Atmospheric Change
ENVR 5210	Environmental Planning
ENVR 5800	Climate Adaptation and Nature-Based Solutions
Environment and Society	
ENVR 5450	Applied Social-Ecological Systems Modeling
ENVR 5750	Urban Ecology
POLS 2395	Environmental Politics and Policy
PPUA 5260	Ecological Economics
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

Economics Requirements

Code	Title	Hours
Core Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ECON 3423	Environmental Economics	4
Supporting Courses		
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Electives		
Complete two courses in the following ranges, with only one at the 1000 level:		8
ECON 1200–ECON 1999		
ECON 2990 –ECON 4689		
ECON 4900–ECON 4996		
ECON 5200–ECON 5999		

Integrative Requirements

Code	Title	Hours
Introduction to College		
ENVR 1000	Marine and Environmental Sciences at Northeastern	1
or ECON 1000	Economics at Northeastern	
or INSC 1000	Science at Northeastern	
Environmental and Sustainability Sciences Integrative Course		
Complete one of the following (courses used as electives may not overlap with courses used as integrative):		4
ENVR 3150	Food Security and Sustainability	
ENVR 5350	Sustainable Energy and Climate Solutions	

ENVR 5450	Applied Social-Ecological Systems Modeling	
ENVR 5563	Advanced Spatial Analysis	
Economics Integrative Course		
Complete one of the following (courses used as electives may not overlap with courses used as integrative):		4
ECON 1711	Economics of Sustainability	
ECON 3404	International Food Policy	
ECON 3425	Energy Economics	
Capstone		
Complete one of the following:		4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4997	Senior Thesis	
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	

English Requirements (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Major GPA/Credit Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4

83 semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111 or 1102	4	ECON 1116	4	Elective	4	Elective	4
ENVR 1000 or ECON 1000	1	ENVR 2200 or 1200	4				
ENVR 1400 and ENVR 1401	5	ENVR elective 1	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Elective	4	Co-op	
EEMB 2302	4	ECON 2350	4	Elective	4		
EEMB 2303	1	ENVR 2515	4				
ECON elective 1	4	ENVR elective 3	4				

ENVR elective 2	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ENVR elective 4	4	Co-op	
		ECON 3423	4	Elective	4		
		ENGW 3308, 3307, or 3315	4				
		ENVR 3150, 5350, 5450, or 5563	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR 4050, 4997, ECON 4692, or ECON 4997	4
		ECON 1711, 3404, or 3425	4
		ECON elective 2	4
		ENVR elective 5	4
	0		**16**

Total Hours: 131

History and Economics, BS

The Department of History and the Department of Economics offer an interdisciplinary combined major in history and economics. Students interested in the combined major integrate the study of economic systems and theories with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Complete one history course from the 1000 level (except HIST 1200 and HIST 1201).		4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
History Elective		
Complete two HIST courses at any level in any field.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Intermediate/Advanced History Courses		
Complete minimum of one history course numbered 2000 to 2999 (except HIST 2301 and HIST 2302).		4
Advanced History		
Complete minimum of one history course numbered 3000 to 4999 (except HIST 4701).		4
Supplemental Course for History—Research Methods		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 5260	Geographical Information Systems	
MATH 2280	Statistics and Software	
POLS 2400	Quantitative Techniques	

PSYC 2320	Statistics in Psychological Research
SOCL 2320	Statistical Analysis in Sociology

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or HIST 1000	History at Northeastern	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete four economics elective courses that are found in the following ranges, with no more than two in the ECON 1200 to ECON 1999 range. Additionally, courses used to satisfy the integrative course requirement may not be used as economics electives:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Supplemental Courses		
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Capstone Requirements

Code	Title	Hours
Complete one of the following options:		4
ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
HIST 4701	Capstone Seminar	

Integrative Requirements

Code	Title	Hours
Complete one of the following:		4
ECON 1292	Economic History of the Middle East	
ECON 3470	American Economic History	
HIST 2011	Capitalism and Business: A Global History	
HIST 2360	History of Capitalism in East Asia	

History and Economics Major GPA/Credit Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Complete 98 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study - Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000 or HIST 1000	1	ECON 1116	4	ECON elective 2	4	Elective	4
ECON 1115	4	ECON elective 1	4	Elective	4	Elective	4
HIST 1200	1	HIST elective 1	4				
HIST 1201	4	HIST elective 2	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
Elective	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON 2316	4	HIST elective 5	4	Co-op	0
ECON 2315	4	HIST elective 3	4	Elective	4		
HIST 2301	4	HIST elective 4	4				
HIST 2302	1	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2350	4	ECON 2560	4	Co-op	0
		ECON elective 3	4	ECON elective 4	4		
		HIST elective 6	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 3470, HIST 2011, or ECON 1292	4
		ECON 4692, HIST 4701, or ECON 4997	4
		HIST elective 7	4

Elective	4
0	**16**

Total Hours: 131

Political Science and Economics, BS

The combined major in political science and economics offers students the opportunity to integrate the study of politics and government with the study of economics. Students complete the core courses in political science along with core courses in economics that cover both macroeconomic and microeconomic perspectives. This combined major highlights the important role that the economy plays in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses from the following range, or complete a concentration as outlined below:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p.).

- American Political Institutions (p. 2018)
- Campaigns and Elections (p. 2018)
- Comparative Politics (p. 2018)
- Identity, Culture, and Politics (p. 2019)
- International Relations and Diplomacy (p. 2019)
- Law and Legal Studies (p. 2019)
- Public Policy (p. 2019)
- Security Studies (p. 2020)

Economics Requirements for BS

Code	Title	Hours
Breadth Courses		
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Calculus		
It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete three Economics elective courses found in the following ranges, with no more than one in the ECON 1200 to ECON 1999 range:		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Supporting Courses

Code	Title	Hours
Complete one of the statistics and departmental elective combinations listed below:		8
Combination A		
Statistics		
POLS 2400	Quantitative Techniques	
Economics		
Complete one course from the following ranges. This course may not also be used as an Economics elective:		
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Combination B		
Statistics		
ECON 2350	Statistics for Economists	
Political Science		
Complete one course in the following range:		
POLS 2401 to POLS 5999		

Integrative Requirements

Code	Title	Hours
Senior Seminar/Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Combined Major GPA/Credit Requirement:

Grades in the following required Economics courses and in Quantitative Techniques (POLS 2400) or Statistics for Economists (ECON 2350) must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	
ECON 2560	Applied Econometrics	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required.

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	

POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111	4	ECON 1116	4	Elective	4	Elective	4
POLS 1155	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
Elective	4	POLS 1150	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Political Theory Course	4	Co-op	0
POLS 1160	4	POLS 2400 or ECON 2350*	4	Elective	4		
ECON elective 1	4	ECON elective 2	4				
POLS undergraduate elective	4	POLS undergraduate elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ECON elective or POLS elective *	4	Co-op	0
		ECON elective 3	4	Elective	4		
		POLS undergraduate elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		POLS 4701, 4703, ECON 4692, or ECON 4997	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 128

* See Supporting Courses, Combinations A and B.

Economics, Minor

The minor in economics introduces students to fundamental concepts in economics such as market demand and supply, how firms compete with each other, household choice and behavior under scarcity constraints, government fiscal and monetary policy, inflation, unemployment, and growth and instability. Economics elective courses explore further topics such as international trade, development economics, food supply chain policy, the environmental costs of growth, the economic aspects of natural resources, poverty, healthcare markets, labor market discrimination, trade unions, crime, and government regulation, among others. Students are also exposed to historical perspectives and to international and comparative perspectives on these topics.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any prerequisites, corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
or ECON 2316	Microeconomic Theory	

Elective Courses

Code	Title	Hours
Complete two upper-level economics electives within the following ranges:		8
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

GPA Requirement

Minimum of 2.000 GPA required in the minor

English

Website (https://cssh.northeastern.edu/english/)

Theo Davis, PhD
Professor and Chair
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617.373.4540
617.373.2509 (fax)

In the Department of English, we explore how literary expression and rhetorical action shape and are shaped by the worlds in which they were created. Literature, language, and rhetoric offer powerful tools for understanding the ideas and beliefs that construct our lives, including present and historical formations of aesthetics, race, gender, sexuality, disability, class, colonialism, health, and the environment across a wide variety of media.

Whether you choose an English major, combine the English major with another area of study, or opt to pursue a minor, in the Department of English at Northeastern you join a community in which you can:

- Learn about the literatures and cultures of the United States, the United Kingdom, and the English-speaking world, past and present
- Investigate the rhetorics and literacies of local and global communities by using a variety of methods, including community-based, historical, and justice-based approaches
- Develop varieties of creative expression
- Engage meaningfully and generously with others through writing and discussion in our classrooms, workplaces, and communities
- Examine the power of language and rhetoric to effect action, shape knowledge and identity, and constitute communities
- Uncover how language operates through the lens of linguistics
- Explore English and the way that language shapes our communities and ourselves
- Discover how knowledge is produced through language and material forms, including digital forms
- Hone critical and analytic strategies and skills
- Balance theoretical perspectives with experiential practices
- Undertake independent research

In addition to the English major (p. 2024), we also offer several combined majors (https://cssh.northeastern.edu/english/program/combined-majors/); an English minor (p. 2102); a minor in writing (p. 2104); a minor in rhetoric (p. 400); and a minor in health, humanities, and society (p. 1231).

Academic Progression Standards

Same as university-wide standards described under “Academic Status (p. 88).”

PlusOne Program (MA) in English

English majors at the end of their sophomore year or the beginning of their junior year may qualify for application to the PlusOne program that combines the BA with the master’s degree in English. Students interested in this option should consult with the undergraduate program director in English by the end of the sophomore year.

Programs

Bachelor of Arts (BA)

- English (p. 2024)
- Africana Studies and English (p. 1878)
- English and Communication Studies (p. 299)
- English and Criminal Justice (p. 1816)
- English and Cultural Anthropology (p. 2044)
- English and Graphic and Information Design (p. 222)
- English and Philosophy (p. 2052)
- English and Political Science (p. 2056)
- English and Theatre (p. 544)
- History and English (p. 2069)
- Journalism and English (p. 410)
- Linguistics and English (p. 1707)
- Media and Screen Studies and English (p. 327)

Bachelor of Science (BS)

- Architecture and English (p. 145)
- Biology and English (p. 1391)
- Computer Science and English (p. 790)

Minor

- English (p. 2102)
- Rhetoric (p. 400)
- Writing (p. 2104)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

English, BA

Students in the English major study the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures. They analyze writing practices and related media from the Middle Ages through the present, from the quill pen to code. They practice a variety of theoretical and methodological approaches to the study of language, rhetoric, writing, and literature.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Major Requirements

Code	Title	Hours
Foundation Courses		
ENGL 1000	English at Northeastern	1
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1400	Introduction to Literary Studies	4
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	
Literary Periods		
Early Literatures		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 3101	Early Literatures	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Seventeenth to Eighteenth Centuries		
Complete one of the following:		4
ENGL 2296	Early African-American Literature	
or AFAM 2296	Early African-American Literature	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
Nineteenth Century		
Complete one of the followng:		4
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
Twentieth to Twenty-First Centuries		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
or ARTE 2301	The Graphic Novel	

ENGL 2440	The Modern Bestseller	
ENGL 2451	Postcolonial Women Writers	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Comparative Literature		
Complete two of the following:		8
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
or AFAM 2455	American Women Writers	
or WMNS 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2530	Fantasy Literature	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
or AFAM 2690	Boston in Literature	
ENGL 2695	Travel and Place-Based Writing	
ENGL 3487	Film and Text (Abroad)	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 2451	Postcolonial Women Writers	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3404	African American Rhetorical Traditions	
or AFAM 3404	African American Rhetorical Traditions	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3310	Advanced Writing in Literature	
ENGW 3311	Advanced Writing for Prelaw	
Writing		
Complete two of the following:		8

ENGL 2695	Travel and Place-Based Writing	
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
Diversity		
Complete one of the following courses, which can also count toward another requirement in the major:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
or AFAM 2296	Early African-American Literature	
ENGL 2455	American Women Writers	
or AFAM 2455	American Women Writers	
or WMNS 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3404	African American Rhetorical Traditions	
or AFAM 3404	African American Rhetorical Traditions	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or WMNS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3900	Gender and Black World Literatures	
or AFRS 3900	Gender and Black World Literatures	
or WMNS 3900	Gender and Black World Literatures	
Electives		
Complete any two ENGL courses, except for First-Year Writing and Advanced Writing in the Disciplines, that has not already been used to fulfill another requirement. The following courses may also be used as electives:		8
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	

Experiential Learning Requirement

Complete one course in experiential learning from the list below or any Dialogues of Civilization experience. (Other study-abroad programs may not be used.) This course can also count toward another requirement in the major.

Code	Title	Hours
Experiential Learning Course Work		
ENGL 2690	Boston in Literature	
or AFAM 2690	Boston in Literature	
ENGL 2740	Writing and Community Engagement	
ENGL 3340	Technologies of Text	
ENGL 3375	Writing Boston	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
Dialogues of Civilization		
Complete one Dialogues of Civilization experience, including but not limited to those offered by the department. (Other study-abroad programs may not be used.)		
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 2620	What Is Nature?	
ENGL 3487	Film and Text (Abroad)	

English Major Credit Requirement

Complete 64 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample 4 Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	EESH 2000	1	Literary period elective	4	Elective	4
ENGL 1400	4	ENGL 1160 or 1410	4	Elective	4	Elective	4
ENGW 1111	4	ENGL 1700 or 1701	4				
Foreign language core course	4	Foreign language core course	4				
Elective	4	Elective	4				
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative course elective	4	Co-op		Co-op		Writing and experiential education elective	4
Literary period elective	4					Elective	4
Foreign language core course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative course elective	4	Co-op		Co-op		Advanced Writing in the Disciplines	4
Literary period elective	4					Elective	4
Writing and experiential learning elective	4						
English elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
English elective	4	Capstone	4
Literary period elective	4	Elective	4
Theories and methods elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Africana Studies and English, BA

Overview

The combined major in Africana studies and English offers students the opportunity to integrate their studies of both disciplines and explore the historical, practical, and theoretical relationships between the two disciplines. In addition to considering the significant points of contention, students explore the ways in which insights from Africana studies can be brought to bear on the disciplinary issues and questions of English studies. Within the combined major, students may also choose to focus their studies on a range of topics related to literature, writing, narrative, and cultural production in the United States, the Americas, Europe, Africa, and across the global African Diaspora.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Introduction to College		
CLTR 1000	Cultures, Societies, and Global Studies at Northeastern	1
Foundational Course		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory Course		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete three of the following:		12
AFAM 2296	Early African-American Literature	
AFAM 2619	Race and Religion in Film	
AFAM 2690	Boston in Literature	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Sciences		
Complete three of the following:		12
AFAM 2355	Race, Identity, Social Change, and Empowerment	
AFAM 2600	Issues in Race, Science, and Technology	
AFAM 2618	Community Psychology	
AFAM 3120	Race, Crime, and Justice	
AFAM 3270	Race, Ethnicity, and Inequality	

AFAM 5001	Special Topics in Race and the Law
AFRS 2307	Africa Today
AFRS 2325	Black Feminist Studies
AFRS 2464	Natural Resources and Sustainable Development
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
AFRS 3460	Contemporary Government and Politics in Africa
CAEP 3310	Say It Loud: The Black Power Movement and Higher Education

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	

ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	

English Electives	
Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Integrative Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2296	Early African-American Literature	
or ENGL 2296	Early African-American Literature	
AFAM 3404	African American Rhetorical Traditions	
or ENGL 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
or ENGL 3664	Black Poetry and the Spoken Word	
AFRS 3900	Gender and Black World Literatures	
or ENGL 3900	Gender and Black World Literatures	

Capstone

Code	Title	Hours
Complete one capstone in either Africana Studies or English from the following:		4
AFAM 4700	Capstone	
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Africana Studies and English Combined-Major Credit Requirement

Complete 86 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required.

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000	1	ENGL 1400	4	ENGL elective	4	Elective	4
ENGL 1160	4	Africana studies social sciences course	4	Foreign language course	4	Elective	4
ENGW 1111	4	Foreign language course	4				
Africana studies foundational course	4	Integrative course	4				
Africana studies introductory course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Africana studies humanities course	4	Africana studies social sciences course	4	Africana studies humanities course	4	Co-op	
Africana studies social sciences course	4	Africana studies humanities course	4	Elective	4		
Africana studies social sciences course	4	ENGL diversity course	4				
Comparative ENGL course	4	ENGL Pre-19th century course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Advanced Writing in the Disciplines	4	ENGL writing course	4	Co-op	
		ENGL 19th/20th/21st-century literature course	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Capstone course	4
		ENGL theories and methods course	4
		ENGL elective	4
		Elective	4
	0		**16**

Total Hours: 129

English and Communication Studies, BA

The English department and the communication studies department offer an interdisciplinary combined major in English and communication studies. Broadly speaking, students in the combined major in English and communication studies at Northeastern integrate the study of literature and writing with studies of media, social, corporate, and political communications.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	

or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	

ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	

COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three additional COMM courses.		12

Integrative Requirement

Code	Title	Hours
Integrative English Course		
Complete one of the following:		4
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
Integrative Communication Studies Course		
COMM 3415	Communication Criticism	4
or COMM 4602	Contemporary Rhetorical Theory	

Communication Studies Grade Requirements

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	ENGL 1160 or 1410	4	Communication Studies cluster course	4	Foreign Language	4
COMM 1112 or 2301	4	Communication Studies foundational course	4	Communication Studies elective	4	Communication Studies elective	4
ENGL 1000 or COMM 1000	1	English diversity course	4				
ENGL 1400	4	English Pre-19th Century Literature elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Communication Studies writing-intensive	4
English 19th-20th-21st Century Literature elective	4					Communication Studies elective	4
English Theories and Methods course	4						
Foreign Language	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Communication Studies writing-intensive	4	Co-op		Co-op		Elective	4
English Comparative Literature elective	4					Elective	4
English Writing elective	4						
Foreign Language	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
English elective	4	English capstone	4
English elective	4	Integrative COMM Course	4
Integrative ENGL course	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

English and Criminal Justice, BA

The Department of English and School of Criminology and Criminal Justice offer a combined major in English and criminal justice. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. English courses prepare students to analyze and interpret various representations of crime, criminality, the law, justice, and ethics in both literary and nonliterary texts as they study the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures; analyze writing practices and related media; and practice a variety of approaches to the study of language, rhetoric, writing, and literature.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	

ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4

ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses successful students will develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
CRIM 3540	Addiction and Recovery	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4

Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000, or 5000 level.		8

Other Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
CRIM 1000	Criminal Justice at Northeastern	1
ENGL 1000	English at Northeastern	1
Integrative Course		
Complete one of the following:		4
ENGL 3325	Rhetoric of Law	
ENGL 3426	British and American Literature and Politics	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
or CRIM 4949	Senior Capstone Seminar	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours
CRIM 1000 or ENGL 1000	1	ENGL 1160 or 1410	4
ENGW 1111	4	CRIM 1110	4
CRIM 1100	4	CRIM 1120	4
ENGL 1400	4	Elective	4
Current crime and justice issues CRIM course	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-19th-century ENGL	4	19th-, 20th-, or 21st-century ENGL	4	Elective	4	Elective	4
Systems and institutions CRIM course	4	Crime problems elective	4				
ENGL theory/methods	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**4**		**4**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	Co-op		Co-op		Elective	4
CRIM 3700	4					Elective	4

ENGL comparative literature		4					
ENGL writing		4					
		16		**0**		**0**	**8**

Year 4

Fall	**Hours**		**Spring**	**Hours**			
Systemic issues CRIM elective		4	Solutions and reform course	4			
ENGL elective		4	ENGL diversity	4			
ENGL elective		4	Capstone	4			
Elective		4	Elective	4			
		16		**16**			

Total Hours: 129

English and Cultural Anthropology, BA

The Department of English and the Department of Sociology and Anthropology offer an interdisciplinary combined major in English and cultural anthropology. Broadly speaking, students in the combined major in English and cultural anthropology at Northeastern integrate the study of literature, language, and writing with the study of human culture and its intersections with structures of inequality (e.g., race, class, and gender) and contemporary global issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	

ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4

ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Additional "area courses" taken may count as anthropology electives.		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete three 4-semester-hour courses in addition to the above requirements. One study-abroad course may also count toward this requirement with prior permission from the department.		12

Capstone Requirement

Code	Title	Hours
Capstone Requirements		8
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	
ANTH 4600	Senior Seminar	

Integrative Requirements

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
English Integrative Course		
Complete one of the following:		4
ENGL 2450	Postcolonial Literature	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
Cultural Anthropology Integrative Courses		
Complete one of the following:		4
ANTH 3421	Foundations of Anthropological Theory	

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

English and Cultural Anthropology Combined Major Credit Requirement

Complete 92 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	ENGL 1160	4	Elective	4	Elective	4
ENGL 1400	4	ENGW 1111	4	Elective	4	Elective	4
English elective	4	ANTH 3410	4				
ANTH 1101	4	Anthropology elective	4				
ANTH 2305	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-19th Century period course	4	Co-op		Co-op		English Diversity course	4
Area Course	4					Writing course	4
Anthropology elective	4						
Theories & Methods course	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
English Comparative course	4	Co-op		Co-op		English elective	4
ANTH 3421	4					Advanced Writing in the Disciplines	4
Area course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGL Integrative course	4	ENGL 4710 or 4720	4
19th, 20th, 21st Century period course	4	Anthropology elective	4
ANTH 4600	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

English and Graphic and Information Design, BA

The Department of English and the Department of Art + Design offer an interdisciplinary combined major in English and graphic and information design. Students interested in the combined major in English and graphic and information design integrate the study of literature and writing with the design of message and meaning, integrating text, image, and data.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
English Course-Level Requirement		
In addition to the capstone, two of the courses chosen from the lists below must be numbered 3000–4999.		
Introduction to College		
ENGL 1000	English at Northeastern	1
Foundational Courses		
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1400	Introduction to Literary Studies	4
Diversity		
Complete one of the following courses. This course may also be used to fulfill an additional English requirement below:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre-Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2330	The American Renaissance	

ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3720	19th-Century Major Figure	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	

ENGL 3384	The Writer's Marketplace	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
English Electives		
Complete two additional ENGL electives.		8

Graphic and Information Design Requirements

Code	Title	Hours
Art and Design at Northeastern		
ARTF 1000	Art and Design at Northeastern	1
or ENGL 1000	English at Northeastern	
Art and Design Fundamentals		
ARTF 1122	Color and Composition (with optional ARTF 1123)	4
ARTF 2220 and ARTF 2221	Movement and Time and Movement and Time Tools	5
Art and Design History		
Complete any one ARTH course as long as prerequisites have been met.		4
Design		
ARTG 1270 and ARTG 1271	Design: Process + Practices and Studio for Design: Process + Practices	4
ARTG 1290 and ARTG 1291	Typographic Systems and Studio for Typographic Systems	4
ARTG 2242	Information Design Principles	4
ARTG 2252	Graphic Design Principles	4
ARTG 3350	Typography 2	4
Degree Project		
ARTG 4550	Design Degree Project	4
Art and Design Electives		
Complete two of the following:		8-10
ARTD 2360	Introduction to Photography (with optional ARTD 2361)	
ARTD 2380	Video Basics (with optional ARTD 2381)	
ARTF 1120	Observational Drawing	
ARTF 1121	Conceptual Drawing	
ARTF 1124	Form and Structure (with optional ARTF 1125)	
ARTF 2223	Experience and Interaction (with optional ARTF 2224)	
ARTG 2260	Programming Basics	
ARTG 2400	Interaction Design Principles (with optional ARTG 2401)	
ARTG 3444	Topics in Information Design Inquiry	
ARTG 3450	Graphic Design 2	
ARTG 3460	Identity and Brand Design	
ARTG 4554	Typography 3	

Integrative Requirement

Code	Title	Hours
Integrative English Course		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2780	Visual Writing	
ENGL 3340	Technologies of Text	

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops (Spring/Summer)

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTF 1122 (with optional ARTF 1123)	4	ARTG 1270 and ARTG 1271	4	ARTF 2220 and ARTF 2221	5	Elective	4
ENGL 1000 or ARTF 1000	1	ARTG 1290 and ARTG 1291	4	Elective	4	Elective	4
ENGL 1400	4	ENGW 1111	4				
ENGL 1450	4	ENGL 1160 or 1410	4				
Art + Design Elective (Recommended: ARTG 1001 & ARTG 1002)	4						
	17		**16**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARTG 2252	4	Co-op	0	Co-op	0	ARTG 3350	4
ENGL 1700	4					ENGL Elective	4
Art + Design Elective	4						
ENGL pre-19th century requirement	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Art + Design History Elective	4	Co-op	0	Co-op	0	ENGL writing requirement	4
ENGL 19th-century requirement	4					ENGL elective	4
ENGL theories & methods requirement	4						
Integrative course	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ARTG 2242	4	ARTG 4550	4
ENGL 20th-century requirement	4	ENGL 4710	4
ENGL comparative requirement	4	ENGL elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

English and Philosophy, BA

The Department of English and the Department of Philosophy and Religion offer an interdisciplinary combined major in English and philosophy. Students in the combined major in English and philosophy integrate the study of literature and writing with the study of ethical and philosophical issues and problems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	

or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	

ENGL 2730	Digital Writing
ENGL 2740	Writing and Community Engagement
ENGL 2760	Writing in Global Contexts
ENGL 2770	Writing to Heal
ENGL 2850	Writing for Social Media: Theory and Practice
ENGL 3375	Writing Boston
ENGL 3376	Creative Nonfiction
ENGL 3377	Poetry Workshop
ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace
English Electives	
Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Electives		
Complete two PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional PHIL electives, not used to satisfy another requirement.		8

Integrative Requirement

Code	Title	Hours
PHIL 3435	Moral Philosophy	4
ENGL 3619	Emerson and Thoreau	4

English and Philosophy Combined Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1115	4	PHIL 2325	4	Elective	4	Vacation	
ENGL 1000	1	ENGL 1160	4	Elective	4		
ENGL 1400	4	Elective	4				
Elective	4	ENGL Diversity Course	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL Pre Nineteenth Century Literature Course	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
PHIL 2330	4					Elective	4
ENGL Nineteenth, Twentieth, and Twenty First Century Literature	4						
	16		**0**		**0**		**12**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL Advanced Elective	4	Co-op		Co-op		Critical Philosophy Elective	4
Elective	4					Elective	4
ENGL Comparative Literature Course	4					Elective	4
ENGL Theories and Methods Course	4						
	16		**0**		**0**		**12**

Year 4

Fall	Hours	Spring	Hours
ENGL Writing Course	4	Integrative Course	4
ENGL Capstone	4	Elective	4
PHIL Advanced Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

English and Political Science, BA

The Department of English and the Department of Political Science offer an interdisciplinary combined major in English and political science. Students in the combined major in English and political science integrate the study of literature and writing with the study of political issues and problems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	

19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	

ENGL 2740	Writing and Community Engagement
ENGL 2760	Writing in Global Contexts
ENGL 2770	Writing to Heal
ENGL 2850	Writing for Social Media: Theory and Practice
ENGL 3375	Writing Boston
ENGL 3376	Creative Nonfiction
ENGL 3377	Poetry Workshop
ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace

English Electives

Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Political Science Requirements

Code	Title	Hours
Foundational Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three courses in the following range:		12
POLS 2000 and above that are not fulfilling other POLS requirements		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 2059)
- Campaigns and Elections (p. 2059)
- Comparative Politics (p. 2059)
- Identity, Culture, and Politics (p. 2060)
- International Relations and Diplomacy (p. 2060)
- Law and Legal Studies (p. 2060)
- Public Policy (p. 2061)
- Security Studies (p. 2061)

Supporting Courses for Political Science

Code	Title	Hours
Complete one of the following to fulfill the prerequisite for POLS2400:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	

Integrative Requirements

Code	Title	Hours
English Integrative Requirement		
Complete one of the following:		4

ENGL 2740	Writing and Community Engagement	
ENGL 3426	British and American Literature and Politics	
Political Science Integrative Requirement		
Complete one of the following:		4
POLS 2368	Music and Politics in America and Abroad	
POLS 3320	Politics and Mass Media	
Capstone		
Complete one of the following:		4
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	
POLS 4701	Political Science Senior Capstone	
or POLS 4703	Senior Thesis	

Major Credit Requirement

88 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	

POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	ENGL 1160 or 1410	4	Elective	4	Elective	4
ENGL 1400	4	POLS 1160	4	Elective	4	Elective	4
POLS 1150	4	POLS 2400 prerequisite	4				
POLS 1155	4	ENGL elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL pre-19th century requirement	4	Co-op		Co-op		ENGL elective	4
ENGL theories and methods requirement	4					POLS elective	4
POLS thought course	4						
POLS 2399	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 20th-, 21st- century requirement	4	Co-op		Co-op		ENGL diversity requirement	4
ENGL comparative requirement	4					Advanced Writing requirement	4
POLS elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGL integrative course	4	Capstone requirement	4
POLS integrative course	4	ENGL elective	4
Elective	4	POLS elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Sample Five Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	ENGL 1160 or 1410	4	Vacation		Vacation	
ENGL 1400	4	POLS 1160	4				
POLS 1150	4	POLS 2400 prerequisite	4				
POLS 1155	4	English elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL pre-19th-century requirement	4	ENGL 19th-, 20th-, 21st-century requirement	4	Vacation		Co-op	
ENGL elective	4	ENGL theories and methods requirement	4				
POLS elective	4	Elective	4				
POLS thought course	4	POLS 2400	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGL comparative literature requirement	4	Vacation		Co-op	
		ENGL diversity requirement	4				
		Elective	4				
		POLS 2399	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Co-op		ENGL elective	4	Vacation	
		POLS elective	4		
		Elective	4		
		Elective	4		
	0		**16**		**0**

Year 5

Fall	Hours	Spring	Hours
Capstone	4	Integrative course	4
Elective	4	English writing requirement	4
POLS elective	4	Elective	4
POLS integrative course	4	Elective	4
	16		**16**

Total Hours: 129

English and Theatre, BA

The Department of English and Department of Theatre offer an interdisciplinary combined major that integrates performance, design, production, and dramatic literature with literary studies, digital humanities, and creative writing. This combined major offers both classroom and experiential learning in making theatre, playwriting, and dramaturgy with the study of the diverse historical, cultural, and aesthetic contexts of literature. Students develop the capacity for interpreting a variety of texts through performance and writing to engage audiences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	

ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4

ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone Requirement

Code	Title	Hours
English Capstone Requirement		
Complete one of the following:		4
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	
THTR 4702	Capstone: Creative Practice Research Project	

Theatre Requirements

A minimum grade of C is required in all THTR and INAM courses.

Code	Title	Hours
Foundational Courses		
THTR 1000	Theatre at Northeastern	1
or ENGL 1000	English at Northeastern	
INAM 2000	Ethics in Creativity	4
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2983	Topics in Theatre History and Culture	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Electives		

Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	
THTR 5450	Acting 3	
THTR 5700	Design for Immersive Performance	

Integrative Requirements

Courses used in the integrative requirements cannot double-count in other areas of the major.

Code	Title	Hours
Integrative Courses		
ENGL 1600	Introduction to Shakespeare	4
ENGL 2330	The American Renaissance	4

English and Theatre Major Credit Requirement

94 semester hours required in the major

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1400	4	ENGL 1160 or 1410	4	Elective	4	Vacation	
THTR 1000 or ENGL 1000	1	THTR 1131	4	Elective	4		
THTR 1100	1	THTR 1270	4				
THTR 1101	4	ENGL elective	4				
THTR 1120	4						
ENGL comparative requirement	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Vacation	
ENGL 1600	4						
THTR 2000	1						
THTR 2330	4						
THTR 3325	4						
ENGL pre-19th-century requirement	4						
	18		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 19th-, 20th-, or 21st-Century requirement	4	INAM 2000	4	Foreign Language	4	Vacation	
ENGL Theories & Methods requirement	4	ENGL diversity requirement	4	Elective	4		
THTR Text, Community, & Social Context Course	4	THTR Elective	4				
THTR Elective	4	Foreign Language	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
ENGL writing requirement	4	THTR 4702	4
ENGL elective	4	ENGL Capstone	4
Elective	4	Foreign Language	4
Elective	4	Elective	4
	16		**16**

Total Hours: 132

History and English, BA

The Department of History and the Department of English offer an interdisciplinary combined major in history and English. Students interested in the combined major integrate the study of literature and writing with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Complete one course from the 1000 level.		4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 2370	Renaissance to Enlightenment	
HIST 2330	Colonial and Revolutionary America	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
Intermediate/Advanced History Courses		
Complete four history courses numbered 2000 or above that have not been used to fulfill another requirement.		16
Advanced History		
Complete one history course at the 3000 level or above that has not been used to fulfill another requirement.		4

English Requirements

Code	Title	Hours
English Course-Level Requirement		
In addition to the capstone, two of the courses chosen from the lists below must be numbered 3000–4999.		
Introduction to College		
ENGL 1000	English at Northeastern	1
Foundational Courses		

ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
Diversity		
Complete one of the following courses. This course may also be used to fulfill an additional English requirement below:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2455	American Women Writers	
ENGL 2760	Writing in Global Contexts	
ENGL 2470	Asian-American Literature	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre-Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2330	The American Renaissance	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3140	19th-Century Literatures	
ENGL 3619	Emerson and Thoreau	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3720	19th-Century Major Figure	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	

LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete two additional ENGL electives.		8

Capstone

Code	Title	Hours
Complete one of the following:		4
ENGL 4710	Capstone Seminar	
ENGL 4720	Capstone Project	
HIST 4701	Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Required Integrative Course		
ENGL 3400	Opening the Archive	4

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

The History Seminar (HIST 2301) fulfills the college's experiential learning requirement.

Program Requirements

128 total semester hours required

Plan of Study

Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 1000	1	HIST elective or integrative 1	4	Vacation		Vacation	
HIST 1200	1	HIST elective or integrative 2	4				
HIST 1201	4	ENGL 1160 or 1410	4				
ENGW 1111	4	Elective	4				
ENGL 1400	4						
Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	HIST elective or integrative 3	4	Vacation		Co-op	
HIST 2302	1	HIST elective or integrative 4	4				
Pre–19th-century ENGL	4	19th-, 20th-, or 21st-century ENGL	4				
ENGL theory/methods	4	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST elective or integrative 5	4	Elective	4	Co-op	
		ENGL comparative	4	Elective	4		
		ENGL writing	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST elective or integrative 6	4	Elective	4	Co-op	
		ENGL diversity	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		HIST capstone or HIST senior project or ENGL capstone	4
		HIST elective or integrative 7	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 131

Journalism and English, BA

The School of Journalism and the Department of English offer an interdisciplinary combined major in Journalism and English. Broadly speaking, students in the Combined Major in Journalism and English at Northeastern integrate the study of journalism with the study of language, literature and writing.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (EI), Societies and Institutions (SI), and Difference and Diversity (DD) are met through the major course requirements.

NUpath requirements Interpreting Culture (IC), Analyzing and Using Data (AD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Journalism Major Requirements

Code	Title	Hours
Journalism Introductory Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundations		
Must receive a C or better in the following:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Take three JRNL courses		12

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	

LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Integrative Requirement

Code	Title	Hours
ENGL 2740	Writing and Community Engagement	4
or ENGL 2850	Writing for Social Media: Theory and Practice	
JRNL 3630	Magazine Writing	4

Program Requirement

129 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1400	4	ENGL 1160 or 1410	4	Foreign language	4	Foreign language	4
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective	4
JRNL 1000 or ENGL 1000	1	English diversity requirement	4				
JRNL 1150	4	Elective	4				
Pre-nineteenth-century literature requirement	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
JRNL 2201	4					Elective	4
Nineteenth-century, twentieth-, and twenty-first-century literature requirement	4						
Theories and methods requirement	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2301	4	Co-op	0	Co-op	0	English elective 1	4
Comparative literature requirement	4					Elective	4
English writing requirement	4						
Journalism elective 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGL 2740 or 2850	4	ENGL 4710	4
JRNL 3610	4	JRNL 3550 or 4650	4
English elective 2	4	JRNL 3630	4
Journalism elective 2	4	Journalism elective 3	4
	16		**16**

Total Hours: 131

Linguistics and English, BA

Overview

In the combined major in linguistics and English, students study the structures and analysis of human languages across multiple levels (sounds, words, phrases and sentences, meaning) and apply this knowledge to understanding how the English language works, its rhetorical forms, how it has changed over time, and its cultural context. Students hone their writing skills, develop substantial language-analysis skills, and apply them particularly to English.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Requirements

Code	Title	Hours
Linguistics Requirements		
LING 1150	Introduction to Language and Linguistics	4
LING 2350	Linguistic Analysis	4
LING 3412	Language and Culture	4
LING 3442	Sociolinguistics	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Electives		
Complete two of the following that have not already been taken to fulfill other major requirements:		8
LING 3000 to LING 4999 [1]		
DEAF 2700	ASL Linguistics	

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000–LING 4999 range.

English Requirements

Code	Title	Hours
English Course-Level Requirement		
At least two of the courses chosen from the English requirements lists below must be numbered 3000–4999.		
Foundational Courses		
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1400	Introduction to Literary Studies	4
Diversity		

Complete one of the following:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2455	American Women Writers	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre-Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2330	The American Renaissance	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3140	19th-Century Literatures	
ENGL 3619	Emerson and Thoreau	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3720	19th-Century Major Figure	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	

ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
Electives		
Complete one additional ENGL elective at the 2000 level or higher.		4

Linguistics/English Combined Major Requirements

Code	Title	Hours
Integrative Course		
LING 3454	History of English	4
Junior/Senior Seminar		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
or LING 4654	Seminar in Linguistics	
Experiential Learning		
Complete one of the following options. Courses used to satisfy this requirement may simultaneously satisfy a requirement above.		0-8
Study Abroad (not a Dialogue)		
International Co-op		
LING 4891	Research Seminar in Linguistics	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	

Linguistics/English Combined Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ENGL 1400	4	Elective	4	Elective	4
LING 1150	4	LING 2350	4	Elective	4	Elective	4
MATH 1215	4	LING 3412 or 3442	4				

Foreign language core course	4	Foreign language core course	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1410 or 1160	4	EESC 2000	1	ENGL elective	4	Co-op	0
LING 3454	4	Diversity course	4	Elective	4		
LING structure course	4	LING structure course	4				
LING elective	4	LING elective	4				
		Theories and methods course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	LING 3412 or 3442	4	ENGW 3315	4	Co-op	0
		Comparative literature course	4	Elective	4		
		LING structure course	4				
		Pre-19th-century literature course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	19th-, 20th-, and 21st-century literature course	4
		Foreign language core course	4
		Junior/senior seminar	4
		Writing course	4
	0		**16**

Total Hours: 129

Media and Screen Studies and English, BA

The media and screen studies program and the Department of English offer a combined major in media and screen studies and English. The combined major integrates the analysis, research, and production of traditional and emerging media along with the study of the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures. Majors become familiar with writing practices and media from the Middle Ages through the present, from the quill pen to computer code.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	

ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	

ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace
English Electives	
Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Integrative Requirement

Code	Title	Hours
Integrative Courses		
ENGL 1450	Reading and Writing in the Digital Age	4
or ENGL 3340	Technologies of Text	
MSCR 3600	Film Theory	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1160 or 1410	4	MSCR 1320 or 1420	4	Foreign Language	4	Elective	4
ENGL 1400	4	MSCR foundation	4	MSCR elective	4	Elective	4
MSCR 1000 or ENGL 1000	1	ENGL pre-19th-century literature elective	4				
MSCR 1220	4	Foreign Language	4				
Foreign Language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
ENGL 19th-, 20th-, and 21st-century literature elective	4					Elective	4
ENGL diversity elective	4						
MSCR diversity/ globalization	4						
MSCR elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL theories and methods elective	4	ENGL 1450 or 3340	4	Elective	4	Co-op	
ENGL elective	4	ENGL comparative elective	4	Elective	4		
ENGL elective	4	MSCR writing-intensive	4				
MSCR writing-intensive	4	MSCR elective	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		MSCR 3600	4
		ENGL 4710 or 4720	4
		ENGL writing elective	4
		Elective	4
	0		**16**

Total Hours: 130

Architecture and English, BS

The School of Architecture and Department of English offer an interdisciplinary combined major in architecture and English. Students interested in the combined major integrate the study of literature and writing with the rigorous design methods of architecture. This program offers a flexible curriculum focused on key contemporary topics related to the built environment.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath attributes Natural and Designed World (ND), Creative Expression and Innovation (EI), Interpreting Culture (IC), Societies and Institutions (SI), and Differences and Diversity (DD) are met through the major course requirements.

In order to graduate, students must complete Formal and Quantitative Reasoning (FQ), Analyzing and Using Data (AD), and Ethical Reasoning (ER) in their electives.

Architecture Requirements

Code	Title	Hours
Required Courses		
ARCH 1110	Fundamental Architectural Representation	4
ARCH 1120	Fundamental Architectural Design	6
ARCH 1310	Buildings and Cities, A Global History	4
ARCH 1450	Understanding Design	4
ARCH 2130	Site, Space, Program	6
ARCH 2240	Architectonic Systems	4
Architecure History Electives		**8**
Complete any two courses in the range of ARCH 2300–ARCH 2399.		
Electives		
Complete two of the following:		8
ARCH 3370	Advanced Topics in Architectural History	
ARCH 3450	Advanced Architectural Communication	
ARCH 5310	Design Tactics and Operations	

English Requirements

Code	Title	Hours
English Course-Level Requirement		
In addition to the capstone, two of the courses completed from the lists below must be numbered 3000–4999.		
Introduction to College		
ENGL 1000	English at Northeastern	1
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
Diversity		
Complete one of the following. This course may also be used to fulfill an additional English requirement below:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	

ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre–Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL/JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2330	The American Renaissance	
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL/JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		

Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	
English Electives		
Complete two additional ENGL electives.		8

Integrative Requirement

Code	Title	Hours
ARCH 2330	Architecture and the City in the Nineteenth Century	4
or ARCH 2340	Modern Architecture	
ENGL 3375	Writing Boston	4

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, No Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 1000 or ENGL 1000	1	ARCH 1110	4	Vacation		Vacation	
ENGW 1111	4	ARCH 1120	6				
ARCH 1310	4	ENGL 1160 or 1410	4				
ARCH 1450	4	Elective	4				
ENGL 1400	4						
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ARCH 2130	6	Architecture history elective 2	4	Vacation		Vacation	
ARCH 2240	4	Pre–nineteenth-century literature	4				
English diversity requirement	4	Elective	4				
Architecture history elective 1	4	Elective	4				
	18		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Architecture elective 1	4	Architecture elective 2	4	Vacation		Vacation	
Nineteenth-, twentieth-, and twenty-first-century literature	4	English comparative literature	4				

English theories and methods requirement	4	ENGW 3309 or 3314	4		
English writing requirement	4	Elective	4		
	16		**16**	**0**	**0**

Year 4

Fall	Hours	Spring	Hours
ENGL 4710 or 4720	4	English elective 2	4
English elective 1	4	ENGL 3375	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 133

Biology and English, BS

In the combined biology and English degree , science courses lay the groundwork for strong basic training in mathematics, chemistry, and physics that are relevant to biology. In biology courses, students broadly explore the organization and processes of life—from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. In English courses, students study the diverse historical, cultural, and aesthetic contexts of English, American, and other Anglophone literatures; analyze writing practices and related media; and practice a variety of approaches to the study of language, rhetoric, writing, and literature. The fields of biology and English are bridged with course work in different forms of science writing , as well as psychology and sociology courses exploring the acquisition of language and reading; the sociology of health and illness; and the environment, technology, and society.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or ENGL 1000	English at Northeastern	
or INSC 1000	Science at Northeastern	
Experiential Learning Introduction		
EESC 2000	Professional Development for Co-op	1
Required Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5

Biology Elective

Code	Title	Hours
Intermediate/Advanced Biology		
Complete one of the following:		4-5
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
Organismal and Evolutionary Biology		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	

EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 2400	Introduction to Evolution
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700
EEMB 3460	Conservation Biology
EEMB 3466	Disease Ecology
EEMB 3600	Animal Behavior

Supporting Courses for Biology

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics		
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	5
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physics		
Physics 1		
Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:		5
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
Physics 2		
Complete one of the following lecture/lab pairs. PHYS 1147/PHYS 1148 is recommended:		5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	

LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Integrative Courses

Code	Title	Hours
Integrative English Course		
Complete one of the following:		4
ENGL 2620	What Is Nature?	
ENGL 2650	Science Writing: Origins, Ethics, and Emerging Genres	
ENGL 2770	Writing to Heal	
ENGL 3340	Technologies of Text	
Integrative General Biological Sciences Course		
Complete the following:		4
PSYC 3464	Psychology of Language	

Capstone Requirement

Complete one of the following capstone options:

Code	Title	Hours
Biology Capstone		
Complete one of the options to fulfill the capstone requirement in biology:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or BIOL 4994, which may be used toward Intermediate/Advanced Biology)	
BIOL 4971	Junior/Senior Honors Project 2	
English Capstone		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	

Biology and English Combined Major GPA Requirement

Minimum 2.000 GPA required in all BIOL courses
Minimum 2.000 GPA required in all ENGL courses

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or ENGL 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302			
BIOL 1108		CHEM 2312		English Writing Elective	4		
CHEM 1161	4	ENGL 1160 or 1410	4				
CHEM 1162		ENGL 1400	4				
CHEM 1163							
ENGW 1111	4						
MATH 1341	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	BIOL 3611	4	Intermediate/Advanced BIOL Elective with Lab	5	Co-op	
CHEM 2313	4	BIOL 3612		General Elective	4		
CHEM 2314		PHYS 1145	4				
EESC 2000	1	PHYS 1146					
ENGL 1700 or 1701	4	Literary Period 1	4				
English Diversity Elective	4	Organismal and Evolutionary Biology Elective	4				
	17		**16**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHYS 1147	4	ENGW 3307	4	Co-op	
English Comparative Course	4	PHYS 1148	1	English Theories and Methods Elective	4		
		Integrative Biology Course	4				
		Literary Period 2	4				
		English Elective	4				
	4		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ENVR 2500	4

	ENVR 2501	1
	ENVR 2502	0
	BIOL or ENGL Capstone	4
	Integrative English Course	4
	English Elective	4
0		**17**

Total Hours: 129

Computer Science and English, BS

The computer science and English combined major focuses on the increasingly interdisciplinary processes of creating, interpreting, and analyzing texts and programs. Students will combine communication and critical judgment, gaining the creativity and adaptability necessary to utilize technology in literary studies, and apply humanities skills to solve programming problems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or ENGL 1000	English at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
Computing Focus		
Students are required to complete one of the following foci (two courses total):		8
Focus 1: Natural Language Processing		
CS 3800	Theory of Computation	
CS 4120	Natural Language Processing	
Focus 2: Programming Languages		
CS 3800	Theory of Computation	
CS 4400	Programming Languages	
Focus 3: Analytics		
DS 3000	Foundations of Data Science	
DS 4200	Information Presentation and Visualization	
Computer Science/Information Science Elective Course		
Choose one:		4
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
IS 2000	Principles of Information Science	
Khoury Elective Courses		
With adviser approval, a directed study, project study, or appropriate graduate-level course may also be taken as an upper-division elective.		

Complete 4 semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	

ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Capstone

Code	Title	Hours
Complete one of the following courses:		
ENGL 4710	Capstone Seminar	4
or ENGL 4720	Capstone Project	

Integrative Course Requirement

This course will not be allowed to double-count in the Theories and Methods section above.

Code	Title	Hours
ENGL 3340	Technologies of Text	4
or HIST 1357	History of Information in the United States: Media, Technology, Law	

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one course from the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3310	Advanced Writing in Literature	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Exploring Creative Expression and Innovation
- Writing in the First Year
- Advanced Writing in the Disciplines

- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

137 total semester hours required

Plan of Study

Sample Plan of Study:
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4
CS 1800 and CS 1802	5	ENGL 1160 or 1410	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Pre-19th Century Literature	4				
ENGL 1400	4	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	Elective	4
CS 3200	4					Elective	4
ENGL 1700 or 1701	4						
19th/20th/21st Century Literature	4						
ENGL Theories & Methods	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 3340 or HIST 1357	4	Co-op	0	Co-op	0	Elective	4
IS 2000, CS 4500, or CS 4530	4			ENGW 3302, 3309, 3310, or 3315	4	Elective	4
English Comparative Course	4						
Khoury elective	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
Computing & Social Issues	4	ENGL 4710 or 4720	4
Computing Focus 1	4	Computing Focus 2	4
English Elective 1	4	English Diversity Requirement	4
English Elective 2	4	Writing Requirement	4
	16		**16**

Total Hours: 138

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	CS 3000	4

CS 1800 and CS 1802	5	ENGL 1160 or 1410	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	Pre-19th Century Literature	4				
ENGL 1400	4	Elective	4				
ENGW 1111	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210	1	Elective	4	Co-op	0
ENGL 1700 or 1701	4	ENGL 3340 or HIST 1357	4	Elective	4		
19th/20th/21st Century Literature	4	IS 2000, CS 4500, or CS 4530 (or English Category or Elective)	4				
ENGL Theories & Methods	4	English Comparative Course	4				
		Khoury elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Computing & social issues	4	Elective	4	Co-op	0
ENGW 3302, 3309, 3310, or 3315	4	Computing Focus 1	4	Elective	4		
		English Elective 1	4				
		English Elective 2	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENGL 4710 or 4720	4
		Computing Focus 2	4
		English Diversity Requirement	4
		Writing Requirement	4
	0		**16**

Total Hours: 138

English, Minor

The English minor offers students the opportunity to complement their major area with focused course work in any of the broad areas of English studies, such as writing practices, language, rhetoric, and literature.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Three of the four total courses must be taken at Northeastern.

Note: Courses taken to fulfill the first-year writing requirement and the Advanced Writing in the Disciplines requirements do not count toward this minor. A total of 16 semester hours is required for the English minor.

Requirements

Code	Title	Hours
Introductory Course		
Complete one course in the following range:		4
ENGL 1001 to ENGL 1999		
Electives		
Complete three ENGL courses, two of which must be in the range ENGL 2000 to ENGL 4999.		12

GPA Requirement

2.000 GPA required in the minor

Rhetoric, Minor

The rhetoric minor appeals to students interested in history, theory, and the criticism of civic discourse and cultural practices. The minor integrates courses from the Department of Communication Studies and the Department of English that explore the nature and function of rhetoric in politics, the professions, and the media. The rhetoric minor offers students an opportunity to be better citizens, members of the community, and leaders in the workplace by learning how to use language strategically, to speak with integrity, and to appreciate the power of their own voice.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where indicated.

Students must complete a minimum of three courses exclusive to this minor beyond the courses required for the student's declared major(s) and additional minor(s).

Foundational Course

Code	Title	Hours
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
ENGL 1160	Introduction to Rhetoric	

Electives

Code	Title	Hours
Note: For English majors, only one course from the major may also count toward this elective section of the minor.		
Complete four of the following:		16
COMM 1331	Legal Argumentation, Advocacy, and Citizenship	
COMM 3415	Communication Criticism	
COMM 3501	Free Speech: Law and Practice	
COMM 4602	Contemporary Rhetorical Theory	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3404	African American Rhetorical Traditions	

GPA Requirement

2.000 GPA required in the minor

Writing, Minor

Students in the writing minor integrate theory with writing practice. Courses on writing for social media, writing in global contexts, and writing in a variety of creative genres provide students with opportunities to explore writing in diverse contexts.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Three of the four total classes must be taken at Northeastern.

Writing Theories and Methods

Code	Title	Hours
Complete one of the following:		4
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3404	African American Rhetorical Traditions	

Writing Electives

Code	Title	Hours
Complete three of the following not used to fulfill another requirement:		12
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 2301	The Graphic Novel	
ENGL 2695	Travel and Place-Based Writing	
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3384	The Writer's Marketplace	

GPA Requirement

2.000 GPA required in the minor

History

Website (https://cssh.northeastern.edu/history/)

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History at Northeastern University emphasizes the study of local and regional histories as well as of the global exchanges between nations, regions, and cultures. Knowledge of the past is also about building the future. In a world marked by increasing exchange between peoples, cultures, and societies, history is key to understanding contemporary issues such as the future of democracy, the nature of citizenship and rights, the origins and conduct of war, the foundations of racial and ethnic conflict and tolerance, and poverty and prosperity. At the same time, history teaches crucial skills in analytical thinking, research processes, writing, oral expression, and multimedia presentation.

History majors take three core seminars on historical research and choose from a broad range of courses in historical themes, periods, and regions. The program emphasizes undergraduate research in the major and trains students to conduct research in archives and primary sources and to write research papers. Honors study is strongly encouraged for eligible students, and students are encouraged to take advantage of numerous options for study abroad. Advanced undergraduates have the opportunity to participate in individual directed study with members of the faculty on topics of mutual interest.

Cooperative education placements, fieldwork, internships, and other experiential learning activities are also available. History majors have worked on co-op in law firms, an art auction house, the State Department, the Massachusetts State House, Newton Public Schools, and the Massachusetts State Archives, among many other institutions.

Undergraduates who plan to teach in public schools may combine history with education courses that can lead to state certification in Massachusetts. History students are also encouraged to take Dialogue of Civilizations courses that engage students in short-term study abroad during the summer.

The department offers a broad-based major in history, with both Bachelor of Science and Bachelor of Arts options, and participates in numerous interdisciplinary programs: Asian studies; cinema studies; environmental studies; international affairs; Jewish studies; Latino/a, Latin American, and Caribbean studies; and women's, gender, and sexuality studies.

The Department of History offers qualified undergraduates the opportunity to pursue a BA/MA or BS/MA degree in five years, with the approval of the department. Students with a minimum 3.330 cumulative grade-point average and minimum 3.500 GPA in required history courses may apply for admission to the PlusOne BA/MA or BS/MA program in history.

Academic Progression Standards

Same as university-wide standards described under "Academic Status (p. 88)."

PlusOne Program (MA) in History

History majors at the end of their sophomore year or the beginning of their junior year may qualify for application to the PlusOne program that combines the BA with the master's degree in history. Students interested in this option should consult with the graduate program director as soon as they think they might be interested in pursuing the master's degree.

Programs

Bachelor of Arts (BA)

- History (p. 2107)
- History and Asian Studies (p. 1745)
- History and Criminal Justice (p. 1821)
- History and Cultural Anthropology (p. 2120)
- History and Economics (p. 1954)
- History and English (p. 2069)
- History and Philosophy (p. 2130)
- History and Political Science (p. 2133)
- History and Religious Studies (p. 2138)
- Environmental Studies and History (p. 1487)
- International Affairs and History (p. 2142)
- Media and Screen Studies and History (p. 332)

Bachelor of Science (BS)

- History (p. 2152)
- Computer Science and History (p. 804)
- History and Economics (p. 2012)

Bachelor of Science in Mechanical Engineering (BSME)

- Mechanical Engineering and History (p. 1139)

Minor

- History (p. 2170)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

History, BA

The Bachelor of Arts (BA) is a broadly based liberal arts degree in history. Students who pursue the BA degree must satisfy general requirements and take courses to satisfy Northeastern's university-wide core curriculum (NUpath (p. 111)), in addition to required and elective history courses. These requirements help students develop their historical knowledge and skills within the contexts of the arts, humanities, social sciences, and sciences that together comprise the disciplinary sources of historical knowledge. They enable historical understanding to be culturally and linguistically sensitive to the subjects of historical inquiry.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Major Requirements

Code	Title	Hours
Introductory History		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Complete two of the following:		8
HIST 1100	Law and History	
HIST 1120	Public History, Public Memory	
HIST 1130	Introduction to the History of the United States	
HIST 1150	East Asian Studies	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1185	Introduction to Middle Eastern History	
HIST 1190	Picturing Modernity: The Photographic Image in Culture and Society	
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	
HIST 1246	World War II in the Pacific	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
History Seminar and Historical Writing		
HIST 2301 and HIST 2302	The History Seminar and Historical Writing	5

Additional History Requirements

Code	Title	Hours
Pre-1800 Course		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	

HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Outside the United States and Europe		
Complete one of the following:		4
HIST 1150	East Asian Studies	
HIST 1187	Introduction to Latin American History	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1253	History of Vietnam Wars	
HIST 1290	Modern Middle East	
HIST 1294	History of the Jews in the Modern World	
HIST 1500	Modern Chinese History and Culture	
HIST 2025	Latin American History through Film	
HIST 2211	The World Since 1945	
HIST 2308	Law, Justice, and Society in Modern China	
HIST 2311	Colonialism/Imperialism	
HIST 2351	Modern Japan	
HIST 2360	History of Capitalism in East Asia	
Capstone		
HIST 4701	Capstone Seminar	4

History Electives

Code	Title	Hours
Complete further history courses not used to fulfill a previous requirement.		
General History Elective Requirement		
Complete two HIST courses at any level in any field.		8
Intermediate/Advanced Course Requirement		
Complete a minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4
Advanced Course Requirement		
Complete a minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		4

History Major Credit Requirement

Complete 46 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Plan of Study

Four Years, One Co-0p

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1130	4	Vacation		Vacation	
HIST 1000	1	MATH 1215	4				
HIST 1170	4	Elective	4				
HIST 1200	1	Elective	4				

HIST 1201	4						
Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	Foreign language course	4	Elective	4	Co-op	0
Pre-1800 or non-U.S./ Europe history course	4	Pre-1800 or non-U.S./ Europe History Course	4	Elective	4		
Elective	4	Intermediate/Advanced History Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	HIST 2301	4	Elective	4	Vacation	
		HIST 2302	1	Elective	4		
		Foreign language course	4				
		Intermediate/Advanced History Elective	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Intermediate/Advanced History Elective	4	HIST 4701	4
Elective	4	Intermediate/Advanced History Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1130	4	Vacation		Vacation	
HIST 1170	4	MATH 1215	4				
HIST 1200	1	Foreign language course	4				
HIST 1201	4	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-1800 or non-U.S./ Europe History Course	4	Co-op	0	Co-op	0	Elective	4
Intermediate/Advanced History Elective	4					Elective	4
Foreign language course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-1800 or non-U.S./ Europe History Course	4	Co-op	0	Co-op	0	Elective	4

Intermediate/Advanced History Elective	4					Elective	4
Foreign language course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	Co-op	0	Co-op	0	Vacation	
HIST 2302	1						
Intermediate/Advanced History Elective	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Intermediate/Advanced History Elective	4	HIST 4701	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Environmental Studies and History, BA

Through this combined major, successful undergraduates will develop an awareness of the scientific, cultural, and political aspects of the world's environmental problems through historical perspectives and backgrounds. Due to overlap in course content, students majoring in environmental studies or any environmental studies combined majors may not complete a minor in environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Complete one of the following:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Complete one of the following:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or higher:		16
ARTG 5110	Information Design History	
BUSN 3110	The Consulting Environment	
CIVE 5280	Remote Sensing of the Environment	
COMM 3500	Environmental Issues, Communication, and the Media	

EEMB 3466	Disease Ecology
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
PHTH 4202	Principles of Epidemiology in Medicine and Public Health
POLS 2395	Environmental Politics and Policy
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

History Requirements

Code	Title	Hours
History Requirements		
HIST 1130	Introduction to the History of the United States	4
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	4
HIST 1201	First-Year Seminar	4
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	4
History Seminar		
HIST 2301 and HIST 2302	The History Seminar and Historical Writing	5
History/Geographic-Area Electives		
Complete two of the following:		8
ASNS 1150	East Asian Studies	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
History-Area Electives		
Complete four HIST courses, approved by a faculty advisor, focused on an idea or geographic area. A minimum of one course must be numbered 2000 to 2999 (Excluding HIST 2301 and HIST 2032). A minimum of one course must be numbered 3000 to 4999 (Excluding HIST 4701).		16

Integrative Courses

Code	Title	Hours
Complete two of the following (may not overlap with courses used as electives):		8
EEMB 4000	Applied Conservation Biology	
ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
ENVR 4504	Environmental Pollution	
ENVR 5210	Environmental Planning	
JRNL 3700	Data Storytelling	

Experiential Learning and Capstone

Code	Title	Hours
Experiential Learning		
Complete an approved activity from either department, combined with reflection in capstone.		
Capstone Course		
Complete one of the following:		1-4
ENVR 4900	Earth and Environmental Science Capstone	
ENVR 4970	Junior/Senior Honors Project 1	
ENVR 4997	Senior Thesis	
HIST 4701	Capstone Seminar	

Combined-Major Credit Requirement

Complete 91 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ENVR 1110	4	ENVR elective 1 of 4	4	ENVR elective 2 of 4	4
ENVR 1000	1	HIST 1170	4	Elective	4	Elective	4
ENVR 1101	4	HIST 1201	4				
HIST 1130	4	ENVR 2515	4				
SOCL 1246	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3300 and ENVR 3301	5	EESC 2000	1	HIST elective	4	Co-op	0
HIST 1215	4	ENVR elective 3 of 4	4	Elective	4		
HIST geographic elective	4	HIST geographic elective	4				
Foreign language course	4	HIST elective	4				
		Foreign language course	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENVR elective 4 of 4	4	Integrative elective	4	Co-op	0
		HIST elective	4	Integrative elective	4		
		Integrative elective	4				
		Foreign language course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENGW 3308 or 3315	4
		HIST 2301 and HIST 2302	5
		Capstone requirement	1-4
		HIST elective	4
	0		**14-17**

Total Hours: 129-132

History and Asian Studies, BA

History and Asian studies offers an interdisciplinary combined major. Students interested in the combined major in history and Asian studies integrate the exploration of human history with the rigorous study of Asian cultures, societies, languages, and economies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Choose one course from the 1000 level except HIST 1215, which is required by Asian studies.		4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Choose one course from the following:		4
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1285	Introduction to Russian Civilization	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
Advanced History		
Complete one history course 3000 level or above.		4

History Cluster

In conjunction with your history advisor, define a history cluster by the first semester of your junior year of study. A cluster comprises four history courses with no more than two courses in the 1200–1299 range. These courses may double-count in the requirements above (except History Colloquium).

Asian Studies Requirements

Code	Title	Hours
Required Courses		
ASNS 1150	East Asian Studies	4
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	4
Asia in Global Context		
Complete one of the following:		4
ECON 3290	History of the Global Economy	

POLS 3487	Politics of Developing Nations
Complete a professional or academic experience abroad in consultation with your advisor.	

Language and Elective Requirements

Code	Title	Hours
Language Courses		
Complete the following courses in either Chinese or Japanese:		16
Chinese		
CHNS 1101	Elementary Chinese 1	
CHNS 1102	Elementary Chinese 2	
CHNS 2101	Intermediate Chinese 1	
or CHNS 2301	Intermediate Chinese Immersion 1	
CHNS 2102	Intermediate Chinese 2	
or CHNS 2302	Intermediate Chinese Immersion 2	
Japanese		
JPNS 1101	Elementary Japanese 1	
JPNS 1102	Elementary Japanese 2	
JPNS 2101	Intermediate Japanese 1	
JPNS 2102	Intermediate Japanese 2	
Asian Studies Electives		
Complete three courses from the following focus areas.		12
Society and Politics Focus Area		
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4515	Culture and Politics in Modern India	
ASNS 2245	Introduction to Asian American Studies	
INTB 2501	Competing to Win in Emerging Markets	
MKTG 4220	Marketing in Asia	
PHIL 1130	Comparative Ethics	
POLS 3487	Politics of Developing Nations	
Language, Literature, and Culture Focus Area		
CLTR 1260	Japanese Film	
CLTR 1700	Introduction to Japanese Pop Culture	
PHIL 1130	Comparative Ethics	
Religious Studies Focus Area		
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	

Capstone

Code	Title	Hours
Complete one of the following:		4
ASNS 4900	Asian Studies Capstone Directed Study	
HIST 4701	Capstone Seminar	

Integrative Requirement

Code	Title	Hours
HIST 2351	Modern Japan	4
or ASNS 2245	Introduction to Asian American Studies	

History and Asian Studies Major Credit Requirement

Complete 82 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 1000	1	ASNS 1150	4	Elective	4	Elective	4
HIST 1200	1	HIST 1100	4	Elective	4	Elective	4
HIST 1201	4	HIST 1246	4				
JPNS 1101	4	JPNS 1102	4				
ASNS Elective	4						
ASNS Elective	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 1215	4	HIST 1252	4	Co-op		Co-op	
HIST 2301	4	HIST 2351	4				
HIST 2302	1	HIST 2360	4				
HIST 2308	4	JPNS 2102	4				
JPNS 2101	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1700	4	Co-op		Elective	4	Elective	4
HIST 3350	4						
PHIL 2395	4						
HIST Elective	4						
	16		**0**		**4**		**4**

Year 4

Fall	Hours	Spring	Hours
HIST 4701	4	ANTH 4350	4
ASNS Elective	4	POLS 3487	4
HIST Elective	4		
HIST Elective	4		
	16		**8**

Total Hours: 131

History and Criminal Justice, BA

This combined major educates students in history and criminal justice, emphasizing the complementarity between these two disciplines. Students successfully completing this program will be able to critically evaluate and draw connections between past and present practices in law, punishment, incarceration, justice, and the social institutions and cultural contexts in which these systems operate.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level Elective		
Complete one other course from HIST 1001 to HIST 1999 (excluding HIST 1100, HIST 1200, and HIST 1201).		4
Intermediate/Advanced Level Elective		
Complete two HIST courses numbered 2000 or above (excluding HIST 2301 and HIST 2302).		8
Advanced Level Elective		
Complete one HIST course numbered 3000 or above.		4
History Elective		
Complete two courses in any field at any level.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2311	Colonialism/Imperialism	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses successful students will develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000 or 5000-level.		8

Other Requirements

Code	Title	Hours
A minimum of one history course must be taken between the methods and capstone requirements.		
Methods		
Complete one of the following:		4
CRIM 3600	Criminal Justice Research Methods	
HIST 2301	The History Seminar	
Capstone		
Complete one of the following:		4

CRIM 4949	Senior Capstone Seminar	
HIST 4701	Capstone Seminar	
Integrative Course		
HIST 1100	Law and History	4

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years with One Co-op

Year 1

Fall	Hours	Spring	Hours
CRIM 1100	4	CRIM 1110	4
ENGW 1111	4	CRIM 1120	4
HIST 1200	1	HIST 1100	4
HIST 1201	4	Introductory-level history course	4
Current crime and justice issues CRIM course	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours
Systems and institutions CRIM course	4	Methods course	4	Elective	4
Intermediate history elective	4	Intermediate/advanced history elective	4	Elective	4
Pre-1800 history elective	4	Elective	4		
Elective	4	Elective	4		
	16		**16**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op		Co-op		Elective	4
EESH 2000	1						
Crime problems elective	4						
Intermediate/advanced history elective	4						
Elective	4						
	17		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CRIM 3000	1	Capstone	4
Advanced history course	4	Solutions and reform CRIM course	4
Intermediate/advanced history elective	4	Elective	4
Systemic issues CRIM elective	4	Elective	4
Elective	4	Elective	1
	17		**17**

Total Hours: 128

History and Cultural Anthropology, BA

History and cultural anthropology offer an interdisciplinary combined major. Students interested in the combined major in history and cultural anthropology integrate the exploration of human history with the rigorous study of human cultures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one course from the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Elective		
Complete two HIST courses at any level in any field.		8
Introductory Level Elective		
Complete one history course from the 1000 level.		4
Intermediate/Advanced History Elective		
Complete minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4
Advanced History Elective		
Complete minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		4

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Complete two courses from the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete three courses in the following range. One study-abroad course may count toward this requirement.		12
ANTH 2001 to ANTH 4599		

Capstone Requirements

Code	Title	Hours
Complete one of the following:		4
ANTH 4600	Senior Seminar [1]	
HIST 4701	Capstone Seminar	

[1] Students taking Senior Seminar (ANTH 4600) must complete either a one-semester senior project, which they would do in the context of ANTH 4600, or a two-semester senior thesis, which would require them to also enroll in a fall-semester directed study.

Integrative Requirements

ANTH courses below will double count as area courses.

Code	Title	Hours
ANTH 4350	Ethnography of Southeast Asia	4
ANTH 4510	Anthropology of Africa	4
HIST 2360	History of Capitalism in East Asia	4

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Vacation		Vacation	
ENGW 1111	4	HIST elective or integrative 1	4				
HIST 1000	1	HIST elective or integrative 2	4				
HIST 1200	1	Elective	4				
HIST 1201	4						

Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3410	4	ANTH 3421	4	Vacation		Co-op	
HIST 2301	4	HIST elective or integrative 3	4				
HIST 2302	1	HIST elective or integrative 4	4				
ANTH area course 1	4	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH area course 2	4	Elective	4	Co-op	
		ANTH elective 1	4	Elective	4		
		HIST elective or integrative 5	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH elective 2	4	Elective	4	Co-op	
		ANTH elective 3	4	Elective	4		
		HIST elective or integrative 6	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		HIST capstone or HIST senior project or ANTH capstone	4
		HIST elective or integrative 7	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 131

History and Economics, BA

The Department of History and the Department of Economics offer an interdisciplinary combined major in history and economics. Students interested in the combined major integrate the study of economic systems and theories with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Electives		
Complete two HIST courses at any level in any field.		8
Introductory-Level Elective		
Complete one history course from the 1000 level (excluding HIST 1200 and HIST 1201).		4
Intermediate/Advanced History Electives		
Complete two HIST courses numbered 2000 or above (excluding HIST 2301 and HIST 2302).		8
Advanced History Elective		
Complete one HIST course numbered 3000 or above (excluding HIST 4701).		4

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or HIST 1000	History at Northeastern	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ECON 3520	History of Economic Thought	4
Economics Electives		
Complete two economics elective courses that are found in the following ranges, with no more than one in the ECON 1200 to ECON 1999 range. Additionally, courses used to satisfy the integrative course requirement and ECON 3520 may not be used as economics electives:		8
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Supplemental Courses		
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Calculus		
It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Capstone Requirements

Code	Title	Hours
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
HIST 4701	Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
ECON 1292	Economic History of the Middle East	
ECON 3470	American Economic History	
HIST 2011	Capitalism and Business: A Global History	

History and Economics Major GPA/Credit Requirements

Grades in the following four economics courses must average a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Complete 90 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000 or HIST 1000	1	ECON 1116	4	ECON 2315	4	ECON elective 1	4
ECON 1115	4	MISM 2510, CS 1100 ***and*** CS 1101, or DS 2000 ***and*** DS 2001	4	HIST elective 3	4	Elective	4
HIST 1200	1	HIST elective 1	4				
HIST 1201	4	HIST elective 2	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
Foreign language or elective	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2316	4	ECON 2350	4	Elective	4	Co-op	
HIST 2301	4	EESH 2000	1	Elective	4		
HIST 2302	1	HIST elective 4	4				
Elective	4	HIST elective 5	4				
Elective	4	Foreign language or elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ECON elective 2	4	Co-op	
		ECON 3520	4	HIST elective 7	4		
		ENGW 3315	4				
		HIST elective 6	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ECON 3470, HIST 2011, or ECON 1292	4
		ECON 4692, 4997, or HIST 4701	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

History and English, BA

The Department of History and the Department of English offer an interdisciplinary combined major in history and English. Students interested in the combined major integrate the study of literature and writing with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Complete one course from the 1000 level.		4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 2370	Renaissance to Enlightenment	
HIST 2330	Colonial and Revolutionary America	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
Intermediate/Advanced History Courses		
Complete four history courses numbered 2000 or above that have not been used to fulfill another requirement.		16
Advanced History		
Complete one history course at the 3000 level or above that has not been used to fulfill another requirement.		4

English Requirements

Code	Title	Hours
English Course-Level Requirement		
In addition to the capstone, two of the courses chosen from the lists below must be numbered 3000–4999.		
Introduction to College		
ENGL 1000	English at Northeastern	1
Foundational Courses		

ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
Diversity		
Complete one of the following courses. This course may also be used to fulfill an additional English requirement below:		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2455	American Women Writers	
ENGL 2760	Writing in Global Contexts	
ENGL 2470	Asian-American Literature	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Pre-Nineteenth-Century Literature		
Complete one of the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 1700	Global Literatures 1	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
Nineteenth-, Twentieth-, and Twenty-First-Century Literature		
Complete one of the following:		4
ENGL 2301	The Graphic Novel	
ENGL 2330	The American Renaissance	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3140	19th-Century Literatures	
ENGL 3619	Emerson and Thoreau	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3720	19th-Century Major Figure	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3340	Technologies of Text	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	

LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Literature		
Complete one of the following:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2780	Visual Writing	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete two additional ENGL electives.		8

Capstone

Code	Title	Hours
Complete one of the following:		4
ENGL 4710	Capstone Seminar	
ENGL 4720	Capstone Project	
HIST 4701	Capstone Seminar	

Integrative Requirement

Code	Title	Hours
Required Integrative Course		
ENGL 3400	Opening the Archive	4

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

The History Seminar (HIST 2301) fulfills the college's experiential learning requirement.

Program Requirements

128 total semester hours required

Plan of Study
Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 1000	1	HIST elective or integrative 1	4	Vacation		Vacation	
HIST 1200	1	HIST elective or integrative 2	4				
HIST 1201	4	ENGL 1160 or 1410	4				
ENGW 1111	4	Elective	4				
ENGL 1400	4						
Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	HIST elective or integrative 3	4	Vacation		Co-op	
HIST 2302	1	HIST elective or integrative 4	4				
Pre–19th-century ENGL	4	19th-, 20th-, or 21st-century ENGL	4				
ENGL theory/methods	4	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST elective or integrative 5	4	Elective	4	Co-op	
		ENGL comparative	4	Elective	4		
		ENGL writing	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST elective or integrative 6	4	Elective	4	Co-op	
		ENGL diversity	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		HIST capstone or HIST senior project or ENGL capstone	4
		HIST elective or integrative 7	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 131

History and Philosophy, BA

The Department of History and the Department of Philosophy and Religion offer an interdisciplinary combined major in history and philosophy. Students interested in the combined major integrate the study of philosophy and ethics with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Elective		
Complete two courses at any level in any field.		8
Introductory Level Elective		
Complete one course from the 1000 level (excluding HIST 1200 and HIST 1201).		4
Intermediate/Advanced History Cluster		
Complete minimum of one history course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4
Advanced History Elective		
Complete minimum of one history course numbered 3000 to 4999 (excluding HIST 4701).		4

History Capstone Seminar or Senior Project		
HIST 4701	Capstone Seminar	4

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, at least one of which must be at the 4000 level or above.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill other requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional PHIL courses not used to satisfy other requirements.		8

Integrative Courses

Code	Title	Hours
Complete one of the following not used to meet another requirement:		4
HIST 2308	Law, Justice, and Society in Modern China	
PHIL 2395	Japanese Buddhism	

History and Philosophy Combined-Major Credit Requirement

Complete 85 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1000	1	PHIL elective	4	Vacation	
HIST 1200	1	PHIL 2330	4	Elective	4		
HIST 1201	4	HIST introductory level	4				
PHIL 1115	4	HIST pre-1800 history elective	4				
PHIL 2325 or POLS 2325	4	PHIL intermediate/ advanced elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	HIST intermediate/ advanced elective	4	PHIL elective	4	Co-op	
HIST 2302	1	HIST intermediate/ advanced elective	4	Elective	4		
ANTH area course	4	PHIL advanced elective	4				
PHIL elective	4	PHIL advanced elective	4				
PHIL elective	4	Elective	1				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST advanced elective	4	Elective	4	Co-op	
		HIST intermediate/ advanced elective	4	Elective	4		
		PHIL integrative course	4				
		PHIL elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		HIST capstone or senior project	4	Elective	4
		HIST elective or integrative course	4		
		HIST elective or integrative course	4		
		PHIL advanced elective	4		
	0		**16**		**4**

Total Hours: 128

History and Political Science, BA

The Department of History and the Department of Political Science offer an interdisciplinary combined major in history and political science. Students interested in the combined major integrate the study of political systems and theories with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Major Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Electives		
Complete two HIST courses at any level in any field.		8
Introductory Level Elective		
Complete one course from HIST 1000 levels (excluding HIST 1200 and HIST 1201).		4
Intermediate/Advanced History Elective		
Complete minimum of one HIST course numbered 2000 or above (excluding HIST 2301 and HIST 2302).		4
Advanced History Elective		
Complete minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		4

Political Science Major Requirements

Code	Title	Hours
Political Science Foundation Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three POLS courses numbered 2000 or above.		12

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 2135).

- American Political Institutions (p. 2135)
- Campaigns and Elections (p. 2135)
- Comparative Politics (p. 2135)
- Identity, Culture, and Politics (p. 2136)
- International Relations and Diplomacy (p. 2136)
- Law and Legal Studies (p. 2136)
- Public Policy (p. 2136)
- Security Studies (p. 2137)

Supporting Courses

Code	Title	Hours
Complete one of the following:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	

Integrative Requirement

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
HIST 1130	Introduction to the History of the United States	
HIST 2211	The World Since 1945	
HIST 2282	The Holocaust and Comparative Genocide	
Capstone		
Complete one of the following.		4
HIST 4701	Capstone Seminar	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

History and Political Science Major Credit Requirement

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Complete 78 semester hours in the major.
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Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1200	1	Elective	4	Elective	4
POLS 1150	4	HIST 1201	4	Elective	4	Elective	4
POLS 1155	4	POLS 1160	4				
HIST elective 1	4	POLS Supporting course	4				
		HIST elective 2	4				
	16		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399	4	Co-op		Co-op		HIST elective 4	4
POLS Thought	4					Foreign Language	4
HIST elective 3	4						
Foreign Language	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	Co-op		Co-op		Advanced Writing	4
HIST 2302	1					HIST elective 5	4
POLS 2400	4						
PHIL 5001	4						
POLS elective	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative course	4	HIST or POLS capstone	4
HIST elective 6	4	Elective	4
POLS elective	4	Elective	4
POLS elective	4	Elective	4
	16		**16**

Total Hours: 130

History and Religious Studies, BA

The Department of History and the Department of Philosophy and Religion offer an interdisciplinary combined major in history and religious studies. Students interested in the combined major integrate the study and analysis of human history with the study of religious traditions, religious praxis, and religious ethics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Introductory Level Elective		
Complete one course from the 1000 level (excluding HIST 1200 and HIST 1201).		4
History Electives		
Complete five further history courses not used to fulfill a previous requirement, of which at least one must be numbered 2000-2999 (excluding HIST 2301 and HIST 2302) and at least one must be numbered 3000-4999 (excluding HIST 4701)		20

Religious Studies Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete six of the following courses, one of which must be at the 2000 level or above and another one of which must be at the 3000 level or above, that have not been used to satisfy another requirement:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	

Integrative Requirements

Code	Title	Hours
Capstone		
Complete one of the following courses that has not been used to satisfy another requirement:		4
HIST 4701	Capstone Seminar	
PHIL 4903	Seminar in Religion	
Integrative Course		
Complete one of the following courses that has not been used to satisfy another requirement:		4
HIST 1185	Introduction to Middle Eastern History	
HIST 1290	Modern Middle East	
HIST 2370	Renaissance to Enlightenment	
PHIL 2395	Japanese Buddhism	

History and Religious Studies Combined-Major Credit Requirement

Complete 78 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1000	1	HIST elective	4	Vacation	
HIST 1200	1	Intro-level HIST course	4	Elective	4		
HIST 1201	4	Lived religion elective	4				
PHIL 1110	4	Pre-1800 HIST elective	4				
Elective	4	Elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	HIST intermediate/ advanced elective	4	Elective	4	Co-op	
HIST 2302	1	HIST intermediate/ advanced elective	4	Elective	4		
ANTH area course	4	Elective	4				
Comparative religion elective	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST advanced elective	4	Elective	4	Co-op	
		HIST intermediate/ advanced elective	4	Elective	4		
		PHIL 2000-level elective	4				
		Integrative course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		HIST elective	4	Elective	4
		PHIL 3000-level elective	4	Elective	4

	Capstone	4	
	Elective	4	
0		**16**	**8**

Total Hours: 131

International Affairs and History, BA

This combined major fosters a historically contingent awareness of global affairs and international policy issues since the early 20th century through diverse and cross-disciplinary theories of interstate relations, state-society relations, the future of democracy, the nature of citizenship and rights, the origins and conduct of war, the foundations of racial and ethnic conflict and tolerance, and poverty and prosperity. This combined major highlights the importance of understanding the intersection between global issues and local traditions and is designed to prepare students to be politically, culturally, historically, and linguistically sensitive to their interaction.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement.

Code	Title	Hours
International Affairs/History at Northeastern		
INTL 1000	International Affairs at Northeastern	1
or HIST 1000	History at Northeastern	
International Affairs Required Courses		
ECON 1115	Principles of Macroeconomics	4
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
or ANTH 1101	Peoples and Cultures	
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	

POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business

JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in the same region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		

ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

History Major Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Complete one course from HIST 1001 to HIST 1999 (excluding HIST 1200 and HIST 1201).		4
History Electives		
Complete two HIST courses at any level in any field.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2311	Colonialism/Imperialism	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Intermediate History Cluster		
Complete minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4

Advanced History	
Complete minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).	4

International Affairs and History Integrative Requirements

Code	Title	Hours
One course from the Research Methods and Capstone requirements must come from history.		
Research Methods		
Complete one of the following:		4 - 5
HIST 2301 and HIST 2302	The History Seminar and Historical Writing	
INTL 2718	Research Methods in International Affairs	
Capstone		
INTL 4700	Senior Capstone Seminar in International Affairs	4
or HIST 4701	Capstone Seminar	
Integrative Course		
HIST 2011	Capitalism and Business: A Global History	4
or HIST 2311	Colonialism/Imperialism	

International Affairs and History Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ENGW 1111	4	HIST elective	4	Elective	4
HIST 1200	1	POLS 1160	4	INTL elective	4	Elective	4
HIST 1201	4	Foreign language course	4				
INTL 1000	1	HIST elective	4				
INTL 1101	4						
Foreign language course	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		INTL elective	4
INTL 2718	4					Elective	4
POLS 1155	4						
Foreign language course	4						
HIST elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		INTL elective	4
INTL 3400	4					Elective	4
Foreign language course	4						
HIST elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative course	4	INTL 4700	4
HIST elective	4	HIST elective	4
INTL elective	4	HIST elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

Media and Screen Studies and History, BA

The Media and Screen Studies Program and the Department of History offer a combined major in media and screen studies and history. The combined major integrates the analysis, research, and production of traditional and emerging media along with the study of local and regional histories as well as of the global exchanges between nations, regions, and cultures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC) and Societies and Institutions (SI) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Analyzing and Using Data (AD), Difference and Diversity (DD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one course from the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Elective		
Complete two HIST courses at any level in any field.		8
Introductory-Level Course		
Complete one course in the following range, not used to fulfill another requirement:		4
HIST 1001–HIST 1999		
Intermediate/Advanced History		
Complete minimum of one history course numbered 2000 to 2999 (Excluding HIST 2301 and HIST 2302).		4
Advanced History		
Complete minimum of one history course numbered 3000 to 4999 (Excluding HIST 4701).		4
Capstone		
HIST 4701	Capstone Seminar	4

Integrative Requirement

Code	Title	Hours
HIST 1357	History of Information in the United States: Media, Technology, Law	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Foreign Language	4	Elective	4
HIST 1200 and HIST 1201	5	Intro-level HIST course	4	Elective	4	Elective	4
MSCR 1000	1	MSCR foundation course	4				
MSCR 1220	4	Foreign Language	4				
Foreign Language	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
HIST 2301 and HIST 2302	5					Elective	4
MSCR diversity/ globalization	4						
MSCR elective	4						
Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Intermediate/advanced history elective 1	4	Co-op		Co-op		Elective	4
MSCR elective	4					Elective	4
MSCR writing-intensive	4						
Pre-1800 history elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HIST 1357	4	HIST 4701	4
Advanced history elective	4	Intermediate/advanced history elective 3	4
Intermediate/advanced history elective 2	4	MSCR elective	4
MSCR writing-intensive	4	Elective	4
	16		**16**

Total Hours: 132

History, BS

The Bachelor of Science degree emphasizes greater specialization in history, study of research methods, and the opportunity to add a minor in a field outside of history. Students who plan to go to graduate school in history should consider the possibility of taking language courses as electives, since most graduate programs continue to require second language competence.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Major Requirements

Code	Title	Hours
Introductory History		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Complete two of the following:		8
HIST 1100	Law and History	
HIST 1120	Public History, Public Memory	
HIST 1130	Introduction to the History of the United States	
HIST 1150	East Asian Studies	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1190	Picturing Modernity: The Photographic Image in Culture and Society	
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues	
HIST 1246	World War II in the Pacific	
HIST 1357	History of Information in the United States: Media, Technology, Law	
HIST 2220	History of Technology	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
History Seminar and Historical Writing		
HIST 2301 and HIST 2302	The History Seminar and Historical Writing	5

Additional History Requirements

Code	Title	Hours
History Elective		
Complete two HIST courses at any level in any field.		8
Pre-1800 Course		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	

HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Outside the United States and Europe		
Complete one of the following:		4
HIST 1150	East Asian Studies	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1253	History of Vietnam Wars	
HIST 1294	History of the Jews in the Modern World	
HIST 1500	Modern Chinese History and Culture	
HIST 2025	Latin American History through Film	
HIST 2211	The World Since 1945	
HIST 2311	Colonialism/Imperialism	
HIST 2351	Modern Japan	
HIST 2360	History of Capitalism in East Asia	
Capstone or Project		
HIST 4701	Capstone Seminar	4

Intermediate/Advanced History Course Requirement

Code	Title	Hours
Complete minimum of one HIST numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4

Supporting Course

Code	Title	Hours
Research Methods		
Complete one of the following:		4
CS 1100	Computer Science and Its Applications	
ECON 2350	Statistics for Economists	
ENVR 5260	Geographical Information Systems	
MATH 2280	Statistics and Software	
POLS 2400	Quantitative Techniques	
PSYC 2320	Statistics in Psychological Research	
SOCL 2320	Statistical Analysis in Sociology	

History Major Credit Requirement

Complete 46 semester hours for the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, ONE CO-OP

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1130	4	Vacation		Vacation	
HIST 1000	1	MATH 1215	4				
HIST 1170	4	Elective	4				
HIST 1200	1	Elective	4				
HIST 1201	4						
Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-1800 or non–U.S./ Europe history elective	4	Intermediate/advanced history elective	4	Elective	4	Co-op	
Research methods class	4	Pre-1800 or non–U.S./ Europe history elective	4	Elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST 2301	4	Elective	4	Vacation	
		HIST 2302	1	Elective	4		
		Intermediate/advanced history elective	4				
		Elective	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Intermediate/advanced history elective	4	HIST 4701	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1130	4	Vacation	0	Vacation	0
HIST 1000	1	MATH 1215	4				
HIST 1170	4	Elective	4				
HIST 1200	1	Elective	4				
HIST 1201	4						
Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-1800 or non–U.S./ Europe history elective	4	Pre-1800 or non–U.S./ Europe history elective	4	Vacation	0	Co-op	0
Research methods course	4	Elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	HIST 2301	4	Elective	4	Co-op	0
		HIST 2302	1	Elective	4		
		Intermediate/advanced history elective	4				
		Elective	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Intermediate/advanced history elective	4	Elective	4	Co-op	0
		Elective	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	HIST 4701	4
		Intermediate/advanced history elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 131

Computer Science and History, BS

The computer science and history combined major offers students the opportunity to gain both historical knowledge and a broad range of related analytical skills in both the humanities and computer science. You'll define a history course cluster according to a thematic principle, with a focus on quantitative analysis in the field, complementing your foundation in programming.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
CS 1200	First Year Seminar	1
or HIST 1000	History at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 16 semester hours of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		16
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

History Courses

Code	Title	Hours
History Required Courses		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		**4**
Complete one of the following:		

HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Outside the United States and Europe		**4**
Complete one of the following:		
HIST 1150	East Asian Studies	
HIST 1180	African History	
HIST 1187	Introduction to Latin American History	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1253	History of Vietnam Wars	
HIST 1294	History of the Jews in the Modern World	
HIST 1500	Modern Chinese History and Culture	
HIST 2025	Latin American History through Film	
HIST 2311	Colonialism/Imperialism	
HIST 2351	Modern Japan	
History Electives		
Complete two HIST courses at any level in any field.		8
Intermediate/Advanced History Course		**4**
Complete a minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		
Advanced History		**4**
Complete a minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		
History Capstone Seminar or Senior Project		
HIST 4701	Capstone Seminar	4

Integrative Course Requirement

Code	Title	Hours
HIST 2211	The World Since 1945	4

Supporting Courses

Code	Title	Hours
Research Methods		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 3300	Geographic Information Systems	
ENVR 5260	Geographical Information Systems	
POLS 2400	Quantitative Techniques	
PSYC 2320	Statistics in Psychological Research	
Computing and Social Issues		
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	

ENGL 2150	Literature and Digital Diversity
HIST 2220	History of Technology
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks
IS 1300	Knowledge in a Digital World
or PHIL 1300	Knowledge in a Digital World
PHIL 1145	Technology and Human Values
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
This requirement is satisfied by HIST 2302 taken in conjunction with HIST 2301.		

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

Khoury College GPA Requirement

A minimum 2.000 GPA is required in all CS, CY, DS, and IS courses.

Computer Science and History GPA/Credit Requirements

Complete 98 semester hours in the major with a minimum 2.000 GPA.

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Writing-Intensive in the Major
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

135 total semester hours required

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	History pre-1800 elective	4				
ENGW 1111	4	History elective 1	4				
HIST 1200	1						
HIST 1201	4						
	20		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210	1	Co-op	0	Co-op	0	Elective	4
CS 3000	4					Elective	4
HIST 2301	4						
HIST 2302	1						
Research methods requirement	4						
Elective	4						
	18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	Elective	4
History outside the United States and Europe elective	4					Elective	4
Khoury elective 1	4						
Intermediate history elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
HIST 2211	4	Advanced history elective	4
Computing and social issues	4	History capstone seminar or senior project	4
History elective 2	4	Khoury elective 3	4
Khoury elective 2	4	Khoury elective 4	4
	16		**16**

Total Hours: 136

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	History pre-1800 elective	4				
ENGW 1111	4	History elective 1	4				
HIST 1200	1						
HIST 1201	4						
	20		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3000	4	CS 1210	1	Elective	4	Co-op	0
HIST 2301	4	CS 3200	4	Elective	4		
HIST 2302	1	History elective 2	4				
Research methods requirement	4	History outside the United States and Europe elective	4				
Elective	4	Intermediate history elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Advanced history elective	4	Elective	4	Co-op	0
		Computing and social issues	4	Elective	4		
		Khoury elective 1	4				
		Khoury elective 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	HIST 2211	4
		History capstone seminar or senior project	4
		Khoury elective 3	4
		Khoury elective 4	4
	0		**16**

Total Hours: 136

History and Economics, BS

The Department of History and the Department of Economics offer an interdisciplinary combined major in history and economics. Students interested in the combined major integrate the study of economic systems and theories with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Complete one history course from the 1000 level (except HIST 1200 and HIST 1201).		4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
History Elective		
Complete two HIST courses at any level in any field.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Intermediate/Advanced History Courses		
Complete minimum of one history course numbered 2000 to 2999 (except HIST 2301 and HIST 2302).		4
Advanced History		
Complete minimum of one history course numbered 3000 to 4999 (except HIST 4701).		4
Supplemental Course for History—Research Methods		
Complete one of the following:		4
ECON 2350	Statistics for Economists	
ENVR 5260	Geographical Information Systems	
MATH 2280	Statistics and Software	
POLS 2400	Quantitative Techniques	

PSYC 2320	Statistics in Psychological Research
SOCL 2320	Statistical Analysis in Sociology

Economics Requirements

Code	Title	Hours
Introduction to College		
ECON 1000	Economics at Northeastern	1
or HIST 1000	History at Northeastern	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete four economics elective courses that are found in the following ranges, with no more than two in the ECON 1200 to ECON 1999 range. Additionally, courses used to satisfy the integrative course requirement may not be used as economics electives:		16
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Supplemental Courses		
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Calculus		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Capstone Requirements

Code	Title	Hours
Complete one of the following options:		4
ECON 4692	Senior Economics Seminar	
or ECON 4997	Senior Economics Thesis	
HIST 4701	Capstone Seminar	

Integrative Requirements

Code	Title	Hours
Complete one of the following:		4
ECON 1292	Economic History of the Middle East	
ECON 3470	American Economic History	
HIST 2011	Capitalism and Business: A Global History	
HIST 2360	History of Capitalism in East Asia	

History and Economics Major GPA/Credit Requirement

Grades in the following four economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Complete 98 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study - Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1000 or HIST 1000	1	ECON 1116	4	ECON elective 2	4	Elective	4
ECON 1115	4	ECON elective 1	4	Elective	4	Elective	4
HIST 1200	1	HIST elective 1	4				
HIST 1201	4	HIST elective 2	4				
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4						
Elective	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	ECON 2316	4	HIST elective 5	4	Co-op	0
ECON 2315	4	HIST elective 3	4	Elective	4		
HIST 2301	4	HIST elective 4	4				
HIST 2302	1	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2350	4	ECON 2560	4	Co-op	0
		ECON elective 3	4	ECON elective 4	4		
		HIST elective 6	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 3470, HIST 2011, or ECON 1292	4
		ECON 4692, HIST 4701, or ECON 4997	4
		HIST elective 7	4

Elective	4
0	**16**

Total Hours: 131

Mechanical Engineering and History, BSME

The combined mechanical engineering and history major is designed to help students develop skills across different intellectual domains. A solid grounding in history helps students better understand the political, cultural, and economic context in which technologies are developed and deployed. Indeed, history offers a myriad of case studies that highlight both the transformative potential and the unintended consequences of new technologies and technological processes. By studying different phases of the past and different societies in the past, students will gain a broad perspective that gives them the range and flexibility required in many work situations. History also provides a terrain for moral contemplation. Greater sensitivity to historical context also helps students see beyond commonly accepted narratives valorizing individual entrepreneurs and appreciate the different ways in which innovation, disruption, official support, and even contingency give rise to new technologies. Finally, by writing effective papers and engaging in productive discussions at the heart of history courses, students also cultivate skills in critical analysis and persuasive communication that could be employed in any future careers.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirement Interpreting Culture (IC) is not explicitly satisfied by required courses. Students are responsible for satisfying this requirement with electives.

Engineering Requirements

Code	Title	Hours
Required Engineering		
ME 2340 and ME 2341	Introduction to Material Science and Lab for ME 2340	5
ME 2350	Statics	4
ME 2355 and ME 2356	Mechanics of Materials and Lab for ME 2355	5
ME 2380 and ME 2381	Thermodynamics and Recitation for ME 2380	4
ME 3455 and ME 3456	Dynamics and Lab for ME 3455	5
ME 3475	Fluid Mechanics	4
or ME 3480	International Applications of Fluid Mechanics	
ME 4505 and ME 4506	Measurement and Analysis with Thermal Science Application and Lab for ME 4505	5
Senior Capstone Design Project		
MEIE 4701	Capstone Design 1	1
MEIE 4702	Capstone Design 2	5
Technical Electives		
Complete two of the following:		8
ME 4508	Mechanical Engineering Computation and Design	
ME 4550	Mechanical Engineering Design	
ME 4555	System Analysis and Control	
ME 4570	Thermal Systems Analysis and Design	
Supplemental Credit		
2 semester hours from the following course count toward the engineering requirement:		2
GE 1501	Cornerstone of Engineering 1 [1]	
3 semester hours from the following course count toward the engineering requirement:		3
GE 1502	Cornerstone of Engineering 2 [1]	

History Requirements

Code	Title	Hours
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
HIST 2220	History of Technology	4
Research Methods		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Introductory History		
Complete one course from HIST 1001 to HIST 1999 (excluding HIST 1200 and HIST 1201).		4
History Elective		
Complete two HIST courses at any level in any field.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2000	Native American Resistance: Past and Present	
HIST 2311	Colonialism/Imperialism	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Intermediate History		
Complete minimum of one HIST course numbered 2000 to 2999 (Excluding HIST 2301 and HIST 2302).		4
Advanced History		
Complete minimum one HIST course numbered 3000 to 4999 (Excluding HIST 4701).		4

Supporting Courses: Mathematics/Science

Complete all mathematics/science courses with a minimum of 30 semester hours.

Code	Title	Hours
Required Mathematics/Science		
CHEM 1151 and CHEM 1153	General Chemistry for Engineers and Recitation for CHEM 1151	4
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	5
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	5
Supplemental Credit		

1 semester hour from the following course counts toward the mathematics/science requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	

Professional Development

Code	Title	Hours
Professional Development		
GE 1000	First-Year Seminar	1
ENCP 2000	Introduction to Engineering Co-op Education	1
ENCP 3000	Professional Issues in Engineering	1
Additional Required Courses		
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1501	Cornerstone of Engineering 1 [1]	
1 semester hour from the following course counts toward the professional development requirement:		1
GE 1502	Cornerstone of Engineering 2 [1]	

Writing Requirements

Code	Title	Hours
A grade of C or higher is required in each course:		
ENGW 1111	First-Year Writing	4
ENGW 3302	Advanced Writing in the Technical Professions	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Integrative Courses

Code	Title	Hours
This course is already required above and also fulfills the integrative requirement.		
HIST 2220	History of Technology	

Required General Elective

Code	Title	Hours
Complete 4 semester hours of academic, nonremedial, nonrepetitive courses.		4

Major GPA Requirement

Minimum 2.000 GPA required in ME courses

Minimum 2.000 GPA required in all HIST courses

Program Requirement

141 total semester hours required

[1] Students can substitute Engineering Design (GE 1110) and Engineering Problem Solving and Computation (GE 1111) for Cornerstone of Engineering 1 (GE 1501) and Cornerstone of Engineering 2 (GE 1502) in approved situations.

Plan of Study

Sample Plans of Study

Four Years, One Co-op in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	HIST 1200	1				
ENGW 1111 (WF)	4	HIST 1201	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	HIST 2301	4	Vacation	0	ME 3475 or 3480	4
MATH 2321 (FQ)	4	HIST 2302 (WD)	1			Introductory history course	4
ME 2340 (WI)	4	MATH 2341	4				
ME 2341	1	ME 2355	4				
ME 2350	4	ME 2380	4				
PHYS 1155 (ND)	3	ME 2381	0				
PHYS 1156 (AD)	1	ME 2356	1				
PHYS 1157	1						
	19		**18**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2220 (SI, DD)	4	Co-op		Co-op		MEIE 4701 (EI, CE, WI)	1
ME 3455	4					ME technical elective	4
ME 3456	1					Intermediate history course	4
ME 4505 (AD)	4						
ME 4506	1						
Pre-1800 history elective	4						
	18		**0**		**0**		**9**

Year 4

Fall	Hours	Spring	Hours
ENCP 3000	1	Advanced history course	4
ENGW 3302 or 3315 (WD)	4	General elective	4
MEIE 4702 (EI, CE, WI)	5	Intermediate history course	4
Intermediate history course	4	ME technical elective	4
Intermediate history course	4		
	18		**16**

Total Hours: 141

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CHEM 1151 (ND)	4	GE 1502 (ER)	4	Vacation	0	Vacation	0
CHEM 1153	0	HIST 1200	1				
ENGW 1111 (WF)	4	HIST 1201	4				
GE 1000	1	MATH 1342 (FQ)	4				
GE 1501	4	PHYS 1151 (ND)	3				
MATH 1341 (FQ)	4	PHYS 1152 (AD)	1				
		PHYS 1153	1				
	17		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 2000	1	Co-op	0	Co-op	0	Vacation	0
MATH 2321 (FQ)	4						
ME 2350	4						
PHYS 1155 (ND)	3						
PHYS 1156 (AD)	1						
PHYS 1157	1						
HIST 2301	4						
HIST 2302 (WD)	1						
	19		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2341	4	Co-op		Co-op		ME 2380	4
ME 2340 (WI)	4					ME 2381	0
ME 2341	1					Intermediate history course	4
ME 2355	4						
ME 2356	1						
Introductory history course	4						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENCP 3000	1	Co-op		Co-op		ME 3475 or 3480	4
HIST 2220 (SI, DD)	4					MEIE 4701 (EI, CE, WI)	1
ME 3455	4					General elective	4
ME 3456	1						
ME 4505 (AD)	4						
ME 4506	1						
Pre-1800 history elective	4						
	19		**0**		**0**		**9**

Year 5

Fall	Hours	Spring	Hours
ENGW 3302 or 3315 (WD)	4	Advanced history course	4
MEIE 4702 (EI, CE, WI)	5	Intermediate history course	4
Intermediate history course	4	ME technical elective	4
Intermediate history course	4	ME technical elective	4
	17		**16**

Total Hours: 141

History, Minor

The history minor is designed to be flexible so that students may focus on a tailored course of study. There are no prerequisites: Complete five history courses (20 semester hours), of which at least two must be at or above the 2000 level and must be taken at Northeastern. Students are encouraged to choose a cluster of courses around a particular theme. Existing themes include global conflict and war, ancient and early modern worlds, global cultural history, public history, commodities and capitalism, and global security. Students may also focus on particular areas such as the Americas, Europe, East Asia, and Africa.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Complete five history courses, of which at least two must be taken at Northeastern and must be numbered HIST 2000 or higher. History minors must have a total of 20 semester hours in history.

GPA Requirement

2.000 GPA required in the minor

International Affairs

Website (http://www.northeastern.edu/internationalaffairs/)

Amílcar Antonio Barreto, PhD
Interim Director and Professor

225K Renaissance Park
617.373.2783

International affairs is an interdisciplinary major in the College of Social Sciences and Humanities. The program is designed to prepare undergraduate students with the academic knowledge, cross-cultural awareness, and skills needed to thrive and lead in a diverse world society while promoting global citizenship and social responsibility. Our internationally diverse faculty has a wide-ranging scholarly expertise, with strengths in conflict resolution and peace building; international law; and global politics of gender, ethnicity, and cities.

International affairs at Northeastern University challenges students to engage across intellectual and geographic boundaries, while also asking them to think and act locally through academic coursework, experiential opportunities, and language proficiency centered in a particular world region. Our students are well positioned as the next generation of global leaders—within NGOs, governments, international organizations, businesses, and classrooms—finding meaningful ways to solve problems and meet the challenges of today and tomorrow.

Academic Progression Standards

It is recommended that students majoring in international affairs maintain a minimum 3.000 grade-point average until the beginning of their international experience in order to be eligible for the majority of the study-abroad options.

Cooperative Education

Cooperative education is recommended for all students pursuing a major or combined major in international affairs.

Programs

Bachelor of Arts (BA)

- International Affairs (p. 2172)
- Environmental Studies and International Affairs (p. 1490)
- Human Services and International Affairs (p. 1763)
- International Affairs and Criminal Justice (p. 1824)
- International Affairs and Cultural Anthropology (p. 2207)
- International Affairs and Economics (p. 1957)
- International Affairs and History (p. 2142)
- International Affairs and Religious Studies (p. 2233)
- Journalism and International Affairs (p. 414)
- Political Science and International Affairs (p. 2248)
- Sociology and International Affairs (p. 2257)
- Spanish and International Affairs (p. 1904)

Bachelor of Science (BS)

- Data Science and International Affairs (p. 911)
- International Affairs and International Business (p. 636)

Minors

- International Affairs (p. 2270)
- Middle East and Mediterranean Studies (p. 2274)

International Affairs, BA

The international affairs program provides a rigorous inter- and multidisciplinary curriculum while also giving students flexibility to select the courses and disciplines that interest them most. The curriculum fosters an awareness of global affairs and international issues since the early 20th century through diverse and cross-disciplinary theories of interstate relations: conflict, cooperation, hierarchies; civil society, transnational advocacy networks, global social movements; and state-society relations: democracy, authoritarianism, inequalities, citizenship. Students majoring in international affairs may also choose from among a number of regional concentrations.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Core Requirements

All international affairs majors must complete the following core courses:

Code	Title	Hours
Major Core		
ANTH 1101	Peoples and Cultures	4
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
HIST 2211	The World Since 1945	4
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 2718	Research Methods in International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
Senior Seminar/Experiential Learning		
INTL 4700	Senior Capstone Seminar in International Affairs	4
Total Hours		**32**

In addition to the core requirements in the major, students may choose to declare one regional concentration from the following:

Optional Concentrations

- African Studies (p. 2177)
- Asian Studies (p. 2177)
- European Studies (p. 2177)
- Latin American Studies (p. 2178)
- Middle East Studies (p. 2178)

Students who do not choose a regional concentration must complete the following:

GLOBAL DYNAMICS REQUIREMENT

Code	Title	Hours
Complete 8 SH from the global dynamics course list.		8
Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements.		
Courses used to fulfill major core requirements may not be used to satisfy the global dynamics requirement. See the department for additional courses.		

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	

POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business

JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

REGIONAL ANALYSIS REQUIREMENT

Code	Title	Hours
Complete three courses from the regional analysis list, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		

ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

INTERNATIONAL AFFAIRS ELECTIVE

Code	Title	Hours
Complete 4 SH from the international affairs elective list.		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Upper-Division Electives

Complete three general electives at the 3000 level or above that do not double count with the major or NUpath.

Other Major Requirements

Code	Title	Hours
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs. International students may be exempt from the semester abroad (subject to advisor approval).		
If completing a concentration:		
Students pursuing a regional concentration, are required to complete their international semester in the same region.		
African studies concentration: If you do not complete an international semester, you must participate in Model African Union.		
European studies concentration: If you do not complete an international semester, you must participate in either Model European Union or Model NATO.		
Middle East studies concentration: If you do not complete an international semester, you must participate in Model United Nations or Model Arab League.		

Code	Title	Hours
International Affairs Foreign Language Requirement		
Complete coursework in a language through at least intermediate-level two (e.g., ARAB 2102). Note: Completing this requirement satisfies the language requirement for the BA degree.		
If completing a concentration:		
African studies concentration: Complete language coursework in Kiswahili, French, or Arabic through at least intermediate-level two.		
Asian studies concentration: Complete language coursework in Chinese or Japanese through at least intermediate-level two.		
European studies concentration: Complete language coursework in French, German, Greek, Italian, Portuguese, or Spanish through at least intermediate-level two.		
Latin American studies concentration: Complete language coursework in Portuguese or Spanish through at least intermediate-level two.		
Middle East studies concentration: Complete language coursework in Arabic or Hebrew through at least intermediate-level two.		

International Affairs Major Credit/GPA Requirements

Minimum 56 semester hours required
Minimum 2.000 GPA

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

AFRICAN STUDIES

In addition to the core requirements in the major, complete the following:

Code	Title	Hours
Global Dynamics		
POLS 1155	Comparative Politics	4
Complete 4 additional SH from the global dynamics course list. (p. 2173)		4
Regional Analysis		
AFRS 1101	Introduction to African Studies	4
Complete 4 additional SH from the Africa category of the regional analysis course list. (p. 2175)		16
Two courses must be 2000 or above.		
Total Hours		**28**

ASIAN STUDIES

In addition to the core requirements in the major, complete the following:

Code	Title	Hours
Global Dynamics		
POLS 1155	Comparative Politics	4
Complete 4 additional SH from the global dynamics course list. (p. 2173)		4
Regional Analysis		
ASNS 1150	East Asian Studies	4
or HIST 1150	East Asian Studies	
Complete 4 additional SH from the Asia category of the regional analysis course list. (p. 2175)		16
Two courses must be 2000 or above.		
Total Hours		**28**

EUROPEAN STUDIES

In addition to the core requirements in the major, complete the following:

Code	Title	Hours
Global Dynamics		
POLS 1155	Comparative Politics	4
Complete 4 additional SH from the global dynamics course list. (p. 2173)		4
Regional Analysis		
POLS 3435	Politics and Governance of Europe and the European Union	4
Complete 4 additional SH from the Europe category of the regional analysis course list. (p. 2175)		16
Two courses must be 2000 or above.		
Total Hours		**28**

LATIN AMERICAN STUDIES

In addition to the core requirements in the major, complete the following:

Code	Title	Hours
Global Dynamics		
POLS 1155	Comparative Politics	4
Complete 4 additional SH from the global dynamics course list. (p. 2173)		4
Regional Analysis		
LACS 1220	Latino, Latin American, and Caribbean Studies	4
Complete 4 additional SH from the Latin America category of the regional analysis course list. (p. 2175)		16
Total Hours		**28**

MIDDLE EAST STUDIES

In addition to the core requirements in the major, complete the following:

Code	Title	Hours
Global Dynamics		
POLS 1155	Comparative Politics	4
Complete 4 additional SH from the global dynamics course list. (p. 2173)		4
Regional Analysis		
INTL 1160	Middle East Studies	4
or HIST 1290	Modern Middle East	
Complete 4 additional SH from the Middle East category of the regional analysis course list. (p. 2175)		16
Total Hours		**28**

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	HIST 2211	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
ENGW 1111	4	POLS 1160	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	Elective	4				
INTL 1101	4	Foreign language course	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	Co-op		Co-op		Elective (Dialogue of Civilizations possible)	4
EESH 2000	1					Elective (Dialogue of Civilizations possible)	4
INTL 2718	4						

POLS 1155 or international affairs elective	4						
Foreign language course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Elective (Dialogue of Civilizations possible)	4
INTL 3400	4					Elective (Dialogue of Civilizations possible)	4
Foreign language course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
INTL 4700	4	Elective	4
Foreign language course	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Data Science and International Affairs, BS

Overview

This combined degree offers both a strong data science foundation and an interdisciplinary understanding of global affairs and international issues. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. Utilizing these skill sets allows students to address topics such as interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship). Upon graduation, students are equipped with the skills and knowledge needed to work across national cultures in fields that relate to utilizing data to address complex regional and international issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or INTL 1000	International Affairs at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
Programming Sequence Pathways		
Complete one of the two options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		

Complete four semester hours of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 2718	Research Methods in International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following with one course numbered 2000 or above. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements:		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	

PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions

PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses:		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	

HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title
INTL 2480	Women and World Politics
INTL 2500	Race and Global Human Mobility
INTL 3150	Global Philanthropy
INTL 3200	Cities in a Global Context
INTL 3406	International Law
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
INTL 3520	Global Political Economy
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Supporting Courses

Code	Title	Hours
Mathematics		
ECON 2350	Statistics for Economists	4
MATH 1341	Calculus 1 for Science and Engineering	4

Integrative Requirements

Code	Title	Hours
Senior Seminar		
Complete with a thesis or project that integrates both international affairs and data science:		
INTL 4700	Senior Capstone Seminar in International Affairs	4
Digital Ethics		
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	4

Required General Electives

Code	Title	Hours
Complete 24 semester hours of general electives.		24

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Program Requirement

131 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200	1	ANTH 1101, HIST 2211, or HIST 2311	4	CS 3200	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	ECON 2350	4	Elective	4
DS 2000 and DS 2001	4	POLS 1160	4				
ENGW 1111	4	MATH 1341	4				
INTL 1101	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210	1	Elective (Dialogue of Civilizations possible)	4	Co-op	0
DS 3500	4	DS 4200	4	Elective (Dialogue of Civilizations possible)	4		

Global Dynamics Course 1	4	INTL 2718	4				
International Affairs Elective	4	Regional Analysis Requirement 1	4				
		Khoury Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	DS 4300	4	Elective (Dialogue of Civilizations possible)	4	Co-op	0
		INTL 3400	4	Elective (Dialogue of Civilizations possible)	4		
		Global Dynamics Course 2	4				
		Regional Analysis Requirement 2	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CY 4170	4
ENGW 3302, 3308, or 3315	4	DS 4400	4
		INTL 4700	4
		Regional Analysis Requirement 3	4
	4		**16**

Total Hours: 136

Environmental Studies and International Affairs, BA

Through this combined major, successful undergraduates will develop an awareness of the international issues that influence the scientific, cultural, societal, political, and economic aspects of the world's environmental problems and the ways in which such environmental challenges can be ameliorated and/or solved.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Choose one introductory science course:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Choose one introductory social science course:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or higher:		16
ARTG 5110	Information Design History	
BUSN 3110	The Consulting Environment	
CIVE 5280	Remote Sensing of the Environment	
COMM 3500	Environmental Issues, Communication, and the Media	

EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302
EEMB 3466	Disease Ecology
EEMB 3700	Desert Ecology
ENVR 3701	Energy in the Desert Ecosystem
ENVR 5210	Environmental Planning
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
PHTH 4202	Principles of Epidemiology in Medicine and Public Health
POLS 2395	Environmental Politics and Policy
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title
INTL 2480	Women and World Politics
INTL 2500	Race and Global Human Mobility
INTL 3150	Global Philanthropy
INTL 3200	Cities in a Global Context
INTL 3406	International Law
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
INTL 3520	Global Political Economy
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following courses. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements.		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3430	Revolution, Civil War, and Insurrection	
or INTL 3430	Revolution, Civil War, and Insurrection	
POLS 4918	Model NATO	
Globalization		
AFAM 2600	Issues in Race, Science, and Technology	
ANTH 2305	Global Markets and Local Culture	

ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two regional analysis courses, both of which must be in one region, from the following lists. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1502	Introduction to Arabic Culture	
CLTR 1505	Latin American Culture, History, and Politics	

CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Integrative Courses

Code	Title	Hours
Integrative Courses		
ECON 1711	Economics of Sustainability	4
or ECON 3290	History of the Global Economy	
or ECON 3423	Environmental Economics	
INTL 4700	Senior Capstone Seminar in International Affairs	4
or ENVS 4997	Senior Thesis	
PHTH 4120	Global Perspectives on Discrimination and Health	4
or INTL 5100	Climate and Development	
or ENVR 3151	Food Sustainability in the Mediterranean - Abroad	
or ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
or ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
or ENVR 4000	Science Communication and Professional Development	
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	

Environmental Studies and International Affairs Combined Major Credit Requirement

Complete 81 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
ENGW 1111	4	ENVR 1110	4	Foreign Language Course 1	4	INAF Global Dynamics 1	4
ENVR 1101	4	ENVR 2515	4	Foreign Language Course 2	4		
INTL 1101	4	POLS 1160	4				
SOCL 1246	4	ENVR elective; 1 of 4	4				
ENVR 1000	1						
	17		**16**		**8**		**4**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2211	4	EESC 2000	1	Foreign language course 3	4	Co-op	0
ENVR 3300 and ENVR 3301	5	ENVR elective; 3 of 4	4	INAF Global Dynamics 2	4		
ENVR Elective; 2 of 4	4	ENVR 3300 and ENVR 3301	5				
INAF regional analysis course 1	4	ENVR elective; 4 of 4	4				
		INAF regional analysis course 2	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	International experiential learning	16	INAF Global Dynamics 3	4	Co-op	0
				Quantitative methods course	4-5		
	0		**16**		**8-9**		**0**

Year 4

Fall	Hours	Spring	Hours
		ECON 3423	4
		ENGW 3308 or 3315	4
		INTL 3400	4
		INTL 4700	4
	0		**16**

Total Hours: 128-129

Human Services and International Affairs, BA

The human services and international affairs combined major offers students an understanding of geopolitical realities paired with the practical skills and theory necessary to work in social services and nongovernmental organizations impacted by global issues. Students have an opportunity to prepare for practice in international NGOs through co-ops and Dialogue of Civilizations programs. This combined major is designed to prepare students for positions within the nonprofit sector with an international focus.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 2970	Research Methods for Human Services	4
or INTL 2718	Research Methods in International Affairs	
or INSH 3101	Research Methods in the Social Sciences	
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete three HUSV courses.		12

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one international semester via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	

HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism

ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	

Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (p. 119) (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Human Services/International Affairs Integrative Courses

Complete Senior Seminar in Human Services (HUSV 4700) or Senior Capstone Seminar in International Affairs (INTL 4700) or both. Note, however, that students wishing to take HUSV 4700 but not INTL 4700 must meet with an INTL advisor to obtain approval for a substitute INTL course. Similarly, students wishing to take INTL 4700 but not HUSV 4700 must meet with an HUSV advisor to obtain approval for a substitute HUSV course. Substitute courses (HUSV or INTL) must be upper-division courses and must relate to the combined major.

Code	Title	Hours
Human Services		
HUSV 4700	Senior Seminar in Human Services	4
International Affairs		
INTL 4700	Senior Capstone Seminar in International Affairs	4

Human Services and International Affairs Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ECON 3290	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
HUSV 1101	4	HUSV 2300	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	POLS 1160	4				
INTL 1101	4	Foreign language course	4				
HUSV elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	EESH 2000	1	Elective (Dialogue of Civilizations possible)	4	Co-op	0
Foreign language course	4	HUSV 2970 or INTL 2718	4	Elective (Dialogue of Civilizations possible)	4		
HUSV elective	4	HUSV 3900	4				
INTL elective	4	INTL 3400	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Elective (Dialogue of Civilizations possible)	4	Co-op	0
		HUSV 4994	6	Elective (Dialogue of Civilizations possible)	4		
		HUSV elective	4				
		Elective	4				
	0		**18**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	HUSV 4700	4
		INTL 4700	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

International Affairs and Criminal Justice, BA

This combined major fosters an awareness of crime and justice issues within their international, transnational, and global contexts since the early 20th century. The scope and sequence of international affairs courses provide students with a foundation in topics such as interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship). Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Upon graduation, students are equipped with the skills and knowledge needed to work across national cultures in fields that relate to understanding and addressing criminal behavior.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Code	Title	Hours
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		
International Affairs Foreign Language Requirement		
Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). Note: Completing this requirement satisfies the language requirement for the BA degree.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	

INTL 3520	Global Political Economy
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics

Code	Title	Hours
Complete one of the following. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements:		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	

POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	

COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses:		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	

POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses in this list ask how does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses in this list provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	

Creating Knowledge about Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? Harnessing data to learn about issues, identify solutions, and advocate for change.		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Criminal Justice Electives		
Rounding out knowledge of crime and justice.		
Complete two additional criminal justice electives from the 3000, 4000 or 5000-level.		8

Introduction and Methods Options

Code	Title	Hours
Introduction		
Complete one of the following:		1
CRIM 1000	Criminal Justice at Northeastern	
INTL 1000	International Affairs at Northeastern	
Research Methods		
Complete one of the following:		4
CRIM 3600	Criminal Justice Research Methods	
INTL 2718	Research Methods in International Affairs	

Supporting Courses

Code	Title	Hours
Computer or Data Science		
Complete one of the following:		4
CS 1100	Computer Science and Its Applications	
DS 2000	Programming with Data	
Co-op Integration Requirements		
Complete before the first co-op:		1
EESH 2000	Professional Development for Co-op	
Complete after the first co-op:		1
CRIM 3000	Co-op Integration Seminar 2	
Complete after the second co-op:		1
CRIM 4000	Co-op Integration Seminar 3	

Integrative Requirement

Code	Title	Hours
Integrative Course and Capstone		
CRIM 3030	Global Criminology	4
INTL 4700	Senior Capstone Seminar in International Affairs	4
or CRIM 4949	Senior Capstone Seminar	

Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	ANTH 1101, HIST 2211, or HIST 2311	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
ENGW 1111	4	ECON 1115 or 1116	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000 or CRIM 1000	1	CRIM thematic elective	4				
INTL 1101	4	Foreign language course	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		CRIM elective	4
CRIM 1120	4					INTL elective	4
EESH 2000	1						
POLS 1160	4						
Foreign language course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	Co-op		Co-op		INTL elective (Dialogue of Civilizations possible)	4
CRIM 1700	4					Elective (Dialogue of Civilizations possible)	4
CRIM 3000	1						
INTL 2718 or CRIM 3600	4						
INTL 3400	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CRIM 3030	4	INTL 4700 or CRIM 4949	4
CRIM 3700	4	CRIM elective	4
CRIM 4000	1	CRIM elective	4
CRIM elective	4	INTL elective	4
POLS 1155	4		
	17		**16**

Total Hours: 132

International Affairs and Cultural Anthropology, BA

This combined major offers undergraduates the opportunity to develop an awareness of contemporary cultures within their international, transnational, and global contexts since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two approved short-term programs abroad.		

International Affairs Elective

Code	Title	Hours
Please complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3430	Revolution, Civil War, and Insurrection	

or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media

JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two regional analysis courses, both of which must be in one region, from the following lists. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses:		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	

CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Cultural Anthropology Major Requirements

Note: At least nine anthropology courses must be taken to complete the international affairs and cultural anthropology program.

Code	Title	Hours
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 3421	Foundations of Anthropological Theory	4
Anthropology Electives		
Complete five Anthropology courses from the following range, two of which must be area studies courses above 4000; none of these five courses may be counted elsewhere in the degree; one study-abroad course may count toward these requirements, with prior permission from the department.		20
ANTH 2000 to ANTH 4999		

Integrative Requirements

Note: If international affairs courses are taken in both the research methods and capstone areas, then an additional anthropology elective is required.

Code	Title	Hours
Research Methods		
INTL 2718	Research Methods in International Affairs	4
or ANTH 3410	Ethnographic Field Experience	
Global Markets		
ANTH 2305	Global Markets and Local Culture	4
Capstone		
ANTH 4600	Senior Seminar	4
or INTL 4700	Senior Capstone Seminar in International Affairs	

Students taking Senior Seminar (ANTH 4600) must complete either a one-semester senior project, which they would do in the context of ANTH 4600, or a two-semester senior thesis, which would require them to also enroll in a fall semester directed study.

Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

International Affairs and Anthropology Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
ENGW 1111	4	ECON 1115 or HIST 2211	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	POLS 1160	4				
INTL 1101	4	Elective	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	ANTH 3421	4	Elective (Dialogue of Civilizations possible)	4	Co-op	
INTL 2718 or ANTH 3410	4	Foreign Language Course	4	Elective (Dialogue of Civilizations possible)	4		
INTL Elective	4	Elective	4				
Foreign language course	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective (Dialogue of Civilizations possible)	4	Co-op	
		INTL 3400	4	Elective (Dialogue of Civilizations possible)	4		
		Foreign Language Course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		INTL 4700	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

Sample Plan of Study: Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Vacation		Vacation	
ENGW 1111	4	ECON 1115 or HIST 2211	4				
INTL 1000	1	POLS 1160	4				
INTL 1101	4	Elective	4				

Foreign language core course	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3421	4	Co-op		Co-op		Vacation	
INTL 2718 or ANTH 3410	4						
Foreign language core course	4						
Elective	4						
	16		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Elective	4
INTL 3400	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Elective	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
Elective	4	INTL 4700 or ANTH 4600	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

International Affairs and Economics, BA

This combined major fosters an awareness of global affairs and international economic issues since the early 20th century through diverse and cross-disciplinary theories of economic development and growth; states, societies, and markets (the intersection of politics and economics); and the role of states, civil societies, and social movements in crafting or addressing economic strategies, inequalities, and citizenship rights.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
International Affairs/Economics at Northeastern		
INTL 1000	International Affairs at Northeastern	1
or ECON 1000	Economics at Northeastern	
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following with one course numbered 2000 or above. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements:		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	

POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business

JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses:		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		

ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 3520	History of Economic Thought	4

Economics Electives

Code	Title	Hours
Complete three Economics elective courses from the following ranges with no more than one in the ECON 1200 to ECON 1999 range. Additionally, courses used to satisfy international affairs requirements, courses used to satisfy the integrative requirement, and ECON 3520 may not be used as Economics electives.		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Supporting Courses

Code	Title	Hours
Calculus		
It is recommended that MATH 1241 or higher is chosen.		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Methods		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
INTL 2718	Research Methods in International Affairs	
MISM 2510	Fundamentals of Information Analytics	

Integrative Requirements

Code	Title	Hours
Development Economics		
ECON 1291	Development Economics	4
Senior Seminar		
Complete one of the following with a thesis or project that integrates both international affairs and economics:		
ECON 4692	Senior Economics Seminar	4
or ECON 4997	Senior Economics Thesis	
or INTL 4700	Senior Capstone Seminar in International Affairs	

International Affairs and Economics Combined-Major GPA

Grades in the following Economics courses must average a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4

International Affairs and Economics Combined-Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ECON 1116	4	ECON elective 1	4	Elective	4
ENGW 1111	4	HIST 2211	4	INTL elective	4	Elective	4
INTL 1000	1	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
INTL 1101	4	POLS 1160	4				
Foreign language core course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1100, MISM 2510, or DS 2000 ***and*** DS 2001	4	ECON 2316	4	ECON elective 2	4	Co-op	0
ECON 2315	4	ECON 2350	4	Elective	4		
Foreign language core course	4	Foreign language core course	4				
INTL elective	4	INTL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 3520	4	INTL elective	4	Co-op	0
		INTL 3400	4	Elective	4		
		INTL elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 4692 or 4997	4
		ECON elective 3	4
		INTL elective	4
		INTL elective	4
		or INTL 4700	
	0		**16**

Total Hours: 129

International Affairs and History, BA

This combined major fosters a historically contingent awareness of global affairs and international policy issues since the early 20th century through diverse and cross-disciplinary theories of interstate relations, state-society relations, the future of democracy, the nature of citizenship and rights, the origins and conduct of war, the foundations of racial and ethnic conflict and tolerance, and poverty and prosperity. This combined major highlights the importance of understanding the intersection between global issues and local traditions and is designed to prepare students to be politically, culturally, historically, and linguistically sensitive to their interaction.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement.

Code	Title	Hours
International Affairs/History at Northeastern		
INTL 1000	International Affairs at Northeastern	1
or HIST 1000	History at Northeastern	
International Affairs Required Courses		
ECON 1115	Principles of Macroeconomics	4
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
or ANTH 1101	Peoples and Cultures	
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	

POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business

JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in the same region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		

ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

History Major Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
Introductory Level		
Complete one course from HIST 1001 to HIST 1999 (excluding HIST 1200 and HIST 1201).		4
History Electives		
Complete two HIST courses at any level in any field.		8
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2311	Colonialism/Imperialism	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Intermediate History Cluster		
Complete minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4

Advanced History	
Complete minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).	4

International Affairs and History Integrative Requirements

Code	Title	Hours
One course from the Research Methods and Capstone requirements must come from history.		
Research Methods		
Complete one of the following:		4 - 5
HIST 2301 and HIST 2302	The History Seminar and Historical Writing	
INTL 2718	Research Methods in International Affairs	
Capstone		
INTL 4700	Senior Capstone Seminar in International Affairs	4
or HIST 4701	Capstone Seminar	
Integrative Course		
HIST 2011	Capitalism and Business: A Global History	4
or HIST 2311	Colonialism/Imperialism	

International Affairs and History Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ENGW 1111	4	HIST elective	4	Elective	4
HIST 1200	1	POLS 1160	4	INTL elective	4	Elective	4
HIST 1201	4	Foreign language course	4				
INTL 1000	1	HIST elective	4				
INTL 1101	4						
Foreign language course	4						
	18		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		INTL elective	4
INTL 2718	4					Elective	4
POLS 1155	4						
Foreign language course	4						
HIST elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		INTL elective	4
INTL 3400	4					Elective	4
Foreign language course	4						
HIST elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative course	4	INTL 4700	4
HIST elective	4	HIST elective	4
INTL elective	4	HIST elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 131

International Affairs and International Business, BS

Students who pursue this combined major will have the opportunity to learn how international business practices influence and are influenced by state-society interactions such as labor rights, trade practices, climate and sustainability priorities, political implications, as well international institutions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
INTL 1000	International Affairs at Northeastern	
or BUSN 1102	Personal Skill Development for Business	
Required International Affairs Courses		
A grade of C or higher is required for ECON courses.		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
INTL 4700	Senior Capstone Seminar in International Affairs	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete one of the following:		
One semester of study-abroad experience		
One co-op abroad experience		
Two Dialogue of Civilizations (summer programs)		
Two summer traditional study-abroad experiences		
One N.U.in experience and one Dialogue of Civilizations or one summer traditional study-abroad experience		
Two approved short-term programs abroad		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	

INTL 5010	International Human Rights Law and Policy
INTL 5100	Climate and Development

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	

CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4
Business Core Option		
Complete one of the following:		4
ACCT 2301	Managerial Accounting	
INNO 2301	Innovation!	
MISM 2301	Introduction to Information Systems and Digital Technologies	
SCHM 2301	Supply Chain and Operations Management	

Required Concentration

- Global Business and Strategy (p. 663)

Integrative Course Requirements

Code	Title	Hours
INTB 4202	Executing Global Strategy	4
INTL 4700	Senior Capstone Seminar in International Affairs	4

Supporting Courses

Code	Title	Hours
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	
Statistics Requirement		
MGSC 2301	Business Statistics	4
or INTL 2718	Research Methods in International Affairs	

Second Business Concentration (Optional)

A second business concentration is optional and may be chosen from the following:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Business Cooperative Education

Complete one cooperative education experience.

Business GPA Requirement

A minimum 2.000 GPA is required in business courses.

Program Requirement

128 total semester hours required

Plan of Study

The plan below is a sample. Students should consult with their academic advisor to confirm individual academic plans.

This program requires one of the following abroad options:

- Semester-long student abroad experience
- Cooperative education abroad experience
- Two Dialogue of Civilizations summer programs
- Two summer traditional study-abroad experiences
- N.U.in experience combined with either Dialogue of Civilizations or traditional summer study-abroad experience

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1102 or INTL 1000	1	ACCT 1201	4	FINA 2201	4	MKTG 2201	4
ECON 1115 or 1116	4	MGSC 2301 or INTL 2718	4	NUpath	4	INTL undergraduate elective	4
ENGW 1111	4	INTL undergraduate elective	4				
INTB 1205	4	NUpath	4				
INTL 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
INTB 2205	2					Elective	4
INTB 2206	2					Student may choose to participate in a Dialogue of Civilizations experience	
Business Core Option:	4						
ACCT 2301, INNO 2301, MISM 2301, or SCHM 2301							

INTL undergraduate elective	4
INTL undergraduate elective	4
	17

International Affairs and Religious Studies, BA

Introduces the interaction of religious views with institutions and cultures in national and international contexts since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social/religious movements; state-society relations (religion, democracy, authoritarianism, social justice and ethics, citizenship); comparative study of religious theology and praxis; and knowledge of particular religious traditions, including Buddhism, Christianity, Hinduism, Islam, and Judaism.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
or ECON 1115	Principles of Macroeconomics	
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one international semester via study abroad, international internship, international co-op, or two approved short-term programs abroad.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3430	Revolution, Civil War, and Insurrection	

or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media

JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	

CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Religious Studies Requirements

Code	Title	Hours
Required Foundational Course		**4**
PHIL 1110	Introduction to Religious Studies	
Lived Religion Elective		**4**
Complete one of the following courses that is not used to satisfy another requirement:		
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
Comparative Religion Elective		**4**
Complete one of the following courses that is not used to satisfy another requirement:		
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
Electives		**24**
Complete six of the following courses, one of which must be at the 2000 level or above and two of which must be at the 3000 level or above, that is not used to satisfy another requirement:		
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	

PHIL 1133	Selling Spirituality
PHIL 1220	The Meaning of Death
PHIL 1260	Apocalypticism in Film
PHIL 1271	Sex in Judaism, Christianity, and Islam
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
PHIL 1290	Chinese Philosophy and Religion
PHIL 1666	The Problem of Evil in Film
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis
PHIL 2230	Music and Religion
PHIL 2301	Philosophical Problems of Law and Justice
PHIL 2390	Cults and Sects
PHIL 2395	Japanese Buddhism
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions
PHIL 2619	Race and Religion in Film
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life
PHIL 4903	Seminar in Religion
PHIL 4992	Directed Study

International Affairs and Religious Studies Integrative Requirement

Code	Title	Hours
Capstone		
INTL 4700	Senior Capstone Seminar in International Affairs	4
Research Methods		
INTL 2718	Research Methods in International Affairs	4
or PHIL 4903	Seminar in Religion	

International Affairs and Religious Studies Combined Major Credit Requirement

Complete 76 semester hours in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1160	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	Lived religion elective	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1101	4	Elective	4				
PHIL 1110	4	Elective	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1155	4	EESH 2000	1	Elective (Dialogue of Civilizations possible)	4	Co-op	
Comparative religion elective	4	Elective	4	Elective (Dialogue of Civilizations possible)	4		
Elective	4	Elective	4				

Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective (Dialogue of Civilizations possible)	4	Co-op	
		INTL 3400	4	Elective (Dialogue of Civilizations possible)	4		
		PHIL level-2000 elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		INTL 4700	4
		PHIL level-3000 elective	4
		Research Methods course	4
		Elective	4
	0		**16**

Total Hours: 130

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1160	4	Vacation		Vacation	
INTL 1000	1	Lived religion elective	4				
INTL 1101	4	Elective	4				
PHIL 1110	4	Elective	4				
Foreign language course	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative religion elective	4	Co-op		Co-op		Elective	4
Foreign language course	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Elective	4
PHIL level-2000 elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INTL 3400	4	Co-op		Co-op		Vacation	
PHIL level-3000 elective	4						
Elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Elective	4	INTL 4700	4
Elective	4	Research method course	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Journalism and International Affairs, BA

Overview

This interdisciplinary combined major offers students an opportunity to integrate the study and practice of journalism with the study of global affairs and international issues. Through critical thinking and practical skills, the program engages students in a deep understanding of both disciplines, supporting students to work across national cultures in areas such as foreign correspondence and other fields that require an understanding of complex regional and international issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Journalism Requirements

Code	Title	Hours
Foundation Courses		
C or better required in JRNL 1101, JRNL 1102, and JRNL 2201:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 1150	Understanding Today's News	4
JRNL 2201	Journalism 2: Intermediate Reporting	4
Visual Storytelling		
Complete one of the following:		4
JRNL 2301	Visual Storytelling in Journalism	
JRNL 3370	Podcast and Radio Journalism	
JRNL 3680	Advanced Reporting	
JRNL 5309	News Documentary Production	
JRNL 5310	Photojournalism	
JRNL 5314	Video News Reporting and Producing	
JRNL 5316	The Newsroom	
Law and Ethics		
JRNL 3550	The First Amendment and the Media	4
or JRNL 4650	Ethics and Issues in Journalism	
Journalism Electives		
Complete four JRNL electives (two must be 3000 level or above).		16

International Affairs Requirements

Code	Title	Hours
Required Courses		
ANTH 1101	Peoples and Cultures	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
or POLS 1155	Comparative Politics	
ECON 1115	Principles of Macroeconomics	4

INTL 1101	Globalization and International Affairs	4
INTL 2718	Research Methods in International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one international semester via study abroad, international internship, international co-op, or two approved short-term programs abroad.		
International Affairs Foreign Language Requirement		
Complete coursework in a language through at least intermediate-level two (language courses numbered 2102). Note: Completing this requirement satisfies the language requirement for the BA degree.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		

HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804

HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis

Code	Title	Hours
Complete two of the following courses, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	

CLTR 1506	Introduction to Chinese Popular Culture
CLTR 1700	Introduction to Japanese Pop Culture
HIST 1246	World War II in the Pacific
HIST 1252	Japanese Literature and Culture
HIST 1500	Modern Chinese History and Culture
HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Introductory

Code	Title	Hours
JRNL 1000	Journalism at Northeastern	1
or INTL 1000	International Affairs at Northeastern	

Co-op

Code	Title	Hours
EEAM 2000	Professional Development for Co-op	1
or EESH 2000	Professional Development for Co-op	

Integrative Requirement

Code	Title	Hours
JRNL 3300	Covering Conflicts: Peace, War, and the Media	4
or JRNL 5360	Global Reporting	
INTL 4700	Senior Capstone Seminar in International Affairs	4

English Requirement (First-Year Writing and Advanced Writing in the Disciplines)

Code	Title	Hours
ENGW 1111	First-Year Writing	4
ENGW 3308	Advanced Writing in the Social Sciences	4
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	
or JRNL 2301	Visual Storytelling in Journalism	

Journalism and International Affairs Major Credit Requirement

85 semester hours required in the major

Program Requirements

129 overall semester hours required

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	ANTH 1101, HIST 2211, HIST 2311, or POLS 1155	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
INTL 1101	4	JRNL 1101 and JRNL 1102	5	Elective	4	Elective (Dialogue of Civilizations possible)	4
JRNL 1000 or INTL 1000	1	POLS 1160	4				
JRNL 1150	4	Language	4				
Language	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	Co-op		Co-op		Elective (Dialogue of Civilizations possible)	4
EEAM 2000 or EESH 2000	1					Elective (Dialogue of Civilizations possible)	4
JRNL 2201	4						
JRNL elective	4						
Language	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INTL 2718	4	Co-op		Co-op		Elective (Dialogue of Civilizations possible)	4
INTL 3400	4					Elective (Dialogue of Civilizations possible)	4
JRNL 3550 or 4650	4						
Visual storytelling requirement	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative requirement	4	JRNL elective	4
JRNL elective	4	Integrative requirement	4
JRNL elective	4	Elective	4
Language	4	Elective	4
	16		**16**

Total Hours: 131

Political Science and International Affairs, BA

Through this combined major, undergraduates will develop an awareness of global affairs and international relations since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; political processes, institutions, and actors; and state-society relations (democracy, authoritarianism, inequalities, citizenship).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

Political Science Electives/Concentration for BA

Complete four upper-division political science electives, or complete one of the following concentrations. If you are working toward a concentration, declare it with your adviser in order for it to be added to your record.

ELECTIVES

Code	Title	Hours
Political Science Electives		
Complete four political science courses at or above POLS 2000.		16

CONCENTRATION LIST

- American Political Institutions (p. 2253)
- Campaigns and Elections (p. 2253)
- Comparative Politics (p. 2254)
- Identity, Culture, and Politics (p. 2254)
- International Relations and Diplomacy (p. 2254)
- Law and Legal Studies (p. 2254)
- Public Policy (p. 2255)
- Security Studies (p. 2255)

Supporting Course for Political Science

Code	Title	Hours
Mathematics		
Complete one of the following to fulfill the prerequisite for POLS2400		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342	Calculus 2 for Science and Engineering	

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
HIST 2211	The World Since 1945	4
or HIST 2311	Colonialism/Imperialism	
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements.		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	

or PPUA 5268	International Environmental Policy
SOCL 1246	Environment and Society
Law, Diplomacy, and Global Governance	
COMM 2303	Global and Intercultural Communication
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3520	Global Political Economy
INTL 5010	International Human Rights Law and Policy
POLS 1155	Comparative Politics
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
POLS 4910	Model United Nations
Human Rights and Social Justice	
HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business

INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses:		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	

AFRS 2307	Africa Today
AFRS 2900	Swahili, Culture, and Politics in Kenya
AFRS 3460	Contemporary Government and Politics in Africa
AFRS 4939	Community Health, Culture, and Development in Kenya
ANTH 4350	Ethnography of Southeast Asia
ANTH 4510	Anthropology of Africa
HIST 1180	African History
INNO 3308	Business Economic History of South Africa
INTL 2464	Natural Resources and Sustainable Development
or AFRS 2464	Natural Resources and Sustainable Development
Asia	
ANTH 4515	Culture and Politics in Modern India
ASNS 1150	East Asian Studies
or HIST 1150	East Asian Studies
CLTR 1500	Modern Chinese History and Culture
CLTR 1506	Introduction to Chinese Popular Culture
CLTR 1700	Introduction to Japanese Pop Culture
HIST 1246	World War II in the Pacific
HIST 1252	Japanese Literature and Culture
HIST 1500	Modern Chinese History and Culture
HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies

INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Integrative Requirements

Code	Title	Hours
Research Methods		
POLS 2399	Research Methods in Political Science	4
or INTL 2718	Research Methods in International Affairs	
Capstone		
Complete one of the following:		4
INTL 4700	Senior Capstone Seminar in International Affairs	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Political Science and International Affairs Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	

or AFAM 3323	Race, Inequality, and the Law
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3409	Global Governance
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 2211	4	Foreign language core course	4	Elective (Dialogue Of Civilizations possible)	4
INTL 1101	4	MATH 1215 (or other MATH course as pre-requisite for POLS 2400)	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
MATH 1215	4	POLS 1150	4				
POLS 1155	4	POLS 1160	4				
POLS 1000	1						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 3290	4	POLS 2400	4	Elective (Dialogue of Civilizations possible)	4	Co-op	0
POLS Thought course	4	INTL undergraduate elective	4	Elective (Dialogue of Civilizations possible)	4		
POLS undergraduate elective	4	POLS undergraduate elective	4				
Foreign language core course	4	Foreign language core course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	INTL undergraduate elective	4	Co-op	0
		INTL 3400	4	POLS undergraduate elective	4		
		INTL undergraduate elective	4				
		POLS undergraduate elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone requirement	4
		Foreign language core course	4
		INTL undergraduate elective	4
		POLS undergraduate elective	4
	0		**16**

Total Hours: 129

Sociology and International Affairs, BA

Through this combined major, successful undergraduates develop an awareness of societies within their international, transnational, and global contexts since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
or INTL 2718	Research Methods in International Affairs	
SOCL 3300	Social Theory	4
Sociology Electives A		
Complete two courses in the following range:		8
SOCL 1000 to SOCL 2999		
Sociology Electives B		
Complete two courses in the following range:		8
SOCL 3000 to SOCL 5999		
Capstone Requirement		
SOCL 4600	Senior Seminar	4
or INTL 4700	Senior Capstone Seminar in International Affairs	

International Affairs Major Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Senior Seminar/Experiential Learning		
INTL 4700	Senior Capstone Seminar in International Affairs	4

International Experiential Learning

Complete at least one "international semester" via study abroad, international internship, international co-op, or two approved short-term programs abroad.

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		

CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	

ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following courses, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	

PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate level two. *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Integrative Requirements

Code	Title	Hours
SOCL 3450	Class, Power, and Social Change	4

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Sociology and International Affairs Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2211, ECON 1115, or HIST 2311	4	ANTH 2305	4	Elective	4	Elective	4
INTL 1101	4	ENGW 1111	4	Elective	4	Elective	4
SOCL 1000	1	POLS 1160	4				
SOCL 1101	4	Elective	4				
Foreign Language Course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	POLS 1155	4	Elective	4	Co-op	
SOCL 3300	4	POLS 1156	0	Elective	4		
Foreign Language Course	4	SOCL 2321 or INTL 2718	4				
Elective	4	Elective	4				
		Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective	4	Co-op	
		INTL 3400	4	Elective	4		
		SOCL 3450	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 4600 or INTL 4700	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 129

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2211 or ECON 1115	4	ANTH 1101	4	Vacation		Vacation	
INTL 1101	4	ENGW 1111	4				
SOCL 1000	1	POLS 1160	4				
SOCL 1101	4	Elective	4				
Foreign Language Course	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	Co-op		Co-op		Elective	4
SOCL 3300	4					Elective	4
Foreign Language Course	4						

Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		Elective	4
POLS 1155	4					Elective	4
POLS 1156	0						
SOCL 2321 or INTL 2718	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Vacation	
INTL 3400	4						
SOCL 3450	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Elective	4	SOCL 4600 or INTL 4700	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Spanish and International Affairs, BA

This combined major offers undergraduates the opportunity to develop an awareness of global affairs and international issues since the 19th century through diverse and cross-disciplinary theories of interstate relations: conflict, cooperation, hierarchies; civil society, transnational advocacy networks, global social movements; the politics of culture, linguistic and cultural diversity, religious and ideological divides; and state-society relations: democracy, authoritarianism, inequalities, citizenship.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Spanish Language Requirements

Code	Title	Hours
Spanish Language Requirements		
SPNS 2102	Intermediate Spanish 2: Becoming a Global Citizen	4
SPNS 3101	Advanced Spanish 1: Deconstructing Borders	4
SPNS 3102	Advanced Spanish 2: Hispanic and Latinx Identity	4
Language and Linguistics		
Complete one of the following:		4
CLTR 1120	Introduction to Languages, Literature, and Culture	
LING 1150	Introduction to Language and Linguistics	
Culture, Literature, and History		
Complete four of the following:		16
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	
CLTR 1504	Cultural History of Spain	
CLTR 1505	Latin American Culture, History, and Politics	
CLTR 2001	World Cultures through Film	
CLTR 3715	New Narratives: Latin America after 1989	
CLTR 3720	Literature, Arts, and Poverty in Latin America	
CLTR 3805	Culture, Politics, and Media in Spain	
CLTR 4655	Latin American Literature	
CLTR 4944	Cultural Engagement Abroad	
HIST 1187	Introduction to Latin American History	
LACS 1220	Latino, Latin American, and Caribbean Studies	
Spanish Electives		
Complete two of the following:		8
SPNS 2900	Specialized Instruction in Spanish	
SPNS 3401	Spanish for Healthcare Professionals 1	
SPNS 3502	Authentic Spanish Grammar	
SPNS 3601	Exploring Spoken Spanish	
SPNS 3602	Introduction to Spanish Linguistics	
SPNS 3603	Special Topics in Spanish Linguistics	

SPNS 3800	Special Topics in Spanish
SPNS 3900	Specialized Instruction in Spanish
Study Abroad/Experiential Learning	
See department for details.	

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete two of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	

POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
POLS 4910	Model United Nations
Human Rights and Social Justice	
HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	

AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following courses, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	

or AFRS 2464	Natural Resources and Sustainable Development
Asia	
ANTH 4515	Culture and Politics in Modern India
ASNS 1150	East Asian Studies
or HIST 1150	East Asian Studies
CLTR 1500	Modern Chinese History and Culture
CLTR 1506	Introduction to Chinese Popular Culture
CLTR 1700	Introduction to Japanese Pop Culture
HIST 1246	World War II in the Pacific
HIST 1252	Japanese Literature and Culture
HIST 1500	Modern Chinese History and Culture
HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Integrative Courses

Code	Title	Hours
Research Methods		
INTL 2718	Research Methods in International Affairs	4
Capstone		
INTL 4700	Senior Capstone Seminar in International Affairs	4

Spanish and International Affairs Combined Major Credit/GPA Requirements

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
CLTR 1120	4	ECON 1115 or 1116	4	SPNS elective	4	Elective	4
ENGW 1111	4	MATH 1215	4	Elective	4	Elective	4
INTL 1000	1	SPNS 3101	4				
INTL 1101	4	Elective	4				
SPNS 2102	4						
	17		**16**		**8**		**8**
Year 2							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
SPNS 3102	4	INTL elective	4	Culture elective	4	Co-op	0
INTL elective	4	SPNS elective	4	INTL elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**
Year 3							
Fall	**Hours**	**Spring**	**Hours**	**Summer 1**	**Hours**	**Summer 2**	**Hours**
Co-op	0	Culture elective	4	Culture elective	4	Co-op	0
		Culture elective	4	INTL elective	4		
		INTL elective	4				
		INTL elective	4				
	0		**16**		**8**		**0**
Year 4							
Fall	**Hours**	**Spring**	**Hours**				
Co-op	0	ENGW 3315	4				
		INTL 3400	4				
		INTL 4700	4				
		Elective	4				
	0		**16**				

Total Hours: 129

International Affairs, Minor

The minor in international affairs is an interdisciplinary program that exposes students to a variety of different perspectives on the field, while providing the flexibility to select the courses in the disciplines that interest them most. The minor provides an international lens to students' primary degree, preparing them for our globalized world and workplaces.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Course

Code	Title	Hours
INTL 1101	Globalization and International Affairs	4

Regional Analysis Elective Courses

Code	Title	Hours
Complete two of the following. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may apply toward the Regional Analysis Elective Course requirement, pending approval of the International Affairs head faculty advisor.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	

HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

Global Dynamics Elective Courses

Code	Title	Hours
Complete two of the following. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on minor requirements:		8

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	

POLS 4910	Model United Nations
Human Rights and Social Justice	
HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora

ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

GPA Requirement

2.000 GPA required in the minor

Middle East and Mediterranean Studies, Minor

The minor in Middle East and Mediterranean studies is an inter- and cross-disciplinary program, drawing on courses from within the International Affairs Program as well as departments and units across the college. The program provides an in-depth study of the Middle East and North Africa (Arab world, Israel, Iran, and Turkey); its place within the broader Mediterranean region; and its relations with other world regions. As such, it seeks to enhance students' understanding of this culturally diverse and politically important region of the world. Students are encouraged to take advantage of the university's study-abroad and Dialogue of Civilizations programs (faculty-led summer programs) in Egypt, Morocco, Tunisia, Jordan, Turkey, Israel and Palestine, and other approved programs in the region.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
POLS 3465	Government and Politics in the Middle East	4
or INTL 3250	Democracy and Development in North Africa and the Mediterranean	
INTL 1150	The Mediterranean World: An Overview	4
or INTL 3250	Democracy and Development in North Africa and the Mediterranean	
INTL 1160	Middle East Studies	4
or HIST 1290	Modern Middle East	

Elective Courses

Elective courses may include courses taken as part of an approved study-abroad program. *Note: Courses used as required courses (above) may not be used as elective courses.*

Code	Title	Hours
Complete two of the following:		8
CLTR 1502	Introduction to Arabic Culture	
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
HIST 1185	Introduction to Middle Eastern History	
HIST 1290	Modern Middle East	
INTL 2200	America and the Middle East	
INTL 3250	Democracy and Development in North Africa and the Mediterranean	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
POLS 3465	Government and Politics in the Middle East	

GPA Requirement

2.000 GPA required in the minor

Philosophy and Religion

Website (https://cssh.northeastern.edu/philosophy/)

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Philosophy addresses questions and theories related to morality, society, religion, and the natural and social sciences. Coursework in philosophy provides students with an understanding of the methods and traditions of philosophical thought, as well as with opportunities to critically and collaboratively reflect on the nature of the world and the human situation in it. Through readings, discussion, and writing, students examine questions concerning the validity of moral judgments, political ideas, and scientific theories, as well as questions about values and policy in such areas as law, medicine, environment, and technology. Coursework in philosophy significantly strengthens study in other areas. The major emphasizes development of analytic, reasoning, and communication abilities, and it is designed to enable students to tailor it to their particular interests.

Religious studies offers students the opportunity to acquire an understanding of religious experience within its social, historical, literary, and political context. Courses in religious studies examine specific religious traditions such as Judaism, Islam, and Hinduism, and using a comparative approach they explore themes across faith traditions. The religious studies major at Northeastern University emphasizes the lived religious experience, or how religion permeates and impacts people's lives through everything from politics and economics to fashion, relationships, and music. Through the major, students have the opportunity to study a range of religions and a variety of methods of understanding the key dimensions of religious life.

Information on experiential learning opportunities, student life, and department faculty can be found at the department website (https://cssh.northeastern.edu/philosophy/).

Academic Progression Standards

A minimum cumulative grade-point average of 2.000 is required to remain in good standing in the major.

Philosophy Major

The department offers five ways to take the stand-alone major in philosophy: the standard major; the concentration in law and ethics; the concentration in ethics; the concentration in formal methods (e.g., game theory, social choice theory, and logic); and the concentration in religious studies. More information on these can be found on the program page.

Religious Studies Major

The religious studies major is designed to introduce students to a wide variety of religious experience and expression in the world. Through this major, students are exposed to the basic features of the world's religions and the ethical systems that accompany them. Students also have an opportunity to explore diverse methodological approaches to the study of religion.

Combined Majors

The analytical and critical skills gained from the study of philosophy are a valuable complement to any other area of study. So, too, is having an understanding of the history of ideas and of alternative world views and value systems. For this reason, the department offers combined majors with political science, economics, physics, environmental studies, history, English, computer science, behavioral neuroscience, criminal justice, sociology, anthropology, and media and screen studies. Details regarding these majors can be found on the program pages.

The combined majors in religious studies bring together knowledge of religious traditions, awareness of religious experience, and methods of understanding the key dimensions of religious life with other areas in which religion plays a large role. The department currently offers combined majors in religious studies with history, international affairs, Africana studies, sociology, anthropology, and Jewish studies. More information on these majors can be found on the program pages.

Minors

The Department of Philosophy and Religion offers minors in philosophy and religious studies, as well as popular minors in ethics and information ethics. Each of these minors is structured to be highly flexible and to complement study in other majors, while also providing depth of knowledge in philosophy, religion, and ethics. The department also collaborates with the Department of Applied Psychology on a minor in mindfulness studies. Information on these minors can be found on the program pages.

Programs

Bachelor of Arts (BA)

- Philosophy (p. 2277)
- Religious Studies (p. 2288)

- Cultural Anthropology and Philosophy (p. 2292)
- Cultural Anthropology and Religious Studies (p. 2295)
- English and Philosophy (p. 2052)
- Environmental Studies and Philosophy (p. 1497)
- History and Philosophy (p. 2130)
- History and Religious Studies (p. 2138)
- International Affairs and Religious Studies (p. 2233)
- Jewish Studies and Religion (https://catalog.northeastern.edu/undergraduate/social-sciences-humanities/jewish-studies/jewish-studies-religion-ba/)
- Media and Screen Studies and Philosophy (p. 341)
- Political Science and Philosophy (p. 2327)
- Religious Studies and Africana Studies (p. 1899)
- Sociology and Philosophy (p. 2335)
- Sociology and Religious Studies (p. 2338)

Bachelor of Science (BS)

- Philosophy (p. 2341)
- Behavioral Neuroscience and Philosophy (p. 1685)
- Computer Science and Philosophy (p. 830)
- Criminal Justice and Philosophy (p. 1843)
- Data Science and Philosophy (p. 929)
- Economics and Philosophy (p. 2002)
- Mathematics and Philosophy (p. 1542)
- Physics and Philosophy (p. 1589)
- Political Science and Philosophy (p. 2378)

Minors

- Ethics (p. 2390)
- Information Ethics (p. 2392)
- Philosophy (p. 2394)
- Religious Studies (p. 2395)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Philosophy, BA

Philosophy is a basic field of inquiry. Its range encompasses ideas and issues in every domain of human experience, and its methods apply to problems of an unlimited variety. The major in philosophy can develop not only philosophical skill and sophistication but also critical thinking and writing abilities that are readily applicable to pursuits in other academic areas, useful in careers far removed from philosophy, and valuable in everyday social and personal life. The study of philosophy can profoundly affect both the thinking one does and the kind of person one is.

There are varieties of concentrations of the philosophy major that students may choose from in accordance with their own backgrounds and interests. These include:

- **Philosophy major (no concentration)**

  Offers students a maximum number of electives so they may choose in accordance with their own backgrounds and interests

- **Philosophy major with a concentration in law and ethics**

  Focuses elective coursework in the areas of law, social and political philosophy, and applied ethics

- **Philosophy major with a concentration in ethics**

  Focuses elective coursework in the areas of ethical theory, applied ethics, and social and political philosophy

- **Philosophy major with a concentration in religious studies**

  Uses electives to explore a variety of both religious expressions and methods of inquiry

- **Philosophy major with a concentration in formal methods**

  Focuses elective coursework in areas of logic and formal methods

- **Combined majors** in media and screen studies and philosophy, economics and philosophy, environmental studies and philosophy, political science and philosophy, English and philosophy, history and philosophy, computer science and philosophy, criminal justice and philosophy, and physics and philosophy

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Program Options

Complete one of the following options:

- Philosophy Major (No Concentration) (p. 2278)
- Philosophy Major with a Concentration in Law and Ethics (p. 2278)
- Philosophy Major with a Concentration in Ethics (p. 2280)
- Philosophy Major with a Concentration in Religious Studies (p. 2281)
- Philosophy Major with a Concentration in Formal Methods (p. 2282)

Philosophy Major Credit Requirement

Complete 36 semester hours in the major.

Upper-Division Electives

Complete three general electives at the 3000 level or above that do not double count with the major or NUpath.

General Electives

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

PHILOSOPHY MAJOR (NO CONCENTRATION)

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete three PHIL courses with a designation of 3000 or above and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Complete one of the following not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Additional Electives		
Complete two additional PHIL courses.		8

PHILOSOPHY MAJOR WITH A CONCENTRATION IN LAW AND ETHICS

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2301	Philosophical Problems of Law and Justice	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 3435	Moral Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete two PHIL courses with a designation of 3000 or above, and at least one at 4000 or 5000 level, not used to satisfy another requirement.		8
Ethics-Related Electives		
Complete two of the following (not used to fulfill another requirement):		8
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1111	Introduction to World Religions	
PHIL 1112	Debating Ethical Controversies	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1145	Technology and Human Values	
PHIL 1160	Introduction to Economic Justice	

PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	
PHIL 1195	Research Ethics	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1300	Knowledge in a Digital World	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 2143	Philosophy for Children	
PHIL 2155	Human Rights	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2395	Japanese Buddhism	
PHIL 3305	Philosophy of Emotions	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Law-Related Electives		
Complete one of the following:		4
CRIM 1110	Criminal Due Process	
CRIM 1120	Criminology	
CRIM 2320	Youth Crime and Justice	
CRIM 3060	Political Crime and Terrorism	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
ENGL 3325	Rhetoric of Law	
JRNL 3550	The First Amendment and the Media	
LPSC 1101	Introduction to Law	
POLS 3302	Judicial Process and Behavior	
POLS 3324	Law and Society	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	
SOCL 1245	Sociology of Poverty	
SOCL 3241	Violence and Society	
SOCL 4518	Law and Society in a Digital World	
Critical Philosophy Electives		
Complete one of the following not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	

PHIL 3500	Sexuality, Gender, and the Law
PHIL 3822	Philosophy of Race and Racism

PHILOSOPHY MAJOR WITH A CONCENTRATION IN ETHICS

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 3435	Moral Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete two of the following with one at the 4000 or 5000 level:		8
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 3343	Existentialism	
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 3435	Moral Philosophy	
PHIL 3460	Philosophy and Literature	
PHIL 3822	Philosophy of Race and Racism	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
PHIL 4903	Seminar in Religion	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Ethics Courses		
Complete three of the following:		12
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1111	Introduction to World Religions	
PHIL 1112	Debating Ethical Controversies	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1145	Technology and Human Values	
PHIL 1160	Introduction to Economic Justice	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	
PHIL 1195	Research Ethics	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1300	Knowledge in a Digital World	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2001	Ethics and Evolutionary Games	

PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 2143	Philosophy for Children	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3305	Philosophy of Emotions	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Critical Philosophy Elective		
Complete one of the following not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	

PHILOSOPHY MAJOR WITH A CONCENTRATION IN RELIGIOUS STUDIES

Code	Title	Hours
Philosophy Required Courses		
PHIL 1110	Introduction to Religious Studies	4
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete two PHIL courses at level 3000 or above not used to satisfy another requirement. At least one course must be at the 4000/5000 level.		8
Religious Studies Courses		
Complete three of the following (not used to fulfill another requirement):		12
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 2230	Music and Religion	
PHIL 2395	Japanese Buddhism	

PHIL 2492	Indigenous Philosophy
PHIL 2619	Race and Religion in Film
PHIL 4903	Seminar in Religion

PHILOSOPHY MAJOR WITH A CONCENTRATION IN FORMAL METHODS

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 4515	Advanced Logic	4
Formal Methods Courses		
Complete three of the following, at least two of which must be PHIL and one must be at the 3000 level or above, not used to satisfy other requirements:		12
CS 2800	Logic and Computation	
ECON 4681	Information Economics and Game Theory	
INSH 1500	Digital Methods for Social Sciences and Humanities	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
MATH 2280	Statistics and Software	
MATH 3081	Probability and Statistics	
PHIL 1105	Science and Pseudoscience	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1300	Knowledge in a Digital World	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 3050	Information and Uncertainty	
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
POLS 3310	Public Opinion, Voting, and Elections	
Critical Philosophy Electives		
Complete one of the following not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		**8**
Complete two other PHIL courses (not used to fulfill another requirement), at least one of which must be at the 4000/5000 level.		

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	PHIL undergraduate elective	4	Vacation	

MATH 1215	4	PHIL 2330	4	Elective	4		
PHIL 1000	1	Foreign language core course	4				
PHIL 1115	4	Elective	4				
PHIL elective 1	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2325	4	EESH 2000	1	Elective	4	Co-op	0
Critical philosophy elective	4	PHIL 2330	4	Elective	4		
Foreign language core course	4	PHIL undergraduate elective	4				
PHIL elective 2	4	Upper-division elective					
		Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Advanced PHIL elective 2	4	Co-op	0
		PHIL 1115	4	Elective	4		
		Advanced PHIL elective 1	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	PHIL seminar	4	Upper-division elective	4
		PHIL undergraduate elective	4	Elective	4
		Upper-division elective	4		
		Elective	4		
	0		**16**		**8**

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Foreign language core course	4	Elective	4	Vacation	
MATH 1215	4	PHIL undergraduate elective	4	Elective	4		
PHIL 1101	4	Elective	4				
Foreign language core course	4	Elective	4				
	16		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op	0	Co-op	0	Elective	4
PHIL 2325	4					Elective	4
Foreign language core course	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op	0	Co-op	0	PHIL undergraduate elective	4
Upper-division elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 3315	4	PHIL 6962	4	PHIL undergraduate elective	4
PHIL 1115	4	PHIL seminar	4	Elective	4
Advanced PHIL elective	4	PHIL undergraduate elective	4		
Elective	4	Upper-division elective	4		
	16		**16**		**8**

Total Hours: 129

PHILOSOPHY WITH CONCENTRATION IN LAW AND ETHICS: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
MATH 1215	4	PHIL 2330	4	Elective	4		
PHIL 1000	1	Foreign language core course	4				
PHIL 1115	4	Elective	4				
Foreign language core course	4	Elective	4				
	17		**20**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2325	4	EESH 2000	1	Elective	4	Co-op	0
Critical philosophy elective	4	PHIL 2330	4	Elective	4		
Foreign language core course	4	Law-related elective	4				
Law elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Ethics elective 1	4	Co-op	0
		PHIL 1115	4	Elective	4		
		PHIL 3435	4				
		PHIL seminar	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	Law-related elective	4	Upper-division elective	4
		Moral and political elective	4		
		PHIL seminar	4		

		Upper-division elective	4				
	0		**16**		**4**		

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Foreign language core course	4	Elective	4	Vacation	
MATH 1215	4	Moral and political elective	4	Elective	4		
PHIL 1101	4	Elective	4				
Foreign language core course	4	Elective	4				
	16		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op	0	Co-op	0	Elective	4
PHIL 2325	4					Elective	4
Foreign language core course	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op	0	Co-op	0	Elective	4
Law-related elective	4					Elective	4
Upper-division elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 3315	4	Law-related elective	4	Elective	4
PHIL 1115	4	Moral and political elective	4	Elective	4
PHIL 3435	4	Upper-division elective	4		
PHIL seminar	4	Upper-division elective	4		
	16		**16**		**8**

Total Hours: 129

PHILOSOPHY WITH CONCENTRATION IN RELIGIOUS STUDIES: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	PHIL 1115	4	Vacation	
MATH 1215	4	PHIL 2330	4	Elective	4		
PHIL 1000	1	Foreign language core course	4				
PHIL 1110	4	Religious studies elective	4				
Foreign Language course	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2325	4	EESH 2000	1	Religious studies elective 2	4	Co-op	0
Foreign language core course	4	PHIL 2330	4	Elective	4		

Elective	4	Religious studies elective 1	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Advanced PHIL elective	4	Co-op	0
		PHIL 1115	4	Religious studies elective	4		
		PHIL 3435	4				
		Religious studies seminar	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
Co-op	0	PHIL seminar	4	Upper-division elective	4		
		Upper-division elective	4	Elective	4		
		Upper-division elective	4				
		Elective	4				
	0		**16**		**8**		

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Foreign language core course	4	Elective	4	Vacation	
MATH 1215	4	Religious studies elective	4	Elective	4		
PHIL 1101	4	Elective	4				
Foreign language core course	4	Elective	4				
	16		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op	0	Co-op	0	Elective	4
PHIL 2325	4					Elective	4
Foreign language core course	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op	0	Co-op	0	Elective	4
Religious studies elective	4					Elective	4
Upper-division elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
ENGW 3315	4	Religious studies seminar	4	Elective	4		
PHIL 1115	4	Upper-division elective	4	Elective	4		
PHIL 3435	4	Upper-division elective	4				

PHIL seminar	4	Elective	4		
	16		**16**	**8**	

Total Hours: 129

Religious Studies, BA

The program in religious studies offers the opportunity to acquire an understanding of religion within various cultural, historical, and political contexts through comparative approaches and an engagement with religion in everyday life. The major in religious studies is designed to enable students to not only gain a breadth of knowledge across a variety of religious traditions but also to pursue in-depth mastery of particular traditions in their practical and cultural dimensions, including the various normative and ideological issues that arise out the manifestation of religion in human affairs. In addition to the study of particular religious traditions, religious studies majors will be expected to gain a general knowledge of the theoretical and methodological approaches employed in the academic study of religion. Through the major, a student will enhance the ability to think, interpret, and write critically about a range of religious traditions through diverse methodological approaches.

- **The standard religion major** offers students a maximum number of electives so they may choose in accordance with their own backgrounds and interests.
- **Combined majors** are offered in Jewish studies and religion, history and religious studies, religious studies and African American studies, and international affairs and religious studies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Religious Studies Major Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion		
Complete one of the following that is not used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	

PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete five of the following, one of which must be 2000-level or above and another one of which must be 3000-level or above, that is not used to satisfy another requirement:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
Capstone		
Complete the following that is not used to satisfy another requirement:		4
PHIL 4903	Seminar in Religion	

Religious Studies Major Credit Requirement

Complete 36 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Elective	4	Vacation	0	Vacation	0
PHIL 1110	4	Elective	4				
Elective	4	Elective	4				
Elective	4	Open elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative elective	4	Co-op	0	Co-op	0	Elective	4
Lived elective	4					Elective	4
Elective	4					Elective	4
Open elective	4						
	16		**0**		**0**		**12**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Advanced-level elective	4	Co-op	0	Co-op	0	Elective	4
Religious studies elective	4					Elective	4
Elective	4					Elective	4
Open elective	4						
	16		**0**		**0**		**12**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Capstone	4	Elective	4	Elective	4	Vacation	0
Religious studies elective	4	Elective	4	Elective	4		
Elective	4	Elective	4				
Open elective	4	Open elective	4				
	16		**16**		**8**		**0**

Total Hours: 128

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Elective	4	Vacation	0	Vacation	0
PHIL 1110	4	Elective	4				
Elective	4	Elective	4				
Elective	4	Open elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative elective	4	Co-op	0	Co-op	0	Elective	4
Lived elective	4					Elective	4
Elective	4						
Open elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Advanced-level elective	4	Co-op	0	Co-op	0	Elective	4
Religious studies elective	4					Elective	4
Elective	4						
Open elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Religious studies elective	4	Co-op		Co-op		Vacation	0
Elective	4						
Elective	4						
Open elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Capstone	4	Religious studies elective	4
Religious studies elective	4	Elective	4
Elective	4	Elective	4

Open elective	4	Elective	4
	16		**16**

Total Hours: 128

Cultural Anthropology and Philosophy, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in cultural anthropology and philosophy. Students in the combined major integrate the study of culture and social structures with the study of social and political philosophy, ethics, and the philosophy of science. The combined major enables students to understand and appreciate cultural differences in human interaction, ways of knowing, and systems of logic and human classification.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Complete two area courses above 4000; additional area courses taken may count as anthropology electives.		8
Capstone		
ANTH 4600	Senior Seminar	4
Electives		
Complete three 4-semester-hour courses in addition to the above requirements. One study-abroad course may also count toward this requirement with prior permission from the department.		12

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Foundational Philosophy of Science Elective		
Complete one of the following:		4
PHIL 1105	Science and Pseudoscience	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 3050	Information and Uncertainty	
PHIL 3360	Scientific Approaches to Philosophy	
Advanced Philosophy Electives		
Complete two PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
Critical Philosophy Elective		

Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional courses from the philosophy department.		8

Integrative Requirement

Code	Title	Hours
One integrative course is required from each discipline. Courses taken as electives above may not be used as integrative courses.		
PHIL 4500	Theory of Knowledge	4
or PHIL 4510	Philosophy of Science	
or PHIL 4550	Philosophy of Economics	
or PHIL 4555	Philosophy of Biology	
or PHIL 4903	Seminar in Religion	
SOCL 3450	Class, Power, and Social Change	4

Anthropology and Philosophy Combined Major Credit Requirement

Minimum 2.000 GPA required in anthropology and philosophy courses

88 semester hours required

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	ANTH elective	4
ENGW 1111	4	PHIL 2325	4	Elective	4	Elective	4
PHIL 1115	4	Critical Philosophy elective	4				
PHIL elective	4	ANTH elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	ANTH 3410	4	Elective	4	Co-op	
ANTH elective	4	ANTH 3421	4	Elective	4		
ANTH area course	4	PHIL advanced elective	4				
Elective	4	PHIL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH area course	4	Elective	4	Co-op	
		ANTH elective	4	Elective	4		
		Integrative course	4				

		PHIL 4000/5000-level course	4		
	0		**16**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		ANTH capstone	4
		PHIL capstone	4
		Integrative course	4
		Elective	4
	0		**16**

Total Hours: 128

Cultural Anthropology and Religious Studies, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in anthropology and religious studies. Students in the combined major integrate the study of culture and social structures with the study of religious traditions and praxis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Additional area courses taken may count as anthropology electives. Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Capstone		
Students are expected to complete the following course in spring of their senior year:		
ANTH 4600	Senior Seminar	4
Electives		
Complete three 4-semester-hour courses in addition to the above requirements. One study-abroad course may also count toward this requirement with prior permission from the department.		12

Religion Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Electives		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	

PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete five of the following courses that have not been used to satisfy another requirement in the combined major. At least one must be at the 2000 level or above and at least one must be at the 3000 level or above:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Seminar		
PHIL 4903	Seminar in Religion	4

Integrative Requirements

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		4
ANTH 2315	Religion and Modernity	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	

Cultural Anthropology GPA Requirement

Minimum 2.000 GPA required in all anthropology courses

Religion GPA Requirement

Minimum 2.000 GPA required in all religion courses

Cultural Anthropology and Religion Major Credit Requirement

84 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	Elective	4
PHIL 1110	4	Lived religion elective	4	Elective	4	Elective	4
PHIL elective	4	PHIL elective	4				
ANTH elective	4	ANTH elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative religion elective	4	ANTH 3410	4	Elective	4	Co-op	
ANTH elective	4	ANTH 3421	4	Elective	4		
ANTH area course	4	Elective	4				
PHIL elective	4	PHIL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHIL elective	4	Elective	4	Co-op	
		ANTH area course	4	Elective	4		
		Elective	4				
		Integrative course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHIL seminar	4
		ANTH capstone	4
		Integrative course	4
		Elective	4
	0		**16**

Total Hours: 128

English and Philosophy, BA

The Department of English and the Department of Philosophy and Religion offer an interdisciplinary combined major in English and philosophy. Students in the combined major in English and philosophy integrate the study of literature and writing with the study of ethical and philosophical issues and problems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	

or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	

ENGL 2730	Digital Writing
ENGL 2740	Writing and Community Engagement
ENGL 2760	Writing in Global Contexts
ENGL 2770	Writing to Heal
ENGL 2850	Writing for Social Media: Theory and Practice
ENGL 3375	Writing Boston
ENGL 3376	Creative Nonfiction
ENGL 3377	Poetry Workshop
ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace
English Electives	
Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Capstone

Code	Title	Hours
English Capstone Requirement		**4**
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Electives		
Complete two PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional PHIL electives, not used to satisfy another requirement.		8

Integrative Requirement

Code	Title	Hours
PHIL 3435	Moral Philosophy	4
ENGL 3619	Emerson and Thoreau	4

English and Philosophy Combined Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1115	4	PHIL 2325	4	Elective	4	Vacation	
ENGL 1000	1	ENGL 1160	4	Elective	4		
ENGL 1400	4	Elective	4				
Elective	4	ENGL Diversity Course	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL Pre Nineteenth Century Literature Course	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
PHIL 2330	4					Elective	4
ENGL Nineteenth, Twentieth, and Twenty First Century Literature	4						
	16		**0**		**0**		**12**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL Advanced Elective	4	Co-op		Co-op		Critical Philosophy Elective	4
Elective	4					Elective	4
ENGL Comparative Literature Course	4					Elective	4
ENGL Theories and Methods Course	4						
	16		**0**		**0**		**12**

Year 4

Fall	Hours	Spring	Hours
ENGL Writing Course	4	Integrative Course	4
ENGL Capstone	4	Elective	4
PHIL Advanced Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Environmental Studies and Philosophy, BA

Through this combined major, successful undergraduates will develop an awareness of the scientific, cultural, and political aspects of the world's environmental problems while considering the philosophical, moral, and ethical impacts that such decisions have on human-environment interactions. Due to overlap in course content, students majoring in Environmental Studies or any Environmental Studies combined majors may not complete a minor in Environmental and Sustainability Sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Science		
Choose one introductory science course:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Social Science		
Choose one introductory social science course:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Complete one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or higher:		16
ARTG 5110	Information Design History	

BUSN 3110	The Consulting Environment
CIVE 5280	Remote Sensing of the Environment
COMM 3500	Environmental Issues, Communication, and the Media
EEMB 3466	Disease Ecology
EEMB 3700	Desert Ecology
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine
ENVR 3701	Energy in the Desert Ecosystem
ENVR 4504	Environmental Pollution
ENVR 5210	Environmental Planning
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
LPSC 2301	Introduction to Law, Policy, and Society
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
POLS 2395	Environmental Politics and Policy
PPUA 5268	International Environmental Policy

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 1180	Environmental Ethics	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy of Science/Environment		
Complete one of the following:		4
PHIL 1105	Science and Pseudoscience	
PHIL 3050	Information and Uncertainty	
PHIL 4510	Philosophy of Science	
PHIL 4555	Philosophy of Biology	
Advanced Electives		
Complete two PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Philosophy Electives		
Complete two additional PHIL electives, not used to satisfy another requirement.		8

Integrative Courses

Code	Title	Hours
Complete two of the following. Courses used for electives may not be used as integrative courses:		8
COMM 3532	Theories of Conflict and Negotiation	
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4997	Senior Thesis	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	

Environmental Studies and Philosophy Combined Major Credit Requirement

Complete 78 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 1101	4	ENVR 2515	4	Elective	4	Elective	4
PHIL 1115	4	ENVR 3150	4	Elective	4	Elective	4
PHIL 1180	4	PHIL 2325 or POLS 2325	4				
Elective	4	Elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3300 and ENVR 3301	5	ENVR elective; 2 of 4	4	Critical Philosophy Elective	4	Co-op	
PHIL 1105 or 4510	4	PHIL Restricted Elective	4	Elective	4		
PHIL 2330	4	Elective	4				
ENVR elective; 1 of 4	4	Elective	4				
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENVR elective; 3 of 4	4	Integrative Course #1	4	Co-op	
		ENVR elective; 4 of 4	4	Integrative Course #2	4		
		PHIL 4000/5000 Elective	4				
		PHIL Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHIL Elective	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 129

History and Philosophy, BA

The Department of History and the Department of Philosophy and Religion offer an interdisciplinary combined major in history and philosophy. Students interested in the combined major integrate the study of philosophy and ethics with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Elective		
Complete two courses at any level in any field.		8
Introductory Level Elective		
Complete one course from the 1000 level (excluding HIST 1200 and HIST 1201).		4
Intermediate/Advanced History Cluster		
Complete minimum of one history course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4
Advanced History Elective		
Complete minimum of one history course numbered 3000 to 4999 (excluding HIST 4701).		4

History Capstone Seminar or Senior Project		
HIST 4701	Capstone Seminar	4

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, at least one of which must be at the 4000 level or above.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill other requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional PHIL courses not used to satisfy other requirements.		8

Integrative Courses

Code	Title	Hours
Complete one of the following not used to meet another requirement:		4
HIST 2308	Law, Justice, and Society in Modern China	
PHIL 2395	Japanese Buddhism	

History and Philosophy Combined-Major Credit Requirement

Complete 85 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1000	1	PHIL elective	4	Vacation	
HIST 1200	1	PHIL 2330	4	Elective	4		
HIST 1201	4	HIST introductory level	4				
PHIL 1115	4	HIST pre-1800 history elective	4				
PHIL 2325 or POLS 2325	4	PHIL intermediate/ advanced elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	HIST intermediate/ advanced elective	4	PHIL elective	4	Co-op	
HIST 2302	1	HIST intermediate/ advanced elective	4	Elective	4		
ANTH area course	4	PHIL advanced elective	4				
PHIL elective	4	PHIL advanced elective	4				
PHIL elective	4	Elective	1				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST advanced elective	4	Elective	4	Co-op	
		HIST intermediate/ advanced elective	4	Elective	4		
		PHIL integrative course	4				
		PHIL elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		HIST capstone or senior project	4	Elective	4
		HIST elective or integrative course	4		
		HIST elective or integrative course	4		
		PHIL advanced elective	4		
	0		**16**		**4**

Total Hours: 128

History and Religious Studies, BA

The Department of History and the Department of Philosophy and Religion offer an interdisciplinary combined major in history and religious studies. Students interested in the combined major integrate the study and analysis of human history with the study of religious traditions, religious praxis, and religious ethics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
Introductory Level Elective		
Complete one course from the 1000 level (excluding HIST 1200 and HIST 1201).		4
History Electives		
Complete five further history courses not used to fulfill a previous requirement, of which at least one must be numbered 2000-2999 (excluding HIST 2301 and HIST 2302) and at least one must be numbered 3000-4999 (excluding HIST 4701)		20

Religious Studies Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete six of the following courses, one of which must be at the 2000 level or above and another one of which must be at the 3000 level or above, that have not been used to satisfy another requirement:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	

Integrative Requirements

Code	Title	Hours
Capstone		
Complete one of the following courses that has not been used to satisfy another requirement:		4
HIST 4701	Capstone Seminar	
PHIL 4903	Seminar in Religion	
Integrative Course		
Complete one of the following courses that has not been used to satisfy another requirement:		4
HIST 1185	Introduction to Middle Eastern History	
HIST 1290	Modern Middle East	
HIST 2370	Renaissance to Enlightenment	
PHIL 2395	Japanese Buddhism	

History and Religious Studies Combined-Major Credit Requirement

Complete 78 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1000	1	HIST elective	4	Vacation	
HIST 1200	1	Intro-level HIST course	4	Elective	4		
HIST 1201	4	Lived religion elective	4				
PHIL 1110	4	Pre-1800 HIST elective	4				
Elective	4	Elective	4				
	17		**17**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	HIST intermediate/ advanced elective	4	Elective	4	Co-op	
HIST 2302	1	HIST intermediate/ advanced elective	4	Elective	4		
ANTH area course	4	Elective	4				
Comparative religion elective	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		HIST advanced elective	4	Elective	4	Co-op	
		HIST intermediate/ advanced elective	4	Elective	4		
		PHIL 2000-level elective	4				
		Integrative course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		HIST elective	4	Elective	4
		PHIL 3000-level elective	4	Elective	4

	Capstone	4	
	Elective	4	
0		**16**	**8**

Total Hours: 131

International Affairs and Religious Studies, BA

Introduces the interaction of religious views with institutions and cultures in national and international contexts since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social/religious movements; state-society relations (religion, democracy, authoritarianism, social justice and ethics, citizenship); comparative study of religious theology and praxis; and knowledge of particular religious traditions, including Buddhism, Christianity, Hinduism, Islam, and Judaism.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
or ECON 1115	Principles of Macroeconomics	
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one international semester via study abroad, international internship, international co-op, or two approved short-term programs abroad.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3430	Revolution, Civil War, and Insurrection	

or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media

JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	

CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Religious Studies Requirements

Code	Title	Hours
Required Foundational Course		**4**
PHIL 1110	Introduction to Religious Studies	
Lived Religion Elective		**4**
Complete one of the following courses that is not used to satisfy another requirement:		
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
Comparative Religion Elective		**4**
Complete one of the following courses that is not used to satisfy another requirement:		
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
Electives		**24**
Complete six of the following courses, one of which must be at the 2000 level or above and two of which must be at the 3000 level or above, that is not used to satisfy another requirement:		
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	

PHIL 1133	Selling Spirituality
PHIL 1220	The Meaning of Death
PHIL 1260	Apocalypticism in Film
PHIL 1271	Sex in Judaism, Christianity, and Islam
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
PHIL 1290	Chinese Philosophy and Religion
PHIL 1666	The Problem of Evil in Film
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis
PHIL 2230	Music and Religion
PHIL 2301	Philosophical Problems of Law and Justice
PHIL 2390	Cults and Sects
PHIL 2395	Japanese Buddhism
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions
PHIL 2619	Race and Religion in Film
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life
PHIL 4903	Seminar in Religion
PHIL 4992	Directed Study

International Affairs and Religious Studies Integrative Requirement

Code	Title	Hours
Capstone		
INTL 4700	Senior Capstone Seminar in International Affairs	4
Research Methods		
INTL 2718	Research Methods in International Affairs	4
or PHIL 4903	Seminar in Religion	

International Affairs and Religious Studies Combined Major Credit Requirement

Complete 76 semester hours in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1160	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	Lived religion elective	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1101	4	Elective	4				
PHIL 1110	4	Elective	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1155	4	EESH 2000	1	Elective (Dialogue of Civilizations possible)	4	Co-op	
Comparative religion elective	4	Elective	4	Elective (Dialogue of Civilizations possible)	4		
Elective	4	Elective	4				

Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective (Dialogue of Civilizations possible)	4	Co-op	
		INTL 3400	4	Elective (Dialogue of Civilizations possible)	4		
		PHIL level-2000 elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		INTL 4700	4
		PHIL level-3000 elective	4
		Research Methods course	4
		Elective	4
	0		**16**

Total Hours: 130

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1160	4	Vacation		Vacation	
INTL 1000	1	Lived religion elective	4				
INTL 1101	4	Elective	4				
PHIL 1110	4	Elective	4				
Foreign language course	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative religion elective	4	Co-op		Co-op		Elective	4
Foreign language course	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Elective	4
PHIL level-2000 elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
INTL 3400	4	Co-op		Co-op		Vacation	
PHIL level-3000 elective	4						
Elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Elective	4	INTL 4700	4
Elective	4	Research method course	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Jewish Studies and Religion, BA

The combined major in Jewish studies and religion offers students an integrated program of study of two naturally complementary fields. Study of Judaism as a religion is enhanced by broad familiarity with the world's religious traditions; conversely, in-depth knowledge of Jewish history, identity, and cultures provides students of religion with valuable insight into the ways in which religion interacts with a wide variety of forces to shape the experiences of the adherents of a particular faith. The combined major is designed to enable students to understand the history, cultures, and religion of the Jewish people; analyze and apply theoretical understanding to the interaction between religious, social, and historical factors that have shaped the experiences of the Jewish people; and demonstrate fluency in understanding the major religious traditions of the world. The combined major in Jewish studies and religion is designed to prepare students for graduate work in Jewish studies, religion, or many of the other disciplines that make up Jewish studies or for work within the Jewish community or in communal organizations associated with other religions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Jewish Studies Requirements

Code	Title	Hours
Required Courses		
JWSS 1285	Jewish Religion and Culture	4
or PHIL 1285	Jewish Religion and Culture	
or JWSS 1294	History of the Jews in the Modern World	
or HIST 1294	History of the Jews in the Modern World	
JWSS 4660	Jewish Studies Module	1
Jewish Religion and Thought		
Complete one of the following:		4
JWSS 2259	Sex, Gender, and Judaism	
or WMNS 2259	Sex, Gender, and Judaism	
HIST 1100	Law and History	
Israel Studies		
Complete one of the following:		4
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
INTL 2100	Modern Israel	
POLS 3470	Arab-Israeli Conflict	
Jewish History		
Complete one of the following:		4
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
HIST 2285	America and the Holocaust	
or JWSS 2285	America and the Holocaust	
HIST 2431	Immigration and Identity in the American Jewish Experience	
or JWSS 2431	Immigration and Identity in the American Jewish Experience	
Jewish Art and Culture		
Complete one of the following:		4

ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
Jewish Studies Electives		
Complete three of the following:		12
ENGL 2610	Contemporary Israeli Literature and Art Abroad	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 2282	The Holocaust and Comparative Genocide	
or JWSS 2282	The Holocaust and Comparative Genocide	
HIST 2285	America and the Holocaust	
or JWSS 2285	America and the Holocaust	
HIST 2431	Immigration and Identity in the American Jewish Experience	
or JWSS 2431	Immigration and Identity in the American Jewish Experience	
INTL 2100	Modern Israel	
JWSS 4992	Directed Study	
PHIL 1120	Understanding the Bible	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
POLS 2370	Religion and Politics	
POLS 3465	Government and Politics in the Middle East	
POLS 3470	Arab-Israeli Conflict	
SOCL 3270	Race, Ethnicity, and Inequality	

Religion Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1295		
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that has not been used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	

PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete five of the following courses, one of which must be at the 2000 level or above and another one of which must be at the 3000 level or above, that have not been used to satisfy another requirement:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1295		
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
Capstone		
Complete the following course that has not been used to satisfy another requirement:		4
PHIL 4903	Seminar in Religion	

Integrative Requirements

Code	Title	Hours
Complete one of the following courses that has not been used to satisfy another requirement:		4
HIST 1294	History of the Jews in the Modern World	
or JWSS 1294	History of the Jews in the Modern World	
HIST 2431	Immigration and Identity in the American Jewish Experience	
or JWSS 2431	Immigration and Identity in the American Jewish Experience	
Hebrew Language Introduction		
Complete two courses in Hebrew. These courses also count toward the BA language requirement.		8

Jewish Studies and Religion Major Credit Requirement

80 major semester hours required

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	Lived religion elective	4	Vacation	0	Elective	4
PHIL 1110	4	Israel studies	4			Elective	4
PHIL 1285 or JWSS 1285	4	HBRW 1101	4				
Elective	4	HIST 1100	4				
	16		**16**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Elective	4	Co-op		Co-op	0	Elective	4
Jewish history course	4					JS elective	4
Comparative religion elective	4						
HBRW 1102	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2000-level elective	4	Elective	4	Elective	4	Elective	4
Jewish art and culture course	4	JWSS 4660	1	Elective	4	Elective	4
Elective	4	Elective					
JS elective	4	JS elective	4				
	16		**9**		**8**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 3000-level elective	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
Intergrative requirement course	4						
PHIL capstone	4						
	16		**0**		**0**		**8**

Total Hours: 129

Media and Screen Studies and Philosophy, BA

The Media and Screen Studies Program and the Department of Philosophy and Religion offer a combined major in media and screen studies and philosophy. The combined major integrates the analysis, research, and production of traditional and emerging media along with the study of questions and theories related to morality, society, religion, and the natural and social sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Societies and Institutions (SI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), and Difference and Diversity (DD) may be met through electives in the major.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
(NUpath capstone recommendation: Complete MSCR 4623 as one of your MSCR electives if a philosophy capstone course is not selected for "Restricted Philosophy Electives.")		
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional PHIL electives, not used to satisfy another requirement.		8

Integrative Requirement

Code	Title	Hours
MSCR 3600	Film Theory	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements

Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Foreign Language	4	Elective	4
MSCR 1000	1	PHIL 2325 or POLS 2325	4	Elective	4	Elective	4
MSCR 1220	4	MSCR foundation	4				
PHIL 1115	4	Foreign Language	4				
Foreign Language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	MSCR writing-intensive	4	Elective	4	Co-op	
PHIL 2330	4	Restricted PHIL elective 1	4	Elective	4		
MSCR diversity/ globalization	4	Critical Philosophy Elective	4				
MSCR elective	4	Elective	4				
PHIL elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		MSCR writing-intensive	4	Elective	4	Co-op	
		MSCR elective	4	Elective	4		
		Restricted PHIL elective 2	4				
		PHIL elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		MSCR 3600	4
		MSCR elective	4
		Restricted PHIL elective 3	4
		Elective	4
	0		**16**

Total Hours: 130

Political Science and Philosophy, BA

The combined major in political science and philosophy enables students to develop an integrated understanding of politics, political theory, ethical theory, and theories of justice. Students who complete the major will have the training to critically evaluate and assess public policies and social issues on both political and ethical grounds, including issues such as tax policy, immigration, environmental protection, trade policy, healthcare, education, defense policy, and much more.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete two of the following:		8
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record. Requirements for the concentrations are listed below (p.).

- American Political Institutions (p. 2329)
- Campaigns and Elections (p. 2329)
- Comparative Politics (p. 2329)
- Identity, Culture, and Politics (p. 2329)
- International Relations and Diplomacy (p. 2330)
- Law and Legal Studies (p. 2330)
- Public Policy (p. 2330)
- Security Studies (p. 2330)

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Philosophy Electives		
Complete one of the following PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 3343	Existentialism	
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 3435	Moral Philosophy	
PHIL 3460	Philosophy and Literature	
PHIL 3822	Philosophy of Race and Racism	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
PHIL 4901	Topics in Philosophy Seminar	
PHIL 4903	Seminar in Religion	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Electives		
Complete two additional PHIL courses not used to satisfy other requirements.		8

Integrative Requirement

Code	Title	Hours
Complete one of the following:		
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	

POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
POLS 3324	Law and Society

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1215	4	PHIL 2325 or POLS 2325	4	Vacation	
PHIL 1115	4	POLS 1150	4	Elective	4		
POLS 1000	1	POLS 1160	4				
POLS 1155	4	Foreign Language	4				
POLS elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op		Co-op		Foreign Language	4
POLS 2399	4					Elective	4
POLS Thought	4						
Foreign Language	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2303	4	Co-op		Co-op		PHIL elective	4
PHIL 5001	4					Elective	4
POLS 2400	4						
PHIL Restricted Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
PHIL Elective	4	PHIL Restricted Elective	4	PHIL elective	4
POLS Thought course	4	Critical Philosophy Elective	4	Elective	4
POLS elective	4	POLS elective	4		
POLS elective	4	Elective	4		
	16		**16**		**8**

Total Hours: 129

Religious Studies and Africana Studies, BA

The Department of Philosophy and Religion and the Program in Africana Studies offer an interdisciplinary combined major in religious studies and Africana studies. Students interested in the combined major integrate the study of religious traditions, religious praxis, and religious ethics with critical and systematic examination of the cultural, political, social, economic, and historical experiences of African Americans throughout the hemisphere and peoples of African descent around the world.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Religious Studies Major Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2619	Race and Religion in Film	
or AFAM 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
or AFAM 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		

Complete five of the following courses, one of which must be 2000-level or above and another one of which must be 3000-level or above, that is not used to satisfy another requirement:		20
PHIL 1111	Introduction to World Religions	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2390	Cults and Sects	
PHIL 2619	Race and Religion in Film	
or AFAM 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
PHIL 4992	Directed Study	
Capstone		
Complete the following course that is not used to satisfy another requirement:		
PHIL 4903	Seminar in Religion	4

Africana Studies Requirements

Code	Title	Hours
Foundational		
AFAM 1101	Introduction to African American and Africana Studies	4
or AFRS 1101	Introduction to African Studies	
Introductory		
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following:		8
AFAM 2296	Early African-American Literature	
AFAM 2318	New England Stories: Storytelling and the African American Experience	
AFAM 2690	Boston in Literature	
AFAM 3404	African American Rhetorical Traditions	
AFAM 3664	Black Poetry and the Spoken Word	
Social Sciences		
Complete two of the following:		8
AFRS 2307	Africa Today	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
Electives		
Note: Electives may not double count for other AFAM or HIST combined-major requirements.		
Complete one AFAM/AFRS course at the 2000 level or above		4
Complete one AFAM/ AFRS course at the 3000 level or above		4

Senior Capstone		
AFAM 4700	Capstone	4

Integrative Requirement

Code	Title	Hours
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	4
or AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
AFAM 1101 or AFRS 1101	4	Introductory Course	4	Elective	4	Elective	4
ENGW 1111	4	Lived Religion Elective	4	Elective	4	Elective	4
PHIL 1110	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative Religion Elective	4	Co-op		Co-op		Elective	4
Social Sciences Course	4					Elective	4
PHIL 2000 Level Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Humanities Course	4	Co-op		Co-op		Elective	4
Social Sciences Course	4					Elective	4
AFAM/AFRS 2000 Level Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
AFAM/AFRS 3000 Level Elective	4	Capstone	4
PHIL 3000 Level Elective	4	Humanities Course	4
Elective	4	Integrative Requirement Course	4
Elective	4	PHIL Advanced Level Elective	4
	16		**16**

Total Hours: 128

Sociology and Philosophy, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in sociology and philosophy. Students in the combined major integrate the study of social structures and systems with the study of social and political philosophy, ethics, and the philosophy of science.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Electives		
One course can be taken at the 2000 level and three other courses at the 3000 level or higher.		16
Capstone		
Students are expected to complete the following course in spring of their senior year:		4
SOCL 4600	Senior Seminar	

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Foundational Philosophy of Science Elective		
Complete one of the following:		4
PHIL 1105	Science and Pseudoscience	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 3050	Information and Uncertainty	
PHIL 3360	Scientific Approaches to Philosophy	
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	

PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion
PHIL 1271	Sex in Judaism, Christianity, and Islam
PHIL 2155	Human Rights
PHIL 2492	Indigenous Philosophy
PHIL 2619	Race and Religion in Film
PHIL 3500	Sexuality, Gender, and the Law
PHIL 3822	Philosophy of Race and Racism

Philosophy Elective

Complete one additional PHIL course not used to satisfy other requirements.	4

Integrative Requirement

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
PHIL 4500	Theory of Knowledge	4
or PHIL 4510	Philosophy of Science	
or PHIL 4550	Philosophy of Economics	
SOCL 3450	Class, Power, and Social Change	4

Sociology GPA Requirement

Minimum 2.000 GPA required in all sociology courses

Philosophy GPA Requirement

Minimum 2.000 GPA required in all philosophy courses

Sociology and Philosophy Major Credit Requirement

80 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1115	4	PHIL 2325 or POLS 2325	4	Elective	4	Elective	4
SOCL 1101	4	PHIL 2330	4	Elective	4	Elective	4
PHIL elective	4	PHIL elective	4				
SOCL elective	4	SOCL elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	SOCL 2321	4	Elective	4	Co-op	
SOCL 2320	4	SOCL 3300	4	Elective	4		
PHIL advanced elective	4	PHIL advanced elective	4				
SOCL 2000 elective	4	PHIL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHIL 4000/5000 elective	4	Elective	4	Co-op	
		SOCL 4000 elective	4	Elective	4		
		SOCL 5000 elective	4				

		Integrative course	4		
	0		**16**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**		
Co-op		PHIL capstone	4		
		SOCL capstone	4		
		SOCL 5000 elective	4		
		Integrative course	4		
	0		**16**		

Total Hours: 128

Sociology and Religious Studies, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in sociology and religious studies. Students in the combined major integrate the study of social structures and systems with the study of religious traditions and praxis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Electives		
One course can be taken at the 2000 level and three other courses at the 3000 level or higher.		16
Capstone		
Students are expected to complete the following course in spring of their senior year:		
SOCL 4600	Senior Seminar	4

Religion Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4

PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
Electives		
Complete five of the following courses that have not been used to satisfy another requirement in the combined major. At least one must be at the 2000 level or above and at least one must be at the 3000 level or above:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
Seminar		
Complete the following course that is not used to satisfy another requirement:		
PHIL 4903	Seminar in Religion	4

Integrative Requirements

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
ANTH 2315	Religion and Modernity	4
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	4

Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
PHIL 1110	4	SOCL 2320	4	Elective	4
SOCL 1101	4	PHIL elective	4	Elective	4
PHIL elective	4	SOCL elective	4		
SOCL elective	4	Lived religion elective	4		
	16		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	SOCL 2321	4	Elective	4	Co-op	
Comparative religion elective	4	PHIL elective	4	Elective	4		
PHIL elective	4	PHIL elective	4				
SOCL 2000 elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		SOCL 3300	4	Elective	4	Co-op	
		Integrative course	4	Elective	4		
		SOCL 5000 elective	4				
		SOCL 5000 elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		PHIL seminar	4	Elective	4
		SOCL capstone	4	Elective	4
		Integrative course	4		
		SOCL 5000 elective	4		
	0		**16**		**8**

Total Hours: 128

Philosophy, BS

Philosophy is a basic field of inquiry. Its range encompasses ideas and issues in every domain of human experience, and its methods apply to problems of an unlimited variety. The major in philosophy can develop not only philosophical skill and sophistication but also critical thinking and writing abilities that are readily applicable to pursuits in other academic areas, useful in careers far removed from philosophy, and valuable in everyday social and personal life. The study of philosophy can profoundly affect both the thinking one does and the kind of person one is.

There are a variety of ways to major in philosophy that students may choose from in accordance with their own backgrounds and interests. These include:

- **Philosophy major (no concentration)**

  Offers students a maximum number of electives so they may choose in accordance with their own backgrounds and interests

- **Philosophy major with a concentration in law and ethics**

  Focuses elective coursework in the areas of law, social and political philosophy, and applied ethics

- **Philosophy major with a concentration in ethics**

  Focuses elective coursework in the areas of ethical theory, applied ethics, and social and political philosophy

- **Philosophy major with a concentration in religious studies**

  Uses electives to explore a variety of both religious expressions and methods of inquiry

- **Philosophy major with a concentration in formal methods**

  Focuses elective coursework in areas of logic and formal methods

- **Combined majors** in media and screen studies and philosophy, economics and philosophy, environmental studies and philosophy, political science and philosophy, English and philosophy, history and philosophy, criminal justice and philosophy, computer science and philosophy, and physics and philosophy

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Program Options

Complete one of following options:

- Philosophy Major (no concentration) (p. 2342)
- Philosophy Major with a Concentration in Law and Ethics (p. 2342)
- Philosophy Major with a Concentration in Ethics (p. 2343)
- Philosophy Major with a Concentration in Religious Studies (p. 2345)
- Philosophy Major with a Concentration in Formal Methods (p. 2345)

Philosophy Major Credit Requirement

Complete 36 semester hours in the major.

Upper-Division Electives

Complete three general electives at the 3000 level or above that do not double count with the major or NUpath.

General Electives

Additional courses taken beyond college and major course requirements to satisfy graduation credit requirements

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Philosophy Major (no concentration)

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete three PHIL courses with a designation of 3000 or above, and at least one at 4000 or 5000 level.		12
Additional Electives		
Complete two additional PHIL courses.		8
Critical Philosophy Electives		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	

PHILOSOPHY MAJOR WITH A CONCENTRATION IN LAW AND ETHICS

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 3435	Moral Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete two PHIL courses with a designation of 3000 or above, and at least one at 4000 or 5000 level, not used to satisfy another requirement.		8
Ethics-Related Electives		
Complete two of the following:		8
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1111	Introduction to World Religions	
PHIL 1112	Debating Ethical Controversies	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1145	Technology and Human Values	
PHIL 1160	Introduction to Economic Justice	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	

PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 3305	Philosophy of Emotions	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
Law-Related Electives		
Complete one of the following courses:		4
CRIM 1110	Criminal Due Process	
CRIM 1120	Criminology	
CRIM 2320	Youth Crime and Justice	
CRIM 3060	Political Crime and Terrorism	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
ENGL 3325	Rhetoric of Law	
JRNL 3550	The First Amendment and the Media	
LPSC 1101	Introduction to Law	
POLS 3302	Judicial Process and Behavior	
POLS 3324	Law and Society	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	
SOCL 1245	Sociology of Poverty	
SOCL 3241	Violence and Society	
SOCL 4518	Law and Society in a Digital World	
Critical Philosophy Electives		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	

PHILOSOPHY MAJOR WITH A CONCENTRATION IN ETHICS

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4

PHIL 3435	Moral Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete two of the following courses with one at the 4000 or 5000 level:		8
PHIL 3343	Existentialism	
PHIL 3435	Moral Philosophy	
PHIL 3460	Philosophy and Literature	
PHIL 3822	Philosophy of Race and Racism	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4903	Seminar in Religion	
PHIL 5001	Global Justice	
Ethics Courses		
Complete three of the following:		12
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1111	Introduction to World Religions	
PHIL 1112	Debating Ethical Controversies	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1145	Technology and Human Values	
PHIL 1160	Introduction to Economic Justice	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 3305	Philosophy of Emotions	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
Critical Philosophy Electives		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	

PHIL 2619	Race and Religion in Film
PHIL 3500	Sexuality, Gender, and the Law
PHIL 3822	Philosophy of Race and Racism

PHILOSOPHY MAJOR WITH A CONCENTRATION IN RELIGIOUS STUDIES

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 3435	Moral Philosophy	4
Philosophy Advanced Electives/Seminar		
Complete two PHIL courses at level 3000 or above not used to satisfy another requirement. At least one course at the 4000/5000 level.		8
Religious Studies Courses		
Complete three of the following:		12
PHIL 1110	Introduction to Religious Studies	
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1120	Understanding the Bible	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 2395	Japanese Buddhism	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
PHIL 4992	Directed Study	

PHILOSOPHY MAJOR WITH A CONCENTRATION IN FORMAL METHODS

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 4515	Advanced Logic	4
Formal Methods Courses		
Complete three of the following courses, at least two of which must be PHIL and one must be at the 3000 level or above, not used to satisfy other requirements:		12
CS 2800	Logic and Computation	
ECON 4681	Information Economics and Game Theory	
INSH 1500	Digital Methods for Social Sciences and Humanities	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
MATH 2280	Statistics and Software	
MATH 3081	Probability and Statistics	
PHIL 1105	Science and Pseudoscience	
PHIL 1162	Ethics and Philosophy through Sport	

PHIL 1300	Knowledge in a Digital World
PHIL 2001	Ethics and Evolutionary Games
PHIL 2016	The Philosophy and Ethics of Lying and Deception
PHIL 3050	Information and Uncertainty
PHIL 3360	Scientific Approaches to Philosophy
PHIL 4500	Theory of Knowledge
PHIL 4510	Philosophy of Science
PHIL 4550	Philosophy of Economics
PHIL 4555	Philosophy of Biology
POLS 3310	Public Opinion, Voting, and Elections

Philosophy Electives **8**

Complete two other PHIL courses (not used to fulfill another requirement), at least one of which must be at the 4000/ 5000 level.

Critical Philosophy Electives

Take one of the following courses not used to fulfill another requirements: 4

AFAM 1101	Introduction to African American and Africana Studies
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion
PHIL 1271	Sex in Judaism, Christianity, and Islam
PHIL 2155	Human Rights
PHIL 2492	Indigenous Philosophy
PHIL 2619	Race and Religion in Film
PHIL 3500	Sexuality, Gender, and the Law
PHIL 3822	Philosophy of Race and Racism

Plan of Study

Sample Plans of Study

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
PHIL 1000	1	PHIL 2330	4	Elective	4		
PHIL 1115	4	Elective	4				
PHIL Elective	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Critical Philosophy Elective	4	EESH 2000	1	Elective	4	Co-op	0
PHIL Elective	4	Elective	4	Elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3309	4	PHIL undergraduate elective	4	Co-op	0
		Advanced PHIL Elective	4	Elective	4		
		Advanced PHIL Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	PHIL seminar	4	Upper-division elective	4
		Elective	4	Elective	4
		Elective	4		
		Elective	4		
	0		**16**		**8**

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
PHIL 1000	1	PHIL 2330	4	Elective	4		
PHIL 1115	4	Elective	4				
PHIL Elective	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op	0	Co-op	0	Elective	4
Critical Philosophy Elective	4					Elective	4
PHIL Elective	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Advanced PHIL Elective	4	Co-op	0	Co-op	0	Upper-division elective	4
Advanced PHIL Elective	4					Elective	4
Elective	4						
Elective	4						
Elective	4						
	20		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 3315	4	Elective	4	Elective	4
PHIL Seminar	4	Elective	4	Elective	4
Elective	4	Elective	4		
Elective	4				
	16		**12**		**8**

Total Hours: 130

PHILOSOPHY WITH CONCENTRATION IN LAW AND ETHICS: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
PHIL 1000	1	PHIL 2330	4	Elective	4		
PHIL 1101	4	Ethics elective	4				
PHIL 1115	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Ethics elective	4	EESH 2000	1	Elective	4	Co-op	0
Law-related elective	4	Critical PHIL Elective	4	Elective	4		
Elective	4	Law-related Elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Elective	4	Co-op	0
		PHIL 3435	4	Elective	4		
		Advanced PHIL elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	Advanced PHIL elective	4	Upper-division elective	4
		PHIL seminar	4	Elective	4
		Elective	4		
		Elective	4		
	0		**16**		**8**

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
PHIL 1000	1	PHIL 2330	4	Elective	4		
PHIL 1101	4	Ethics elective	4				
PHIL 1115	4	Law-related elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op	0	Co-op	0	Elective	4
Critical PHIL Elective	4					Elective	4
Ethics elective	4						
Law-related elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 3435	4	Co-op	0	Co-op	0	Upper-division elective	4
Law-related Elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 3315	4	Advanced PHIL elective	4	Elective	4
PHIL 1115	4	PHIL seminar	4	Elective	4

Law-related elective	4	Upper-division elective	4				
Elective	4	Upper-division elective	4				
	16		**16**		**8**		

Total Hours: 130

PHILOSOPHY WITH CONCENTRATION IN RELIGIOUS STUDIES: FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
PHIL 1000	1	PHIL 2330	4	Elective	4		
PHIL 1110	4	Religious studies elective	4				
PHIL 1115	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2325	4	EESH 2000	1	Elective	4	Co-op	0
Elective	4	Religious studies elective	4	Elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Upper-division elective	4	Co-op	0
		Advanced PHIL elective	4	Elective	4		
		Religious studies elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours		
Co-op	0	Religious studies elective	4	PHIL undergraduate elective	4		
		PHIL seminar	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		

Total Hours: 130

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	PHIL 2325	4	Elective	4	Vacation	
PHIL 1000	1	PHIL 2330	4	Elective	4		
PHIL 1110	4	Religious studies elective	4				
PHIL 1115	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op	0	Co-op	0	Elective	4
Religious studies elective	4					Elective	4
Religious studies elective	4						

Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op	0	Co-op	0	Upper-division elective	4
Advanced PHIL elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
PHIL seminar	4	PHIL undergraduate elective	4	Elective	4
Elective	4	PHIL seminar	4	Elective	4
Elective	4	Upper-division elective	4		
Elective	4	Upper-division elective	4		
	16		**16**		**8**

Total Hours: 130

Behavioral Neuroscience and Philosophy, BS

Overview

The behavioral neuroscience and philosophy combined degree program engages students in the interdisciplinary study across the biology, psychology, and philosophy departments. The major provides rigorous training in both disciplines with a specific focus on understanding seminal questions concerning human nature and the mind. Courses in the basic sciences will lay a strong foundation in biology, chemistry, and data analytics that are relevant to neuroscience. In behavioral neuroscience core courses, students will examine the structure and function of the human nervous system in order to explore brain mechanisms that give rise to behavioral functions, including cognitive processes, as well as pathological states. In philosophy courses, successful students will develop core analytics skills, including ethical reasoning; learn to recognize and question deep theoretical assumptions at the heart of scientific theories and practice; and explore the social and ethical dimensions of neuroscience and scientific practice more broadly. The fields of behavioral neuroscience and philosophy are further bridged with course work that is designed to enable students to apply neuroscientific concepts to philosophical, moral, and ethical questions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Behavioral Neuroscience Requirements

Code	Title	Hours
Behavioral Neuroscience Overview		
BNSC 1000	Behavioral Neuroscience at Northeastern [1]	1
EESC 2000	Professional Development for Co-op [2]	1
COS Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
BIOL 2299	Inquiries in Biological Sciences	4
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
CHEM 1161 and CHEM 1162	General Chemistry for Science Majors and Lab for CHEM 1161	5
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
PSYC 1101	Foundations of Psychology	4
Mathematics Foundation		
MATH 1251	Calculus and Differential Equations for Biology 1	4
or MATH 1341	Calculus 1 for Science and Engineering	
Statistics Foundation		
Complete one of the following. Students who receive transfer credit for the Advanced Placement Statistics exam may complete the 1 SH PSYC 2315 course (requires department permission).		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
PSYC 2320	Statistics in Psychological Research	
Behavioral Neuroscience Foundation		
PSYC 3200	Clinical Neuroanatomy	4
PSYC 3458	Biological Psychology	4
Psychology Elective		
Complete one of the following:		4
PSYC 1214	The Moral Mind: The Science Underlying Ethical Decision-Making and Virtuous Character	
PSYC 3404	Developmental Psychology	

PSYC 3406	Clinical Psychology and Mental Health	
PSYC 3450	Learning and Motivation	
PSYC 3451	Learning Principles and Behavior Analysis	
PSYC 3452	Sensation and Perception	
PSYC 3464	Psychology of Language	
PSYC 3466	Cognition	
PSYC 4524	Cognitive Development	
Behavioral Neuroscience Core Courses		
Complete two of the following:		8
BIOL 3415	Current Topics in Behavioral Neuroscience	
BIOL 3601	Neural Systems and Behavior	
BIOL 3605	Developmental Neurobiology	
BIOL 4705	Neurobiology of Cognitive Decline	
BIOL 5595	Cell and Molecular Neuroscience	
BIOL 5601	Multidisciplinary Approaches in Motor Control	
PSYC 3506	Neuropsychology of Fear	
PSYC 3508	Behavioral Endocrinology	
PSYC 3510	Brain, Behavior, and Immunity	
PSYC 4510	Psychopharmacology	
PSYC 4512	Neuropsychology	
PSYC 4514	Clinical Neuroscience	
PSYC 4570	Behavioral Genetics	
Upper-Division Elective		
Complete one course that is not already taken as long as pre-requisites have been met:		4
BNSC 4970 or higher		
BIOL 3403 or higher		
PSYC 3404 or higher		

1 Students entering through CSSH may take Philosophy at Northeastern (PHIL 1000).
2 Students entering through CSSH may take Professional Development for Co-op (EESH 2000).

Philosophy Requirements

Code	Title	Hours
Philosophy Foundation		
PHIL 1105	Science and Pseudoscience	4
or PHIL 3050	Information and Uncertainty	
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Philosophy Restricted Electives		
Complete eight credits from the following list, not taken to fulfill other requirements:		8
PHIL 3305	Philosophy of Emotions	
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 3435	Moral Philosophy	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4535	Philosophy of Mind	
PHIL 4555	Philosophy of Biology	
Additional Electives		
Complete two additional PHIL courses, not taken to fulfill other requirements.		8

Integrative Requirements

Code	Title	Hours
BIOL 4709	Neurobiology of Learning and Memory	4
or BIOL 5587	Comparative Neurobiology	
PHIL 4535	Philosophy of Mind	4
or PHIL 4555	Philosophy of Biology	

Writing Courses

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
ENGW 3307	Advanced Writing in the Sciences	4
or ENGW 3308	Advanced Writing in the Social Sciences	
or ENGW 3309	Advanced Writing in the Humanities	
or ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 16 credits of general electives.		16

Behavioral Neuroscience GPA Requirement

A minimum 2.000 GPA in all behavioral neuroscience courses is required.

Major Credit Hour Requirement

96 total semester hours required in major.

Program Requirement

130 total semester hours required

Plan of Study

Sample Plans of Study

FIVE YEARS, THREE CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	Vacation		Vacation	
BNSC 1000	1	ENGW 1111	4				
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PHIL 1145	4	PSYC 3458	4				
PSYC 1101	4						
	19		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	CHEM 2311 and CHEM 2312	5	Vacation		Co-op	
PHIL 1105	4	EESC 2000	1				
PHIL 1115	4	PHIL 2330	4				
PSYC 3200	4	PSYC 2320	4				
		PHIL restricted elective	4				
	17		**18**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BNS core course	4	PHIL 2325	4	Co-op	
		PHIL restricted elective	4	General elective	4		
		PSYC elective	4				
		General elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BIOL 4709 or 5587	4	Vacation		Co-op	
		BNS core course	4			ENGW 3315 (online)	4
		PHIL elective	4				
		General elective	4				
	0		**16**		**0**		**4**

Year 5

Fall	Hours	Spring	Hours
Co-op		PHIL 4535 or 4555	4
		BNS upper-level elective	4
		PHIL elective	4
		General elective	4
	0		**16**

Total Hours: 130

FOUR YEARS, TWO CO-OPS

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1107 and BIOL 1108	5	BIOL 2299	4	PHIL 2325	4	Vacation	
BNSC 1000	1	ENGW 1111	4	PSYC elective	4		
CHEM 1161 and CHEM 1162 and CHEM 1163	5	MATH 1251	4				
PHIL 1145	4	PSYC 3458	4				
PSYC 1101	4						
	19		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2301 and BIOL 2302	5	CHEM 2311 and CHEM 2312	5	PSYC 2320	4	Co-op	
PHIL 1115	4	EESC 2000	1	General elective	4		
PHIL 1105	4	PHIL 2330	4				
PSYC 3200	4	PHIL restricted elective	4				
		BNS core course	4				
	17		**18**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		BNS core course	4	PHIL elective	4	Co-op	
		PHIL restricted elective	4	General elective	4	ENGW 3315 (online)	4
		PHIL elective	4				
		General elective	4				
	0		**16**		**8**		**4**

Year 4

Fall	Hours	Spring	Hours
Co-op		BIOL 4709 or 5587	4
		PHIL 4535 or 4555	4
		BNS upper-level elective	4
		General elective	4
	0		**16**

Total Hours: 130

Computer Science and Philosophy, BS

The computer science and philosophy combined major offers an opportunity to obtain a fluency in formal logic, including logical proofs and the ability to represent arguments clearly and evaluate them for cogency. Students will find that logic plays a fundamental role in computer science as they experience an in-depth programming foundation. The philosophy curriculum also focuses on oral and written communication, as well as ethical and social issues related to computing and information technologies.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 2800	Logic and Computation	4
CS 3000	Algorithms and Data	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 3800	Theory of Computation	4
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be be taken for upper-division electives.		
Complete 8 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		8
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Philosophy Courses

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4

PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
or PHIL 2330	Modern Philosophy	
PHIL 4515	Advanced Logic	4
PHIL 5005	Information Ethics	4
or PHIL 5010	AI Ethics	
or PHIL 4050	Values and Sociotechnical Algorithmic Systems	
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Take three additional PHIL courses not used to fulfill another requirement, at least one of which is 4000 or above.		12

Integrative Course Requirement

Code	Title	Hours
These courses will double count in other areas of your major:		
CS 3800	Theory of Computation	
PHIL 4515	Advanced Logic	

Computer Science English Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one course from the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 44 semester hours of general electives.		44

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Interpreting Culture
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Students must arrange to take a NUpath capstone using either a course in CS, CY, DS, IS or PHIL, or as a general elective.

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study:

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 2325, POLS 2325, or PHIL 2330	4				
ENGW 1111	4	Elective	4				
PHIL 1115	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op		Co-op		Elective	4
CS 3000	4					Elective	4
PHIL 1145	4						
PHIL elective 1	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Khoury Elective	4	Co-op		Co-op		ENGW 3302, 3309, or 3315	4
PHIL Elective 2	4					Elective	4
PHIL Elective 3	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS 3800	4	PHIL 4515	4
CS 4500 or 4530	4	PHIL 5005, 5010, or 4050	4
Critical Philosophy Elective	4	Elective	4
Elective	4	Khoury Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 2800	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 2325, POLS 2325, or PHIL 2330	4				
ENGW 1111	4	Elective	4				
PHIL 1115	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210 or EESH 2000	1	Elective	4	Co-op	
PHIL 1145	4	Khoury Elective	4	Elective	4		
PHIL elective 1	4	PHIL Elective 2	4				
Elective	4	PHIL Elective 3	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS 3800	4	ENGW 3302, 3309, or 3315	4	Co-op	
		PHIL 4515	4	Elective	4		
		Khoury Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CS 4530	4
		PHIL 5005, 5010, or 4050	4
		PHIL Intermediate/ Advanced Elective	4
		Elective	4
	0		**16**

Total Hours: 134

Computer Science and Politics, Philosophy, and Economics, BS

Politics, philosophy, and economics bring together three important frameworks from the humanistic social sciences for understanding the world around us. Computer science involves the application of theoretical concepts in the context of software development to the solution of problems that arise in almost every human endeavor, drawing on concepts and methods from mathematics, logic, science, and engineering. This interdisciplinary degree thus provides multiple perspectives and a set of skills that are indispensable in our increasingly interconnected world and essential in addressing the kinds of complex global problems future leaders need to tackle.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be be taken for upper-division electives.		
Complete 4 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses from the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Politics, Philosophy, and Economics Courses

Complete at least four courses in each of the following subject areas: ECON, PHIL, and POLS.

Code	Title	Hours
Foundation Course		
PHIL 1160	Introduction to Economic Justice	4

Core Courses		
Philosophy		
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Political Science		
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
ECON 2315	Macroeconomic Theory	4
or ECON 2316	Microeconomic Theory	
Methods Course		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	
PPE Elective		
Complete one course from the following ranges:		4
ECON 1200 to ECON 1999		
ECON 3000 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		
PHIL 2000 to PHIL 5999		
POLS 2000 to POLS 5999		

Integrative Course Requirements

Code	Title	Hours
IS 4300	Human Computer Interaction	4
PHIL 1115	Introduction to Logic	4
POLS 2390	Science, Technology, and Public Policy	4

Supporting Courses

Code	Title	Hours
Statistics and Mathematics		
ECON 2350	Statistics for Economists	4
or POLS 2400	Quantitative Techniques	
or MATH 2280	Statistics and Software	
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	

English Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

129 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3000	4	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210 or EESH 2000	1	ECON 2315 or 2316	4	Co-op	0
PHIL 3435 or 2325	4	CS 3200	4	Elective	4		
POLS 1150 or 1155	4	ECON 2350, POLS 2400, or MATH 2280	4				
POLS 3405	4	PHIL 2303 or 3822	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	IS 4300	4	ENGW 3302, 3309, or 3315	4	Co-op	0

		PHIL 3000	4				
		POLS 2390	4				
		Elective	4				
	0		**16**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		Capstone	4
		Khoury elective	4
		PPE elective	4
	0		**16**

Total Hours: 130

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op	0	Co-op	0	ECON 2315 or 2316	4
CS 3000	4					Elective	4
PHIL 3435 or 2325	4						
POLS 1150 or 1155	4						
POLS 3405	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	ENGW 3302, 3309, or 3315	4
ECON 2350, POLS 2400, or MATH 2280	4						
PHIL 2303 or 3822	4						
Elective	4						
	16		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	IS 4300	4
Elective	4	Capstone	4
PHIL 3000	4	Khoury elective	4
POLS 2390	4	PPE elective	4
	16		**16**

Total Hours: 130

Criminal Justice and Philosophy, BS

The School of Criminology and Criminal Justice and the Department of Philosophy and Religion offer a combined major in criminal justice and philosophy. This combined major educates students in criminal justice and philosophy and in the interface between the two disciplines. The scope and sequence of philosophy courses provide students with a foundation in topics such as social and political philosophy, philosophy of law, and moral philosophy, while also offering students an opportunity to develop robust analytical and evaluative skills. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students completing this program should have depth of knowledge with respect to analyzing and addressing criminal behavior, as well as with respect to the philosophical and ethical aspects of topics such as law, punishment, justice, and social institutions.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Crime Problems and Criminal Justice Institutions		
The 2000-level courses below ask how justice works and for whom and introduce students to the systems and institutions tasked with providing justice. Each one includes experiential learning components in cooperation with local criminal justice institutions. The 3000-level courses below offer students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
These courses consider systemic issues facing the criminal justice system.		
Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	

CRIM 3120	Race, Crime, and Justice	
Creating Knowledge About Crime and Justice		
How do we know what we know about crime and justice—and how do we develop new knowledge? These courses study how to harness data to learn about issues, identify solutions, and advocate for change.		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Co-op Integration Seminars		
Co-op students should complete the seminars below. Non–co-op students should complete a 4-semester-hour CRIM elective.		
Complete two of the following. EESH 2000 and CRIM 3000 are required for the first co-op. CRIM 4000 is required if a second co-op is taken.		2-4
EESH 2000	Professional Development for Co-op	
CRIM 3000	Co-op Integration Seminar 2	
CRIM 4000	Co-op Integration Seminar 3	
Solutions and Reform		
How do we reinvent criminal justice institutions and their practice? The capstone experience is project based and solution oriented, drawing on knowledge gained in the classroom and through co-op and other experiences.		
CRIM 4949	Senior Capstone Seminar	4
Criminal Justice Elective		
These courses round out our knowledge of crime and justice.		
Complete one additional CRIM elective from the 3000, 4000, or 5000 level.		4

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement and at least one at the 4000 or 5000 level.		12
Philosophy 4000/5000 Elective		
Complete one of the following not used to satisfy other requirements:		4
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
PHIL 4903	Seminar in Religion	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Critical Philosophy Elective		
Complete one of the following not used to fulfill other requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	

PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete one additional PHIL course not used to fulfill other requirements.		4

Integrative Requirement

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
Philosophy Integrative Course		
PHIL 2301	Philosophical Problems of Law and Justice	4
Criminal Justice Integrative Course		
CRIM 1400	Human Trafficking	4

Criminal Justice and Philosophy Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	CRIM 1110	4	Elective	4	Elective	4
ENGW 1111	4	CRIM 1120	4	Elective	4	Elective	4
PHIL 1000	1	PHIL 2303	4				
PHIL 1115	4	PHIL 2325 or POLS 2325	4				
CRIM thematic elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3600	4	CRIM thematic elective	4	Elective	4	Co-op	
EESH 2000	1	CRIM elective	4	Elective	4		
PHIL 2330	4	PHIL advanced elective	4				
CRIM survey elective	4	Elective	4				
Critical philosophy elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CRIM 3000	1	PHIL advanced elective	4	Co-op	
		CRIM 3700	4	PHIL elective	4		
		CRIM systemwide elective	4				
		PHIL 4000/5000 elective	4				
		PHIL 4000/5000 elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		CRIM 1400	4
		CRIM 4000	1
		CRIM 4949	4
		PHIL 2301	4

	PHIL capstone	4
	0	**17**

Total Hours: 132

Data Science and Philosophy, BS

Overview

The data science and philosophy combined major offers an opportunity to obtain a fluency in formal logic, including logical proofs and the ability to represent arguments clearly and evaluate them for cogency. Students will find that logic plays a fundamental role in computer science as they experience an in-depth programming foundation. Students study the collection, manipulation, storage, retrieval, and computational analysis of data in its various forms, including numeric, textual, image, and video data from small to large volumes. The philosophy curriculum also focuses on oral and written communication, as well as ethical and social issues related to data storage, usage, manipulation, and presentation.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Data Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Programming Sequence Pathways		
Complete one of the following options:		12
Computer Science Option		
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	
Data Science Option		
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
DS 2500 and DS 2501	Intermediate Programming with Data and Lab for DS 2500	
DS 3500	Advanced Programming with Data	
Computer Science Required Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 3200	Database Design	4
Data Science Foundations		
DS 3000	Foundations of Data Science	4
DS 4200	Information Presentation and Visualization	4
DS 4300	Large-Scale Information Storage and Retrieval	4
DS 4400	Machine Learning and Data Mining 1	4
DS 4420	Machine Learning and Data Mining 2	4
or DS 4440	Practical Neural Networks	
Khoury Elective Courses		

With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.

Complete 4 SH of CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:	4
CS 2500 or higher, except CS 5010	
CY 2000 or higher, except CY 4930	
DS 2500 or higher, except DS 4900	
IS 2000 or higher, except IS 4900	

Philosophy Requirements

Code	Title	Hours
PHIL 1115	Introduction to Logic	4
PHIL 1145	Technology and Human Values	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
or PHIL 2330	Modern Philosophy	
PHIL 4515	Advanced Logic	4
Philosophy Electives		
Complete four additional PHIL courses, at least one of which is 4000 or above.		16

Integrative Requirement

Code	Title	Hours
PHIL 3050	Information and Uncertainty	4
or PHIL 1300	Knowledge in a Digital World	
or PHIL 2001	Ethics and Evolutionary Games	
PHIL 5005	Information Ethics	4
or PHIL 4050	Values and Sociotechnical Algorithmic Systems	
or PHIL 5010	AI Ethics	

Supporting Courses

Code	Title	Hours
Mathematics Requirement		
MATH 1341	Calculus 1 for Science and Engineering	4
Statistics Foundation		
ECON 2350	Statistics for Economists	4

Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Exploring Creative Expression and Innovation
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Understanding Societies and Institutions

- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Writing-Intensive in the Major
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, IS courses

Program Requirement

130 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 3200	4	MATH 1341	4	Elective	4
CS 1800 and CS 1802	5	DS 2500 and DS 2501	5	PHIL elective 1	4	Elective	4
DS 2000 and DS 2001	4	PHIL 1145	4				
ENGW 1111	4	PHIL 2325, 2330, or POLS 2325	4				
PHIL 1115	4						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
DS 3000	4	CS 1210 or EESH 2000	1	ECON 2350	4	Co-op	0
DS 3500	4	DS 4200	4	Elective	4		
PHIL 4515	4	PHIL 5005, 5010, or 4050	4				
Elective	4	PHIL elective 2	4				
		PHIL elective 3	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	DS 4300	4	ENGW 3302	4	Co-op	0
		DS 4400	4	Elective	4		
		PHIL 3050	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	DS 4420 or 4440	4
		Khoury elective	4
		PHIL elective 4	4
		Elective	4
	0		**16**

Total Hours: 132

Economics and Philosophy, BS

Both philosophy and economics are the disciplines of critical thinking—thinking in concrete and abstract terms to help put the world in perspective. The combined economics and philosophy major provides students with training to critically evaluate and assess policies and issues on both economic and ethical grounds, including issues such as globalization, immigration, environmental protections, the minimum wage, a fair and just tax, just working environments, and many more.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Overview and Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		
ECON 1000	Economics at Northeastern	1
or PHIL 1000	Philosophy at Northeastern	
Supporting Courses		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	

Economics Requirements

Code	Title	Hours
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2350	Statistics for Economists	4
ECON 2560	Applied Econometrics	4
ECON 3520	History of Economic Thought	4
Economics Electives		
Complete two ECON elective courses from the following ranges with no more than one in the ECON 1200-1999 range. Additionally, ECON 3520 may not be used as an ECON elective:		8
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4

PHIL 2330	Modern Philosophy	4
Advanced Philosophy Elective		
Complete one PHIL course with a designation of 3000 or above not used to satisfy another requirement.		4
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirement:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Electives		
Complete two additional electives in philosophy or religion. At least one must be numbered 2000 or above.		8

Integrative Requirements

Code	Title	Hours
Complete the capstone and one of the other courses listed below that has not been used in the above requirements.		
Capstone		
PHIL 4550	Philosophy of Economics	4
Choose one additional integrative course:		4
PHIL 3435	Moral Philosophy	
or PHIL 4500	Theory of Knowledge	
or PHIL 4510	Philosophy of Science	
or PHIL 5001	Global Justice	
or PHIL 5002	Ethics and Public Policy	

Major GPA/Credit Requirement

Complete 76 semester hours in the major.

Grades in the following four Economics courses must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
ECON 2560	Applied Econometrics	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ECON 1116	4	ECON elective 1	4	Elective	4
ENGW 1111	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	Elective	4	Elective	4
PHIL 1000 or ECON 1000	1	PHIL 1115	4				
Elective	4	POLS 2325	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	ENGW 3302, 3302, or 3315	4	Co-op	0
ECON 2350	4	ECON 2560	4	Critical Philosophy Elective	4		
PHIL 2330	4	PHIL Advanced Elective	4				
ECON elective 2	4	PHIL Integrative Course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ECON 2560	4	Elective	4	Co-op	0
		Computing and Social Issues Requirement	4	Elective	4		
		PHIL Integrative Course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ECON 3520	4
		ECON 4692	4
		PHIL Capstone	4
		PHIL Intermediate/ Advanced Elective	4
	0		**16**

Total Hours: 129

Physics and Philosophy, BS

The combined major in physics and philosophy provides a strong foundation in classical and modern physics, including studies of the various physical phenomena including electromagnetism, dynamics, building blocks of matter, energy, and radiation. It also provides students with an understanding of the methods and traditions of philosophical thought, as well as with opportunities to critically and collaboratively reflect on the nature of the world and the human situation in it. Students will be able to describe the method by which physical "law" is made manifest in the sciences, how this knowledge compares with other epistemological models studied in other contexts, and philosophical views on the status and source of physical "law."

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Physics Major Requirements

Code	Title	Hours
Introductory Physics		
Physics 1		
Complete one of the following:		5
PHYS 1161 and PHYS 1162	Physics 1 and Lab for PHYS 1161	
PHYS 1151 and PHYS 1152 and PHYS 1153	Physics for Engineering 1 and Lab for PHYS 1151 and Interactive Learning Seminar for PHYS 1151	
Physics 2		
Complete one of the following:		5
PHYS 1165 and PHYS 1166	Physics 2 and Lab for PHYS 1165	
PHYS 1155 and PHYS 1156 and PHYS 1157	Physics for Engineering 2 and Lab for PHYS 1155 and Interactive Learning Seminar for PHYS 1155	
Intermediate Physics		
PHYS 2303	Modern Physics	4
PHYS 2371 and PHYS 2372	Electronics and Lab for PHYS 2371	4
Advanced Physics		
PHYS 3600	Advanced Physics Laboratory	4
PHYS 3602	Electricity and Magnetism 1	4
PHYS 4115	Quantum Mechanics	4
PHYS 4305	Thermodynamics and Statistical Mechanics	4
Physics Elective		
Complete one of the following:		4
MATH 4606	Mathematical and Computational Methods for Physics	
PHYS 4621	Biological Physics 1	
PHYS 4623	Medical Physics	
PHYS 4651	Medical Physics Seminar 1	
PHYS 4652	Medical Physics Seminar 2	
PHYS 5113	Particle Physics	
PHYS 5116	Network Science 1	
PHYS 5260	Introduction to Nanoscience and Nanotechnology	

Philosophy Major Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
PHIL 4500	Theory of Knowledge	4
or PHIL 3050	Information and Uncertainty	
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		**8**
Complete two additional PHIL courses not used to satisfy other requirements.		8

Physics/Philosophy Integrative Requirements

Code	Title	Hours
Integrative Course Requirements		
PHIL 4510	Philosophy of Science	4
or PHIL 3360	Scientific Approaches to Philosophy	
PHYS 3601	Classical Dynamics	4

Breadth Courses

Code	Title	Hours
Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4

Physics and Philosophy Major Credit Requirement

Complete 98 semester hours in the major.

Program Requirement

132 total semester hours required

Plan of Study

Notes on Physics Plans of Study

Some required physics courses are offered in both fall and spring semesters, while other required courses are offered less frequently. Therefore, the suggested plan of study will vary from student to student, depending on the year of entry for that student.

See course offering schedule at the end of the plans of study.

Please contact your academic advisor for additional information and plans of study.

Even-Numbered Year One

FIVE YEARS, THREE CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	Vacation		Vacation	
MATH 1341	4	PHIL 2325	4				
PHIL 1115	4	PHYS 1165	4				
PHYS 1000	1	PHYS 1166	1				
PHYS 1161	4	PHYS 1167	0				
PHYS 1162	1	Elective	4				
PHYS 1163	0						
	18		**17**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2321	4	EESC 2000	1	Vacation		Co-op	0
PHIL 2330	4	MATH 2341	4				
PHYS 2303	4	PHYS 3601	4				
PHYS 2371	3	PHIL elective	4				
PHYS 2372	1	PHIL elective	4				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHIL 4500	4	PHYS 3600	4	Co-op	0
		PHYS 4115	4	Elective	4		
		PHIL elective	4				
		PHYS elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3307	4	Critical Philosophy Elective	4	Co-op	0
		PHIL 4510	4	Elective	4		
		PHYS 3602	4				
		PHIL elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	PHYS 4305	4
		PHIL advanced elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1342	4	MATH 2321	4	MATH 2341	4
MATH 1341	4	PHIL 2325	4	Elective	4	Elective	4
PHIL 1115	4	PHIL 2330	4				
PHYS 1000	1	PHYS 1165	4				
PHYS 1161	4	PHYS 1166	1				
PHYS 1162	1	PHYS 1167	0				

PHYS 1163	0						
	18		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHYS 2303	4	EESC 2000	1	PHYS 3600	4	Co-op	0
PHYS 2371	3	PHYS 3601	4	Elective	4		
PHYS 2372	1	PHYS 3602	4				
PHIL elective	4	PHIL elective	4				
PHIL elective	4	PHIL elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHIL 4500	4	ENGW 3307	4	Co-op	0
		PHIL 4510	4	Elective	4		
		PHYS 4115	4				
		PHYS elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	PHYS 4305	4
		PHIL advanced elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 132

OFFERING SCHEDULE (SUBJECT TO CHANGES)

- Modern Physics (PHYS 2303) offered every fall, spring, and summer 2
- Electronics (PHYS 2371)/Lab for PHYS 2371 (PHYS 2372) offered every fall
- Advanced Physics Laboratory (PHYS 3600) offered every summer 1 and summer 2
- Classical Dynamics (PHYS 3601) offered spring and fall (even years)
- Electricity and Magnetism 1 (PHYS 3602) offered every fall and spring
- Electricity and Magnetism 2 (PHYS 3603) offered fall (even years) and summer 1 (odd years)
- Quantum Mechanics (PHYS 4115) offered every fall and spring
- Thermodynamics and Statistical Mechanics (PHYS 4305) offered every spring and summer 2 (even years)
- Biological Physics 1 (PHYS 4621) offered spring (odd years) and fall (even years)
- Medical Physics (PHYS 4623) offered summer 1 and fall (even years)
- Medical Physics Seminar 1 (PHYS 4651) offered spring and fall (odd years)
- Medical Physics Seminar 2 (PHYS 4652) offered every spring
- Principles of Experimental Physics (PHYS 5318) offered every spring

Political Science and Philosophy, BS

The combined major in political science and philosophy enables students to develop an integrated understanding of politics, political theory, ethical theory, and theories of justice. Students who complete the major will have the training to critically evaluate and assess public policies and social issues on both political and ethical grounds, including issues such as tax policy, immigration, environmental protection, trade policy, healthcare, education, defense policy, and much more.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete two of the following:		8
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record.

- American Political Institutions (p. 2379)
- Campaigns and Elections (p. 2379)
- Comparative Politics (p. 2379)
- Identity, Culture, and Politics (p. 2380)
- International Relations and Diplomacy (p. 2380)
- Law and Legal Studies (p. 2380)
- Public Policy (p. 2381)
- Security Studies (p. 2381)

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4

Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Electives		
Complete two additional PHIL courses not used to satisfy other requirements.		8

Integrative Requirement

Code	Title	Hours
Complete one of the following:		
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8

POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	

POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1215	4	PHIL 2325 or POLS 2325	4	PHIL Elective	4
PHIL 1115	4	POLS 1150	4	PHIL Restricted Elective	4	Elective	4
POLS 1000	1	POLS 1160	4				
POLS 1155	4	Elective	4				
POLS elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op		Co-op		Critical Philosophy elective	4
POLS 2399	4					POLS Elective	4
POLS Thought	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 5001	4	Co-op		Co-op		POLS elective	4
POLS 2400	4					Elective	4
POLS elective	4						
POLS elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHIL Elective	4	PHIL Restricted Elective	4
POLS Thought course	4	Elective	4
POLS elective	4	Elective	4
POLS elective	4	Elective	4
	16		**16**

Total Hours: 129

Politics, Philosophy, and Economics, BS

Website (https://cssh.northeastern.edu/ppe/)

617.373.3636
617.373.4359 (fax)

The PPE major at Northeastern University brings together three of the most important approaches to understanding the world around us: political science, philosophy, and economics. This major is an interdisciplinary degree that not only provides students with the analytic tools from three different disciplines but also is designed to teach students to make connections across disciplines and to keep multiple perspectives in mind when analyzing complex social phenomena. This interdisciplinary perspective and set of skills are indispensable in our increasingly interconnected world and are essential in addressing the kinds of complex global problems future leaders will need to tackle.

Students may choose from several concentrations in accordance with their own backgrounds and interests. These include:

- Environment and energy policy
- International political economy
- Law and justice
- Logic and game theory
- Political philosophy
- Public and economic policy
- Racial justice

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Politics, Philosophy, and Economics Major Requirements

Code	Title	Hours
Foundation Course		
PHIL 1160	Introduction to Economic Justice	4
Core Courses		
Philosophy		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Political Science		
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Economics		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4

or ECON 2316	Microeconomic Theory	
Methods Course		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Major Electives

Code	Title	Hours
Complete two of the following:		8
ECON 1200 to ECON 1999		
ECON 3000 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
PHIL 2000 to PHIL 5999		
POLS 2000 to POLS 5999		

Concentration

Complete one of the following concentrations:

- Environment and Energy Policy (p.)
- International Political Economy (p.)
- Law and Justice (p.)
- Logic and Game Theory (p.)
- Political Philosophy (p.)
- Public and Economic Policy (p.)
- Racial Justice (p. 1787)

Supporting Courses

Code	Title	Hours
Racial or Gender Justice		
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFAM 2355	Race, Identity, Social Change, and Empowerment	
ANTH 2302	Gender and Sexuality: A Cross-Cultural Perspective	
COMM 3304	Communication and Inclusion	
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
ECON 1240	Economics of Crime	
ECON 3410	Labor Economics	
ECON 3412	Women's Labor and the Economy	
ECON 3711	Economics of Race	
HIST 1225	Gender, Race, and Medicine	
HIST 2000	Native American Resistance: Past and Present	
INTL 2500	Race and Global Human Mobility	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	

POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3323	Race, Inequality, and the Law	
SOCL 1260	Sociology of Gender	
or WMNS 1260	Sociology of Gender	
SOCL 3270	Race, Ethnicity, and Inequality	
SOCL 4520	Race, Class, and Gender	
WMNS 1101	Sex, Gender, and Popular Culture	
WMNS 1103	Introduction to Women's, Gender, and Sexuality Studies	
WMNS 2304	Communication and Gender	
WMNS 2325	Black Feminist Studies	
WMNS 2480	Women and World Politics	
or INTL 2480	Women and World Politics	
WMNS 2505	Digital Feminisms	
WMNS 2800	Sexual Orientation and Gender Expression	
or HUSV 2800	Sexual Orientation and Gender Expression	
WMNS 3100	Gender, Social Justice, and Transnational Activism	
WMNS 3500	Sexuality, Gender, and the Law	
Statistics and Mathematics		
Complete one of the following. It is recommended that MATH 1241 or higher is chosen:		4
MATH 1231	Calculus for Business and Economics	
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Complete one of the following:		4
ECON 2350	Statistics for Economists	
or MATH 2280	Statistics and Software	
or POLS 2400	Quantitative Techniques	
Experiential Learning Requirement		
Complete one co-op, study abroad, qualifying Dialogue of Civilizations, or one of the following:		4
ECON 4991	Research	
ECON 4994	Internship	
ECON 4996	Experiential Education Directed Study	
POLS 4942	Internship in Politics	
POLS 4970	Junior/Senior Honors Project 1	
POLS 4971	Junior/Senior Honors Project 2	
POLS 4996	Experiential Education Directed Study	

Major GPA/Credit Requirement

Complete 68 semester hours in the major with a 3.000 GPA.

Code	Title	Hours
Economics GPA Requirement		
Grades in the following courses must average to a minimum of C (2.000):		
ECON 2315	Macroeconomic Theory	
or ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or MATH 2280	Statistics and Software	
or POLS 2400	Quantitative Techniques	

Course Distribution Requirement

Complete at least four courses in each of the following subject areas: ECON, PHIL, and POLS.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN ENVIRONMENT AND ENERGY POLICY

Code	Title	Hours
Complete two of the following:		8
ECON 1711	Economics of Sustainability	
ECON 3423	Environmental Economics	
or ECON 3425	Energy Economics	
PHIL 1180	Environmental Ethics	
or PHIL 1185	The Ethics of Food	
POLS 2395	Environmental Politics and Policy	
Complete one of the following:		4
ECON 3423	Environmental Economics	
ECON 3425	Energy Economics	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	

CONCENTRATION IN INTERNATIONAL POLITICAL ECONOMY

Code	Title	Hours
Complete two of the following:		8
ECON 1291	Development Economics	
ECON 2316	Microeconomic Theory	
ECON 3290	History of the Global Economy	
ECON 3404	International Food Policy	
ECON 3635	International Economics	
ECON 5200	Topics in Applied Economics	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1185	The Ethics of Food	
POLS 3406	International Law	
POLS 3487	Politics of Developing Nations	
Complete one of the following:		4
ECON 1292	Economic History of the Middle East	
HIST 2011	Capitalism and Business: A Global History	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	

CONCENTRATION IN LAW AND JUSTICE

Code	Title	Hours
Complete three of the following, only two of which may be POLS courses:		12
ECON 1240	Economics of Crime	
ECON 1245	Economics of Inequality	
ECON 3424	Law and Economics	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 2280	Hitler, Germany, and the Holocaust	
HIST 3335	History of Modern Terrorism	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	

POLS 3302	Judicial Process and Behavior
POLS 3324	Law and Society
POLS 3406	International Law
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties
WMNS 3500	Sexuality, Gender, and the Law

CONCENTRATION IN LOGIC AND GAME THEORY

Code	Title	Hours
Complete three of the following:		12
ECON 2316	Microeconomic Theory	
ECON 3416	Behavioral Economics	
ECON 4680	Competition Policy and Regulation	
ECON 4681	Information Economics and Game Theory	
ECON 5105	Math and Statistics for Economists	
ECON 5110	Microeconomic Theory	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 3050	Information and Uncertainty	
PHIL 4500	Theory of Knowledge	
PHIL 4515	Advanced Logic	
PHIL 4550	Philosophy of Economics	

CONCENTRATION IN POLITICAL PHILOSOPHY

Code	Title	Hours
Complete three of the following, only two of which may be PHIL courses:		12
ECON 3490	Public Choice Economics	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 3435	Moral Philosophy	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

CONCENTRATION IN PUBLIC AND ECONOMIC POLICY

Code	Title	Hours
Required Course		
POLS 3307	Public Policy and Administration	4
Elective Courses		
Complete two of the following:		8
ECON 1240	Economics of Crime	
ECON 1245	Economics of Inequality	
ECON 1281	Economics of the Creative Industries	
ECON 2315	Macroeconomic Theory	
ECON 3410	Labor Economics	
ECON 3413	Health Economics and Healthcare Policy	
ECON 3414	Economics of Human Capital	
ECON 3420	Urban Economic Issues	
ECON 3423	Environmental Economics	
ECON 3425	Energy Economics	
ECON 3440	Public Finance	

ECON 3462	Bubbles, Busts, and Bailouts: Market and Regulatory Failures in the Financial Crisis
ECON 3490	Public Choice Economics
ECON 4680	Competition Policy and Regulation
PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
POLS 2340	Business and Government
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN RACIAL JUSTICE

Code	Title	Hours
Required Courses		
Complete two of the following:		8
ECON 3711	Economics of Race	
PHIL 3822	Philosophy of Race and Racism	
POLS 3323	Race, Inequality, and the Law	
Elective Course		
Complete one of the following:		4
CRIM 3120	Race, Crime, and Justice	
ECON 1240	Economics of Crime	
ECON 3410	Labor Economics	
INTL 2500	Race and Global Human Mobility	
PHIL 2619	Race and Religion in Film	
SOCL 3270	Race, Ethnicity, and Inequality	
SOCL 4520	Race, Class, and Gender	
WMNS 2325	Black Feminist Studies	
*Students may take courses from the required list as an elective if not taken as a required course.		

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 1231, 1241, 1245, 1251, 1340, or 1341	4	ECON 1116	4	Elective	4	Vacation	
PHIL 1000	1	ENGW 1111	4	Elective	4		
PHIL 1160	4	PHIL 1115	4				
POLS 1160	4	PHIL 2303	4				
General elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	ECON 2315 or 2316	4	Elective	4	Co-op	0
PHIL 3435 or 2325	4	Statistics and mathematics requirement	4	Elective	4		
POLS 1150 or 1155	4	Major elective	4				
Supporting course in race or gender justice	4	Concentration course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHIL 3000	4	General elective	4	Co-op	0
		Major elective	4	General elective	4		
		Concentration course	4				
		General elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	Capstone requirement	4	General elective	4
		Concentration course	4	General elective	4
		General elective	4		
		General elective	4		
	0		**16**		**8**

Total Hours: 129

Ethics, Minor

The Department of Philosophy and Religion offers a minor in ethics for students who are interested in exploring the ethical dimensions of contemporary issues. From medicine and the environment to business and religion, the minor provides a range of courses that speak to issues you care about and provides you with the tools to explore them. The minor includes courses in ethical theory (e.g., moral philosophy, social and political philosophy, and philosophical problems of law and justice); applied ethics (e.g., environmental ethics, business ethics, moral and social problems in healthcare, and technology and human values); and religious ethics (e.g., ethics east and west and cults and sects). It emphasizes developing critical analytical and evaluative skills.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Complete four courses from the following list, two of which must be at or above the 2000 level:		16
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1106	Ethics and Politics of Work	
PHIL 1111	Introduction to World Religions	
PHIL 1112	Debating Ethical Controversies	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1145	Technology and Human Values	
PHIL 1160	Introduction to Economic Justice	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	
PHIL 1195	Research Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1300	Knowledge in a Digital World	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 2143	Philosophy for Children	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 3305	Philosophy of Emotions	
PHIL 3435	Moral Philosophy	
PHIL 3822	Philosophy of Race and Racism	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 4550	Philosophy of Economics	

PHIL 5001	Global Justice
PHIL 5002	Ethics and Public Policy
PHIL 5005	Information Ethics
PHIL 5010	AI Ethics

GPA Requirement

2.000 GPA required in the minor

Information Ethics, Minor

This minor aims to help students: (1) develop knowledge of issues and topics in computing, data, and AI ethics; and (2) build skills in ethical analysis, reasoning and evaluation. The minor is open to students from all majors.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

A minimum of three of the courses to fulfill the minor must carry the PHIL prefix. At least two courses must be at or above the 2000-level.

Code	Title	Hours
Foundational Course		
Complete one of the following:		4
PHIL 1145	Technology and Human Values	
PHIL 1300	Knowledge in a Digital World	
Information Ethics Electives		
Complete two courses from the following, not used above, one of which must be at or above the 4000 level:		8
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
PHIL 1145	Technology and Human Values	
PHIL 1300	Knowledge in a Digital World	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 4050	Values and Sociotechnical Algorithmic Systems	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Ethics Electives		
Complete one of the following courses not used above.		4
CHME 5185	Design of Experiments and Ethical Research (DOEER)	
PHIL 1102	Introduction to Contemporary Moral Issues	
PHIL 1112	Debating Ethical Controversies	
PHIL 1130	Comparative Ethics	
PHIL 1145	Technology and Human Values	
PHIL 1160	Introduction to Economic Justice	
PHIL 1162	Ethics and Philosophy through Sport	
PHIL 1165	Moral and Social Problems in Healthcare	
PHIL 1170	Business, Ethics, and Human Rights	
PHIL 1180	Environmental Ethics	
PHIL 1185	The Ethics of Food	
PHIL 1195	Research Ethics	
PHIL 1300	Knowledge in a Digital World	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 2016	The Philosophy and Ethics of Lying and Deception	
PHIL 2155	Human Rights	
PHIL 2301	Philosophical Problems of Law and Justice	
PHIL 2303	Social and Political Philosophy	
PHIL 2325	Ancient Philosophy and Political Thought	
PHIL 3435	Moral Philosophy	
PHIL 3822	Philosophy of Race and Racism	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	

GPA Requirement

2.000 GPA required in the minor

Philosophy, Minor

Philosophy addresses questions and theories related to morality, society, religion, and the natural and social sciences. Course work in philosophy provides students with an understanding of the methods and traditions of philosophical thought, as well as opportunities to critically and collaboratively reflect on the nature of the world and the human situation in it. Through readings, discussion, and writing, students examine questions concerning the validity of moral judgments, political ideas, and scientific theories, as well as questions about values and social policy in such areas as law, medicine, and technology.

Course work in philosophy significantly strengthens study in other areas. Many students find that their studies in their major can be beneficially supplemented by pursuing studies in philosophy. Declaring a minor in philosophy will allow you to continue your philosophical studies throughout your time at Northeastern University.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4

Elective Courses

Code	Title	Hours
Complete three courses in philosophy and religion.		12

GPA Requirement

2.000 GPA required in the minor

Religious Studies, Minor

The religious studies minor provides a short form of the religious studies major that can be tailored to the needs of the student.

The minor in religious studies offers the opportunity to acquire an understanding of religion within various contexts through comparative approaches and an engagement with religion in everyday life. Through the minor, a student will enhance their ability to think critically about a range of religious traditions through diverse methodological approaches.

Minor Requirements

Complete all courses listed below unless otherwise indicated.

Required Course

Code	Title	Hours
PHIL 1110	Introduction to Religious Studies	4

Electives

Code	Title	Hours
Complete three of the following; at least one must be 2000-level or higher:		12
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	

GPA Requirement

2.000 GPA required in the minor

Political Science

Website (https://cssh.northeastern.edu/polisci/)

Costas Panagopoulos, PhD
Professor and Chair

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617.373.2796
617.373.5311 (fax)

Political science teaches the art and science of politics in the United States and throughout the world. Experiential opportunities include a seven-week summer program at the United Nations in Geneva, Switzerland, and internships at the White House or in the British Parliament. Majors may write opinion pieces for a student political journal or participate in one of the top Model NATO League teams in the United States. Political science is a discipline and a subject of study that has worldwide applications and exciting and experiential job opportunities. Politics matter wherever there are groups of people trying to get things done.

Political science majors start their journey with core courses on American government, comparative politics, international relations, and research methods. After that, students choose from a wide variety of courses on specific topics from international security to legal studies to public policy.

Political science co-ops include responsible positions in local, state, and federal government agencies; law firms; nonprofit institutions; and corporations. Many students complete either a co-op position or an internship with a congressional representative, a senator, a governor or other elected public officials, or at an international organization or nonprofit.

Political science students are among the most active on campus through extracurricular programs designed to expand their leadership ability, including the Political Science Student Association, International Relations Council, Pi Sigma Alpha honor society, Model United Nations, Model Arab League, Model NATO, student government, College Democrats and Republicans, and other student groups. With these experiences on their resumés, students are prepared to succeed in law school; graduate school; careers in government and the nonprofit sector; as well as in teaching, journalism, legislative or lobbying positions, public relations activities, and work in international corporations and nongovernmental organizations.

Academic Progression Standards

Same as university-wide standards described under “Academic Status (p. 88).”

PlusOne Program (MA) in Political Science

Political science majors at the end of their sophomore year or the beginning of their junior year may qualify for application to the PlusOne program that combines the BA with the master’s degree in political science. Students interested in this option should consult with the departmental graduate coordinator.

Programs

Bachelor of Arts (BA)

- Political Science (p. 2398)
- Africana Studies and Political Science (p. 1889)
- English and Political Science (p. 2056)
- Environmental Studies and Political Science (p. 1500)
- History and Political Science (p. 2133)
- Journalism and Political Science (p. 421)
- Media and Screen Studies and Political Science (p. 344)
- Political Science and Communication Studies (p. 311)
- Political Science and Economics (p. 1964)
- Political Science and Human Services (p. 2448)
- Political Science and International Affairs (p. 2248)
- Political Science and Philosophy (p. 2327)
- Sociology and Political Science (p. 2467)

Bachelor of Science (BS)

- Political Science (p. 2472)
- Biology and Political Science (p. 1401)
- Computer Science and Political Science (p. 839)
- Computer Science and Politics, Philosophy, and Economics (p. 845)
- Criminal Justice and Political Science (p. 1847)
- Mathematics and Political Science (p. 1548)

- Political Science and Business Administration (p. 644)
- Political Science and Communication Studies (p. 383)
- Political Science and Economics (p. 2016)
- Political Science and Human Services (p. 2519)
- Political Science and Philosophy (p. 2378)
- Politics, Philosophy, and Economics (p. 1782)

Minors

- Political Science (p. 2529)
- American Political Institutions (p. 2530)
- International Security Studies (p. 2531)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Political Science, BA

The Bachelor of Arts in Political Science provides a set of introductory courses to the discipline, followed by methodology courses, electives, and a capstone course. Students explore and analyze the many facets of American government, comparative politics, international relations, and political philosophy. With elective courses, students may choose from among a number of concentrations or follow their own curricular path. At the college level the Bachelor of Arts includes a foreign language requirement.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Introduction to College

Complete “Introduction to College” for your major.

Political Science Major Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2330	American Political Thought	
POLS 2328	Modern Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Capstone		
Complete one of the following:		4
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Political Science Experiential Learning Requirement

Complete one course or experience from the following options. *Note:* Up to two credit-bearing courses count toward political science electives.

Code	Title	Hours
Courses		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4942	Internship in Politics	

Co-op or Study Abroad		
Complete one cooperative education experience or one study-abroad experience.		4

Political Science Electives

Note: You may use four courses from the elective area to fulfill a concentration.

Code	Title	Hours
Complete six political science electives with a minimum of four numbered 2000 or above.		24

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 2399).

- American Political Institutions (p. 2399)
- Campaigns and Elections (p. 2399)
- Comparative Politics (p. 2400)
- Identity, Culture, and Politics (p. 2400)
- International Relations and Diplomacy (p. 2400)
- Law and Legal Studies (p. 2400)
- Public Policy (p. 2401)
- Security Studies (p. 2401)

Political Science Major Credit Requirement

Complete 52 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	

or AFAM 3323	Race, Inequality, and the Law
POLS 3324	Law and Society
POLS 3406	International Law
POLS 3409	Global Governance
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1155	4	POLS 1150	4	Elective	4	Vacation	0
Elective	4	MATH 1215	4	Elective	4		
Foreign language core course	4	POLS 1160	4				
POLS 1000	1	Foreign language core course	4				
ENGW 1111	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399	4	POLS 2400	4	Elective	4	Co-op	0
Elective	4	Political Theory course	4	Elective	4		
Elective	4	Elective	4				
Foreign language core course	4	Elective	4				
EESH 2000	1						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective	4	Co-op	0
		ENVR 3300	4	Elective	4		
		ENVR 3301	1				
		Elective	4				
		Elective	4				
	0		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op	0	Capstone (POLS4701 or POLS4703)	4	Elective	4
		Elective	4	Elective	4
		Experiential Learning (Model or Internship)	4		
		Elective	4		
	0		**16**		**8**

Total Hours: 131

Africana Studies and Political Science, BA

The combined major in Africana studies and political science offers students the opportunity to integrate their studies of both disciplines and explore the historical, practical, and theoretical relationships between the two disciplines. In addition to considering the significant points of contention, students explore the ways in which insights from Africana studies can be brought to bear on the disciplinary issues and questions of political science. Within the combined major, students may also choose to concentrate their studies on a range of topics related to political behaviors and institutional developments in the United States, the Americas, Europe, Africa, and across the global African Diaspora.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Africana Studies Requirements

Code	Title	Hours
Foundational		
Complete one of the following:		4
AFAM 1101	Introduction to African American and Africana Studies	
AFRS 1101	Introduction to African Studies	
Introductory		
Complete one of the following:		4
AFAM 1104	The African-American Experience through Music	
AFAM 1113	Black Popular Culture	
AFAM 1135	John Coltrane and the History of Jazz in the United States	
AFAM 1225	Gender, Race, and Medicine	
AFRS 1270	Introduction to Global Health	
Humanities		
Complete two of the following:		8
AFAM 2296	Early African-American Literature	
AFAM 2690	Boston in Literature	
AFRS 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
AFRS 3900	Gender and Black World Literatures	
Social Science		
Complete two of the following:		8
AFRS 2307	Africa Today	
AFRS 2464	Natural Resources and Sustainable Development	
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
African American/African Studies Electives		
Complete one AFAM/AFRS course at the 2000 level or above.		4
Complete one AFAM/AFRS course at the 3000 level or above.		4

Political Science Requirements

Code	Title	Hours
Core Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three POLS courses at the 2000 level and above.		12

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 1891)
- Campaigns and Elections (p. 1891)
- Comparative Politics (p. 1891)
- Identity, Culture, and Politics (p. 1892)
- International Relations and Diplomacy (p. 1892)
- Law and Legal Studies (p. 1892)
- Public Policy (p. 1892)
- Security Studies (p. 1893)

Supporting Courses for Political Science

Code	Title	Hours
Mathematics		
Complete one of the following to fulfill the prerequisite for POLS 2400:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1341	Calculus 1 for Science and Engineering	

Integrative Requirements

Code	Title	Hours
Integrative Courses		
Complete one course from each discipline.		
Africana/African American Studies		
Complete one of the following:		4
AFAM 5001	Special Topics in Race and the Law	
AFRS 3460	Contemporary Government and Politics in Africa	
Political Science		
Complete one of the following:		4
POLS 2385	U.S. Health and Welfare Policy	
POLS 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3418	Nationalism	
POLS 3487	Politics of Developing Nations	

Capstone Requirement		
Complete one of the following:		4
AFAM 4700	Capstone	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4

POLS 4915	Model Arab League
POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CLTR 1000 or POLS 1000	1	POLS 1155	4	Africana social science course	4	Elective	4
ENGW 1111	4	POLS 1160	4	Foreign language course	4	Elective	4
POLS 1150	4	POLS supporting course	4				
Africana foundational course	4	Foreign language course	4				
Africana introductory course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	Africana humanities course	4	POLS 2399	4	Co-op	0
Africana elective above 2000 level	4	Africana social science course	4	Elective	4		
Africana humanities course	4	POLS political thought course	4				
Foreign language course	4	POLS elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PSYC 1101 (ND NUpath)	4	Advanced Writing in the Disciplines	4	Co-op	
		Africana elective above 3000 level	4	Elective	4		
		Integrative course	4				
		POLS elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone	4
		Integrative course	4
		POLS elective	4
		POLS elective	4
	0		**16**

Total Hours: 129

English and Political Science, BA

The Department of English and the Department of Political Science offer an interdisciplinary combined major in English and political science. Students in the combined major in English and political science integrate the study of literature and writing with the study of political issues and problems.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	

19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4
ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	

ENGL 2740	Writing and Community Engagement
ENGL 2760	Writing in Global Contexts
ENGL 2770	Writing to Heal
ENGL 2850	Writing for Social Media: Theory and Practice
ENGL 3375	Writing Boston
ENGL 3376	Creative Nonfiction
ENGL 3377	Poetry Workshop
ENGL 3378	Fiction Workshop
ENGL 3380	Writing Seminar
ENGL 3384	The Writer's Marketplace

English Electives

Complete any two ENGL courses that have not already been used to fulfill another requirement.	8

Political Science Requirements

Code	Title	Hours
Foundational Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three courses in the following range:		12
POLS 2000 and above that are not fulfilling other POLS requirements		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 2059)
- Campaigns and Elections (p. 2059)
- Comparative Politics (p. 2059)
- Identity, Culture, and Politics (p. 2060)
- International Relations and Diplomacy (p. 2060)
- Law and Legal Studies (p. 2060)
- Public Policy (p. 2061)
- Security Studies (p. 2061)

Supporting Courses for Political Science

Code	Title	Hours
Complete one of the following to fulfill the prerequisite for POLS2400:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	

Integrative Requirements

Code	Title	Hours
English Integrative Requirement		
Complete one of the following:		4

ENGL 2740	Writing and Community Engagement	
ENGL 3426	British and American Literature and Politics	
Political Science Integrative Requirement		
Complete one of the following:		4
POLS 2368	Music and Politics in America and Abroad	
POLS 3320	Politics and Mass Media	
Capstone		
Complete one of the following:		4
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	
POLS 4701	Political Science Senior Capstone	
or POLS 4703	Senior Thesis	

Major Credit Requirement

88 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	

POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	ENGL 1160 or 1410	4	Elective	4	Elective	4
ENGL 1400	4	POLS 1160	4	Elective	4	Elective	4
POLS 1150	4	POLS 2400 prerequisite	4				
POLS 1155	4	ENGL elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL pre-19th century requirement	4	Co-op		Co-op		ENGL elective	4
ENGL theories and methods requirement	4					POLS elective	4
POLS thought course	4						
POLS 2399	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 20th-, 21st- century requirement	4	Co-op		Co-op		ENGL diversity requirement	4
ENGL comparative requirement	4					Advanced Writing requirement	4
POLS elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGL integrative course	4	Capstone requirement	4
POLS integrative course	4	ENGL elective	4
Elective	4	POLS elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Sample Five Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	ENGL 1160 or 1410	4	Vacation		Vacation	
ENGL 1400	4	POLS 1160	4				
POLS 1150	4	POLS 2400 prerequisite	4				
POLS 1155	4	English elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL pre-19th-century requirement	4	ENGL 19th-, 20th-, 21st-century requirement	4	Vacation		Co-op	
ENGL elective	4	ENGL theories and methods requirement	4				
POLS elective	4	Elective	4				
POLS thought course	4	POLS 2400	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGL comparative literature requirement	4	Vacation		Co-op	
		ENGL diversity requirement	4				
		Elective	4				
		POLS 2399	4				
	0		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer Full Semester	Hours
Co-op		ENGL elective	4	Vacation	
		POLS elective	4		
		Elective	4		
		Elective	4		
	0		**16**		**0**

Year 5

Fall	Hours	Spring	Hours
Capstone	4	Integrative course	4
Elective	4	English writing requirement	4
POLS elective	4	Elective	4
POLS integrative course	4	Elective	4
	16		**16**

Total Hours: 129

Environmental Studies and Political Science, BA

In this combined major, students develop an awareness of the scientific, cultural, societal, and political aspects of the world's environmental problems through the lens of geopolitical decisions, public policy, and environmental regulations. Due to overlap in course content, students majoring in Environmental Studies or any Environmental Studies combined majors may not complete a minor in Environmental and Sustainability Sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Introductory Science		
Choose one of the following:		4-5
ENVR 1101	Environmental Science	
ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Introductory Social Science		
Choose one of the following:		4
ANTH 1101	Peoples and Cultures	
ENVR 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Scientific Foundations of Environmental Systems		
Choose one of the following:		4
ENVR 1110	Global Climate Change	
ENVR 3150	Food Security and Sustainability	
ENVR 3200	Water Resources	
Human Foundations of Environmental Systems		
Choose one of the following:		4
ENVR 2515	Sustainable Development	
PHTH 2414	Environmental Health	
SOCL 4522	Environmental Justice	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Choose four courses from the list. At least three must be at 3000 level or higher.		16
ARTG 5110	Information Design History	
BUSN 3110	The Consulting Environment	

CIVE 5280	Remote Sensing of the Environment
COMM 3500	Environmental Issues, Communication, and the Media
EEMB 3466	Disease Ecology
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine
ENVR 3701	Energy in the Desert Ecosystem
ENVR 4504	Environmental Pollution
ENVR 5350	Sustainable Energy and Climate Solutions
ENVR 5563	Advanced Spatial Analysis
ENVR 5750	Urban Ecology
ENVR 5800	Climate Adaptation and Nature-Based Solutions
FINA 2720	Sustainability in the Business Environment
JRNL 3650	Science Writing
PHIL 1180	Environmental Ethics
PHTH 1270	Introduction to Global Health
PHTH 4202	Principles of Epidemiology in Medicine and Public Health
PPUA 5268	International Environmental Policy
SOCL 2485	Environment, Technology, and Society

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Choose one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Choose four POLS Electives 2000 level or above.		16

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 1502)
- Campaigns and Elections (p. 1502)
- Comparative Politics (p. 1502)
- Identity, Culture, and Politics (p. 1503)
- International Relations and Diplomacy (p. 1503)
- Law and Legal Studies (p. 1503)
- Public Policy (p. 1503)
- Security Studies (p. 1504)

Integrative Courses

Code	Title	Hours
Political Science Integrative Course		
Choose one of the following:		4
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	

Environmental Science Integrative Course		
Choose one of the following:		4
ENVR 4504	Environmental Pollution	
ENVR 5210	Environmental Planning	
ENVR 5220	Ecosystem-Based Management	
Capstone Requirement		
Choose one of the following:		1-4
ENVR 4050	Solving Emerging Environmental Challenges through Capstone	
ENVR 4900	Earth and Environmental Science Capstone	
ENVR 4997	Senior Thesis	
POLS 4701	Political Science Senior Capstone	

Environmental Studies and Political Science Combined Major Credit Requirement

Complete 84 semester hours in the major.

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4

POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	

POLS 2345	Urban Policies and Politics
POLS 2350	State and Local Politics
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1155	4	Foreign Language course	4	Elective	4
ENVR 1101	4	Foreign language course	4	ENVR elective 1 of 4	4	Elective	4
POLS 1150	4	ENVR 2515	4				
SOCL 1246	4	ENVR 3150	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	POLS 2400	4	Elective	4	Co-op	0
ENVR elective; 2 of 4	4	ENVR elective, 3 of 4	4	Elective	4		
ENVR 3300 and ENVR 3301	5	Political thought course	4				
Foreign language course	4	Foreign language course	4				
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315 or 3308	4	Elective	4	Co-op	0
		POLS undergraduate elective	4	POLS elective	4		
		Quantitative methods course	4-5				
		Integrative course #1	4				
	0		**16-17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone[1]	4
		Integrative course #2	4
		POLS undergrad elective	4
		ENVR elective, 4 of 4	4
	0		**16**

Total Hours: 129-130

[1] Earth and Environmental Science Capstone (ENVR 4900) is also an option to fulfill the capstone requirement of this program. Students who complete 1 SH Earth and Environmental Science Capstone (ENVR 4900) must still complete a minimum of 128 SH to meet degree requirements.

History and Political Science, BA

The Department of History and the Department of Political Science offer an interdisciplinary combined major in history and political science. Students interested in the combined major integrate the study of political systems and theories with the study and analysis of human history.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Major Requirements

Code	Title	Hours
History Colloquium		
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one of the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Electives		
Complete two HIST courses at any level in any field.		8
Introductory Level Elective		
Complete one course from HIST 1000 levels (excluding HIST 1200 and HIST 1201).		4
Intermediate/Advanced History Elective		
Complete minimum of one HIST course numbered 2000 or above (excluding HIST 2301 and HIST 2302).		4
Advanced History Elective		
Complete minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		4

Political Science Major Requirements

Code	Title	Hours
Political Science Foundation Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three POLS courses numbered 2000 or above.		12

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 2135).

- American Political Institutions (p. 2135)
- Campaigns and Elections (p. 2135)
- Comparative Politics (p. 2135)
- Identity, Culture, and Politics (p. 2136)
- International Relations and Diplomacy (p. 2136)
- Law and Legal Studies (p. 2136)
- Public Policy (p. 2136)
- Security Studies (p. 2137)

Supporting Courses

Code	Title	Hours
Complete one of the following:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	

Integrative Requirement

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
HIST 1130	Introduction to the History of the United States	
HIST 2211	The World Since 1945	
HIST 2282	The Holocaust and Comparative Genocide	
Capstone		
Complete one of the following.		4
HIST 4701	Capstone Seminar	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

History and Political Science Major Credit Requirement

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Complete 78 semester hours in the major.
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Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 1200	1	Elective	4	Elective	4
POLS 1150	4	HIST 1201	4	Elective	4	Elective	4
POLS 1155	4	POLS 1160	4				
HIST elective 1	4	POLS Supporting course	4				
		HIST elective 2	4				
	16		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399	4	Co-op		Co-op		HIST elective 4	4
POLS Thought	4					Foreign Language	4
HIST elective 3	4						
Foreign Language	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2301	4	Co-op		Co-op		Advanced Writing	4
HIST 2302	1					HIST elective 5	4
POLS 2400	4						
PHIL 5001	4						
POLS elective	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative course	4	HIST or POLS capstone	4
HIST elective 6	4	Elective	4
POLS elective	4	Elective	4
POLS elective	4	Elective	4
	16		**16**

Total Hours: 130

Journalism and Political Science, BA

This interdisciplinary combined major offers students an opportunity to integrate the study and practice of journalism and political science. Successful students will gain a deep understanding of both disciplines, allowing them to seek out areas such as political writing, campaigns, and law school.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Creative Expression/Innovation (CI), Interpreting Culture (IC), Understanding Societies and Institutions (SI), Analyzing and Using Data (AD), Engaging Difference and Diversity (DD), and Employing Ethical Reasoning (ER) are met through the major requirements. All other Nupath requirements must be met through electives.

Journalism Major Requirements

Code	Title	Hours
Journalism Introductory Course		
JRNL 1150	Understanding Today's News	4
Journalism Foundations		
Must receive a C or better in the following:		
JRNL 1101 and JRNL 1102	Journalism 1: Fundamentals of Reporting and Writing and Journalist's Toolbox	5
JRNL 2201	Journalism 2: Intermediate Reporting	4
JRNL 2301	Visual Storytelling in Journalism	4
JRNL 3610	Digital Storytelling and Social Media	4
Ethics		
JRNL 4650	Ethics and Issues in Journalism	4
Journalism Electives		
Take three JRNL courses.		12

Political Science Requirements

Code	Title	Hours
Political Science Foundation Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

Political Science Capstone or Thesis		
Complete one of the following:		4
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	
Political Science Electives		
Complete three POLS electives or complete a concentration from the following list:		12
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record.

- American Political Institutions (p. 422)
- Campaigns and Elections (p. 422)
- Comparative Politics (p. 423)
- Identity, Culture, and Politics (p. 423)
- International Relations and Diplomacy (p. 423)
- Law and Legal Studies (p. 423)
- Public Policy (p. 424)
- Security Studies (p. 424)

Integrative Requirement

Code	Title	Hours
COMM 3320	Political Communication	4
or POLS 3320	Politics and Mass Media	
JRNL 3550	The First Amendment and the Media	4

Journalism and Political Science Combined Major Credit Requirement

Complete 84 semester hours in the major.

Program Requirement

129 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	

POLS 3324	Law and Society
POLS 3406	International Law
POLS 3409	Global Governance
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Sample 4 Years, 2 Co-ops
Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	JRNL 1101 and JRNL 1102	5	Foreign language	4	Foreign language	4
JRNL 1000	1	POLS 1155	4	Elective	4	Elective	4
JRNL 1150	4	POLS 1160	4				
POLS 1150	4	Foreign language	4				
Elective	4						
	17		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
JRNL 2201	4	EEAM 2000 or EESH 2000	1	Elective	4	Co-op	0
POLS 2399	4	JRNL 2301	4	Elective	4		
Journalism elective 1	4	POLS 2400	4				
Political science elective 1	4	Journalism elective 2	4				
		Political science elective 2	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	JRNL 3610	4	Elective	4	Co-op	0

		Political thought requirement	4	Elective	4		
		Journalism elective 3	4				
		Political science elective 3	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op	0	JRNL 3550	4
		JRNL 4650	4
		POLS 3320 or COMM 3320	4
		POLS 4701 or 4703	4
	0		**16**

Total Hours: 131

Political Science and Communication Studies, BA

The combined major in political science and communication studies offers students the opportunity to integrate the study of politics and government with different forms and mediums of communication. Students complete the core courses in political science along with core courses in communication studies that cover public speaking and persuasion. This combined major highlights the important role played by different forms of communication in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Methodology		
POLS 2399	Research Methods in Political Science	4
or COMM 2301	Communication Research Methods	
Political Science Electives		
Complete four courses in the following range:		16
POLS 3000 to POLS 5999		

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 313).

- American Political Institutions (p. 313)
- Campaigns and Elections (p. 313)
- Comparative Politics (p. 313)
- Identity, Culture, and Politics (p. 314)
- International Relations and Diplomacy (p. 314)
- Law and Legal Studies (p. 314)
- Public Policy (p. 314)
- Security Studies (p. 315)

Communication Studies Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Communication Studies Electives

Code	Title	Hours
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three additional communication studies courses.		12

Integrative Requirements

Code	Title	Hours
Integrative Courses		
POLS 3320	Politics and Mass Media	4
or COMM 3320	Political Communication	
Capstone Requirement		
Complete one of the following. This course also counts toward the political science or communication studies elective requirement:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	

COMM 4755	Production Capstone
POLS 4701	Political Science Senior Capstone
POLS 4703	Senior Thesis

Political Science and Communication Studies Combined Major Credit Requirement

Complete 84 semester hours in the major.

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4

POLS 4915	Model Arab League
POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1101	4	COMM 1112 or 2301	4	Communication Studies Foundation Course	4	Communication Studies Cluster Course	4
ENGW 1111	4	POLS 1155	4	Communication Studies Elective	4	Elective	4
POLS 1000 or COMM 1000	1	Foreign Language 2	4				
POLS 1150	4	Elective	4				
Foreign Language 1	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000 or EEAM 2000	1	Co-op		Co-op		Communication Studies Writing Intensive	4
POLS 1160	4					Elective	4
POLS 2400	4						
Communication Studies Elective	4						
Foreign Language Culture Course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399 or COMM 2301	4	Co-op		Co-op		Communication Studies Writing Intensive	4
Political Thought Course	4					Political Science Elective	4
Communication Studies Elective	4						
Political Science Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative Course	4	Capstone	4
Political Science Elective	4	Elective	4
Political Science Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Media and Screen Studies and Political Science, BA

The Media and Screen Studies Program and the Department of Political Science offer a combined major in media and screen studies and political science. The combined major integrates the analysis, research, and production of traditional and emerging media along with courses on American government, comparative politics, international relations, and research methods.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Societies and Institutions (SI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI) and Difference and Diversity (DD) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following (NUpath capstone recommendation: Complete MSCR 4623 as one of your MSCR electives if a political science capstone is not taken for a political science elective):		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Political Science Requirements

Code	Title	Hours
Required Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Elective Courses		
Complete four POLS courses or complete a concentration.		16

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record:

- American Political Institutions (p. 346)
- Campaigns and Elections (p. 346)
- Comparative Politics (p. 346)
- Identity, Culture, and Politics (p. 347)
- International Relations and Diplomacy (p. 347)
- Law and Legal Studies (p. 347)
- Public Policy (p. 347)
- Security Studies (p. 348)

Integrative Requirements

Code	Title	Hours
Required Courses		
MSCR 3437	Media and Identity	4
or COMM 3320	Political Communication	
POLS 3320	Politics and Mass Media	4

Capstone Requirement

Code	Title	Hours
Complete one of the following courses (this course will also fulfill either a MSCR elective or a POLS elective):		4
MSCR 4623	Media and Screen Studies Capstone	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MSCR 1000	1	MSCR 1320 or 1420	4	Foreign language	4	Elective	4
MSCR 1220	4	POLS 1155	4	Elective	4	Elective	4
POLS 1150	4	MSCR foundation	4				
ENGW 1111	4	Foreign language	4				
Foreign language	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	Co-op		Co-op		Elective	4
POLS 2400	4					Elective	4
MSCR diversity/ globalization	4						
MSCR elective	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Political thought elective	4	MSCR writing-intensive	4	Elective	4	Co-op	
MSCR writing-intensive	4	Politics in media/art elective	4	Elective	4		
MSCR elective	4	MSCR elective	4				
POLS 3320	4	POLS elective	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		Politics in media/art elective	4
		POLS elective	4
		Elective	4
		MSCR 3437 or COMM 3320	4
	0		**16**

Total Hours: 130

Political Science and Economics, BA

The combined major in political science and economics offers students the opportunity to integrate the study of politics and government with the study of economics. Students complete the core courses in political science along with core courses in economics that cover both macroeconomic and microeconomic perspectives. This combined major highlights the important role that the economy plays in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses POLS 2000 to POLS 5999		16

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below.

- American Political Institutions (p. 1966)
- Campaigns and Elections (p. 1966)
- Comparative Politics (p. 1966)
- Identity, Culture, and Politics (p. 1967)
- International Relations and Diplomacy (p. 1967)
- Law and Legal Studies (p. 1967)
- Public Policy (p. 1967)
- Security Studies (p. 1968)

Economics Requirements for BA

Code	Title	Hours
Breadth Courses		
Calculus		
It is recommended that MATH 1241 or higher is chosen.		
MATH 1231	Calculus for Business and Economics	4

or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 3520	History of Economic Thought	4
Economics Electives		
Complete 3 Economics elective courses that are found in the following ranges, with no more than 1 in the ECON 1200 to ECON 1999 range. Additionally, ECON 3520 may not be used as an Economics elective:		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Supporting Courses

Complete either of the statistics and departmental elective combinations listed below:

COMBINATION A

Code	Title	Hours
Statistics		
POLS 2400	Quantitative Techniques	4
Economics		
Complete one course within the following ranges, excluding ECON 3520. This course may not also be used as an Economics elective.		4
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

COMBINATION B

Code	Title	Hours
Statistics		
ECON 2350	Statistics for Economists	4
Political Science		
Complete one course in the following range:		4
POLS 2401 to POLS 5999		

Integrative Requirements

Code	Title	Hours
Senior Seminar/Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	

POLS 4701	Political Science Senior Capstone
POLS 4703	Senior Thesis

Combined Major GPA/Credit Requirement

Grades in the following required Economics courses and in Quantitative Techniques (POLS 2400) or Statistics for Economists (ECON 2350) must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	

Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		

Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111	4	ECON 1116	4	Elective	4	Elective	4
POLS 1155	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
Elective	4	POLS 1150	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Political Theory Course	4	Co-op	0
POLS 1160	4	POLS 2400 or ECON 2350	4	Elective	4		
ECON elective 1	4	POLS elective	4				
POLS elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 3520	4	ENGW 3315	4	Co-op	0
		ECON elective 2	4	ECON elective 3	4		
		POLS elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		POLS 4701, 4703, ECON 4692, or ECON 4997	4
		ECON or POLS elective (See Supporting Courses, Combinations A and B.)	4
		Elective	4

Elective	4
0	**16**

Total Hours: 128

Political Science and Human Services, BA

The combined degree is designed to prepare students with skills and tools to advocate for social issues at all levels of society. Human services program students prepare for fields in the social change arena (nongovernment organizations [NGOs], counseling, and political advocacy). Political science students prepare to change and shape the domestic and international political landscape in American politics, comparative politics, international relations, and public policy. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, internship, and study-aboard opportunities. Upon completion of the degree, successful students apply professional skills in counseling roles, nonprofit management, political advocacy, or organizational and community development. Successful students are positioned to pursue law school, graduate school, careers in government and the nonprofit sector, as well as in teaching, journalism, legislative or lobbying positions, public relations activities, and work in international corporations and NGOs.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three courses in the following range:		12
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 2450)
- Campaigns and Elections (p. 2450)
- Comparative Politics (p. 2450)
- Identity, Culture, and Politics (p. 2450)
- International Relations and Diplomacy (p. 2451)
- Law and Legal Studies (p. 2451)
- Public Policy (p. 2451)
- Security Studies (p. 2451)

Supporting Course for Political Science

Code	Title	Hours
Mathematics		
Complete one of the following to fulfill the prerequisite for POLS 2400:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	

Human Services Requirements

Code	Title	Hours
Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 4994	Human Services Internship	6
Human Services and Diverse Populations		
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
Human Services Electives		
Complete three HUSV courses.		12

Integrative Requirements

Code	Title	Hours
Integrative Courses		
POLS 3307	Public Policy and Administration	4
HUSV 3900	Social Policy	4
Research Methods		
Complete one of the following:		4
POLS 2399	Research Methods in Political Science	
HUSV 2970	Research Methods for Human Services	
Capstone and Elective		
Complete one of the following options:		8
Option A		
Complete POLS 4701 or POLS 4703 and complete one additional human services course that has not been used in previous requirements:		
POLS 4701	Political Science Senior Capstone	
or POLS 4703	Senior Thesis	
HUSV 2000 to HUSV 5999		
Option B		
Complete HUSV 4700 and complete one additional political science course numbered 2300 or higher that has not been used in previous requirements:		
HUSV 4700	Senior Seminar in Human Services	
POLS 2300 to POLS 5999		

Political Science and Human Services Combined Major Credit Requirement

Complete 86 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	

POLS 2368	Music and Politics in America and Abroad
POLS 2370	Religion and Politics
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
POLS 3324	Law and Society

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	

POLS 3487	Politics of Developing Nations
POLS 5408	International Security

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
POLS 1155	4	POLS 1150	4		
ENGW 1111	4	POLS 1160	4		
HUSV 1000 or POLS 1000	1	HUSV 2300	4		
HUSV 1101	4	Foreign Language	4		
HUSV elective	4				
	17		**16**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		Foreign language	4
POLS thought	4					POLS 2400 supporting course	4
HS Diverse Populations Course	4						
Research Methods course	4						
HUSV elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	Co-op		Co-op		POLS elective	4
Foreign Language	4					HUSV elective	4
POLS 3307	4						
HUSV 3900	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Capstone and Elective	8	POLS elective	4
HUSV4700 + 1 POLS course (Option A) or POLS4701 (0r POLS4703) and 1 HUSV course (Option B)			
POLS elective	4	HUSV 3570	4
Foreign language	4	Elective	4
		Elective	4
	16		**16**

Year 5

Fall	Hours
HUSV 4994	6
Elective	4
Elective	4
	14

Total Hours: 128

Political Science and International Affairs, BA

Through this combined major, undergraduates will develop an awareness of global affairs and international relations since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; political processes, institutions, and actors; and state-society relations (democracy, authoritarianism, inequalities, citizenship).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

Political Science Electives/Concentration for BA

Complete four upper-division political science electives, or complete one of the following concentrations. If you are working toward a concentration, declare it with your adviser in order for it to be added to your record.

ELECTIVES

Code	Title	Hours
Political Science Electives		
Complete four political science courses at or above POLS 2000.		16

CONCENTRATION LIST

- American Political Institutions (p. 2253)
- Campaigns and Elections (p. 2253)
- Comparative Politics (p. 2254)
- Identity, Culture, and Politics (p. 2254)
- International Relations and Diplomacy (p. 2254)
- Law and Legal Studies (p. 2254)
- Public Policy (p. 2255)
- Security Studies (p. 2255)

Supporting Course for Political Science

Code	Title	Hours
Mathematics		
Complete one of the following to fulfill the prerequisite for POLS2400		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	
MATH 1231	Calculus for Business and Economics	
MATH 1241	Calculus 1	
MATH 1251	Calculus and Differential Equations for Biology 1	
MATH 1341	Calculus 1 for Science and Engineering	
MATH 1342	Calculus 2 for Science and Engineering	

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
HIST 2211	The World Since 1945	4
or HIST 2311	Colonialism/Imperialism	
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two short-term programs.		

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following. Courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements.		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	

or PPUA 5268	International Environmental Policy
SOCL 1246	Environment and Society
Law, Diplomacy, and Global Governance	
COMM 2303	Global and Intercultural Communication
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3520	Global Political Economy
INTL 5010	International Human Rights Law and Policy
POLS 1155	Comparative Politics
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
POLS 4910	Model United Nations
Human Rights and Social Justice	
HIST 2303	Gender and Reproductive Justice
HIST 2373	Gender and Sexuality in World History
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 5010	International Human Rights Law and Policy
PHIL 5001	Global Justice
Conflict and Security	
CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business

INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete three of the following, two of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses:		12

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	

AFRS 2307	Africa Today
AFRS 2900	Swahili, Culture, and Politics in Kenya
AFRS 3460	Contemporary Government and Politics in Africa
AFRS 4939	Community Health, Culture, and Development in Kenya
ANTH 4350	Ethnography of Southeast Asia
ANTH 4510	Anthropology of Africa
HIST 1180	African History
INNO 3308	Business Economic History of South Africa
INTL 2464	Natural Resources and Sustainable Development
or AFRS 2464	Natural Resources and Sustainable Development
Asia	
ANTH 4515	Culture and Politics in Modern India
ASNS 1150	East Asian Studies
or HIST 1150	East Asian Studies
CLTR 1500	Modern Chinese History and Culture
CLTR 1506	Introduction to Chinese Popular Culture
CLTR 1700	Introduction to Japanese Pop Culture
HIST 1246	World War II in the Pacific
HIST 1252	Japanese Literature and Culture
HIST 1500	Modern Chinese History and Culture
HIST 2351	Modern Japan
PHIL 1275	Hinduism, Buddhism, and Beyond
PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies

INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Integrative Requirements

Code	Title	Hours
Research Methods		
POLS 2399	Research Methods in Political Science	4
or INTL 2718	Research Methods in International Affairs	
Capstone		
Complete one of the following:		4
INTL 4700	Senior Capstone Seminar in International Affairs	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Political Science and International Affairs Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	

POLS 3324	Law and Society
POLS 3406	International Law
POLS 3409	Global Governance
POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HIST 2211	4	Foreign language core course	4	Elective (Dialogue Of Civilizations possible)	4
INTL 1101	4	MATH 1215 (or other MATH course as pre-requisite for POLS 2400)	4	Elective	4	Elective (Dialogue of Civilizations possible)	4
MATH 1215	4	POLS 1150	4				
POLS 1155	4	POLS 1160	4				
POLS 1000	1						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 3290	4	POLS 2400	4	Elective (Dialogue of Civilizations possible)	4	Co-op	0
POLS Thought course	4	INTL undergraduate elective	4	Elective (Dialogue of Civilizations possible)	4		
POLS undergraduate elective	4	POLS undergraduate elective	4				
Foreign language core course	4	Foreign language core course	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	INTL undergraduate elective	4	Co-op	0
		INTL 3400	4	POLS undergraduate elective	4		
		INTL undergraduate elective	4				
		POLS undergraduate elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone requirement	4
		Foreign language core course	4
		INTL undergraduate elective	4
		POLS undergraduate elective	4
	0		**16**

Total Hours: 129

Political Science and Philosophy, BA

The combined major in political science and philosophy enables students to develop an integrated understanding of politics, political theory, ethical theory, and theories of justice. Students who complete the major will have the training to critically evaluate and assess public policies and social issues on both political and ethical grounds, including issues such as tax policy, immigration, environmental protection, trade policy, healthcare, education, defense policy, and much more.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete two of the following:		8
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record. Requirements for the concentrations are listed below (p.).

- American Political Institutions (p. 2329)
- Campaigns and Elections (p. 2329)
- Comparative Politics (p. 2329)
- Identity, Culture, and Politics (p. 2329)
- International Relations and Diplomacy (p. 2330)
- Law and Legal Studies (p. 2330)
- Public Policy (p. 2330)
- Security Studies (p. 2330)

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Advanced Philosophy Electives		
Complete one of the following PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 3343	Existentialism	
PHIL 3360	Scientific Approaches to Philosophy	
PHIL 3435	Moral Philosophy	
PHIL 3460	Philosophy and Literature	
PHIL 3822	Philosophy of Race and Racism	
PHIL 4500	Theory of Knowledge	
PHIL 4510	Philosophy of Science	
PHIL 4515	Advanced Logic	
PHIL 4535	Philosophy of Mind	
PHIL 4550	Philosophy of Economics	
PHIL 4555	Philosophy of Biology	
PHIL 4901	Topics in Philosophy Seminar	
PHIL 4903	Seminar in Religion	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
PHIL 5005	Information Ethics	
PHIL 5010	AI Ethics	
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Electives		
Complete two additional PHIL courses not used to satisfy other requirements.		8

Integrative Requirement

Code	Title	Hours
Complete one of the following:		
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	

POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
POLS 3324	Law and Society

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1215	4	PHIL 2325 or POLS 2325	4	Vacation	
PHIL 1115	4	POLS 1150	4	Elective	4		
POLS 1000	1	POLS 1160	4				
POLS 1155	4	Foreign Language	4				
POLS elective	4						
	17		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op		Co-op		Foreign Language	4
POLS 2399	4					Elective	4
POLS Thought	4						
Foreign Language	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2303	4	Co-op		Co-op		PHIL elective	4
PHIL 5001	4					Elective	4
POLS 2400	4						
PHIL Restricted Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
PHIL Elective	4	PHIL Restricted Elective	4	PHIL elective	4
POLS Thought course	4	Critical Philosophy Elective	4	Elective	4
POLS elective	4	POLS elective	4		
POLS elective	4	Elective	4		
	16		**16**		**8**

Total Hours: 129

Sociology and Political Science, BA

The combined major in sociology and political science offers students the opportunity to integrate the study of politics and government with an analysis of social systems. Students complete core courses in political science along with core courses in sociology that include social theory and an introduction to social systems. This combined major highlights the important intersection between social norms and organizations with the evolution of politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
SOCL 1101	Introduction to Sociology	4
SOCL 3270	Race, Ethnicity, and Inequality	4
SOCL 3300	Social Theory	4
SOCL 3468	Social Movements	4
Sociology Introductory Electives		
Complete three courses in the following range:		12
SOCL 1200 to SOCL 1999		
Sociology Intermediate Elective		
Please note that SOCL 3270, SOCL 3300, and SOCL 3468 may not be used to fulfill this requirement as they are required for the major. Complete one course in the following range:		4
SOCL 2000 to SOCL 3999		
Sociology Advanced Elective		
Complete one course in the following range:		4
SOCL 4000 to SOCL 5999		
Statistics and Methods		
Complete one of the following sets:		8
SOCL 2320 and SOCL 2321	Statistical Analysis in Sociology and Research Methods in Sociology	
POLS 2400 and POLS 2399	Quantitative Techniques and Research Methods in Political Science	

Political Science Requirements

Code	Title	Hours
Political Science Required Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	

POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete five courses in the following range:		20
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record.

- American Political Institutions (p. 2468)
- Campaigns and Elections (p. 2469)
- Comparative Politics (p. 2469)
- Identity, Culture, and Politics (p. 2469)
- International Relations and Diplomacy (p. 2469)
- Law and Legal Studies (p. 2470)
- Public Policy (p. 2470)
- Security Studies (p. 2470)

Capstone Requirement

Code	Title	Hours
Complete one of the following:		4
SOCL 4600	Senior Seminar	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Integrative Requirement

Code	Title	Hours
SOCL 3450	Class, Power, and Social Change	4
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 3320	Politics and Mass Media	
POLS 3324	Law and Society	
POLS 3418	Nationalism	

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		

Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: 4 years - 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1160	4	SOCL Introductory Elective	4	SOCL Introductory Elective	4
POLS 1150	4	SOCL Introductory Elective	4	Elective	4	Elective	4
POLS 1155	4	SOCL/POLS Statistics	4				
SOCL 1000	1	SOCL/POLS Methods	4				
SOCL 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 3300	4	POLS Elective	4	POLS Elective	4	Co-Op 1	0
POLS: Thought	4	POLS Elective	4	Elective	4		
POLS Elective	4	POLS Elective	4				
SOCL Intermediate Elective	4	SOCL Advanced Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-Op 1	0	ENGW 3308	4	Elective	4	Co-Op 2	0
		SOCL 3468	4	Elective	4		
		POLS Integrated Course 1	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-Op 2	0	SOCL 3270	4
		SOCL 3450	4
		POLS Integrated Course 2	4
		Capstone	4
	0		**16**

Total Hours: 129

Political Science, BS

The Bachelor of Science in Political Science provides a set of introductory courses to the discipline, followed by methodology courses, electives, and a capstone course. Students explore and analyze the many facets of American government, comparative politics, international relations, and political philosophy. With elective courses, students may choose from among a number of concentrations or follow their own curricular path.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Introduction to College

Complete “Introduction to College” for your major.

Political Science Major Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2330	American Political Thought	
POLS 2328	Modern Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Capstone		
POLS 4701	Political Science Senior Capstone	4
or POLS 4703	Senior Thesis	

Political Science Experiential Learning Requirement

Code	Title	Hours
Note: Up to two credit-bearing courses count toward political science electives.		
Complete one course or experience from the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4942	Internship in Politics	
Co-op or Study Abroad		
Complete one cooperative education experience or one study-abroad experience.		4

Political Science Electives

Note: You may use four courses from the elective area to fulfill a concentration.

Code	Title	Hours
Complete eight political science electives with a minimum of six numbered 2000 or above.		32

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record. Requirements for the concentrations are listed below (p. 2473).

- American Political Institutions (p. 2473)
- Campaigns and Elections (p. 2473)
- Comparative Politics (p. 2473)
- Identity, Culture, and Politics (p. 2474)
- International Relations and Diplomacy (p. 2474)
- Law and Legal Studies (p. 2474)
- Public Policy (p. 2475)
- Security Studies (p. 2475)

Political Science Major Credit Requirement

Complete 60 semester hours in the major.

Upper-Division Electives

Code	Title	Hours
Note: Courses used as upper-division electives do not count toward the major or the NU Core.		
Complete three general electives numbered 3000 or above.		12

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirements

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8

POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	

POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study
Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1155	4	POLS 1150	4	Vacation	0	Vacation	0
POLS 1156	0	MATH 1215	4				
Elective	4	Elective	4				
Elective	4	POLS 1160	4				
POLS 1000	1						
ENGW 1111	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399	4	POLS 2400	4	Vacation	0	Co-op	0
POLS intermediate/ advanced undergraduate elective	4	Elective	4				
Elective	4	POLS intermediate/ advanced undergraduate elective	4				
Elective	4	Elective	4				
EESH 2000	1	EESH 2000	1				
	17		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Political theory course	4	POLS intermediate/ advanced undergraduate elective	4	Co-op	0
		POLS intermediate/ advanced undergraduate elective	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENGW 3315	4	Upper-division elective	4	Co-op	0
		POLS intermediate/ advanced undergraduate elective	4	POLS intermediate/ advanced undergraduate elective	4		
		Upper-division elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	POLS 4701 (or POLS 4703 Senior Thesis)	4
		POLS intermediate/ advanced undergraduate elective	4
		Upper-divison elective	4
		Elective	4
	0		**16**

Total Hours: 131

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1155	4	POLS 1150	4	Vacation	0	Vacation	0
POLS 1156	0	POLS 1151	0				
Elective	4	MATH 1215	4				
Elective	4	Elective	4				
POLS 1000	1	POLS 1160	4				
ENGW 1111	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2399	4	Co-op	0	Co-op	0	Elective	4
Elective	4					Elective	4
POLS intermediate/ advanced undergraduate elective	4						
POLS intermediate/ advanced undergraduate elective	4						
EESH 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Political theory course	4	Co-op	0	Co-op	0	POLS intermediate/ advanced undergraduate elective	4
Elective	4					Elective	4
Elective	4						
POLS 2400	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op	0	Co-op	0	Vacation	0
POLS intermediate/ advanced undergraduate elective	4						
Upper-division elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
POLS intermediate/ advanced undergraduate elective	4	POLS 4701 (or POLS 4703 Senior Thesis)	4
POLS intermediate/ advanced undergraduate elective	4	POLS intermediate/ advanced undergraduate elective	4
Upper-division elective	4	Upper-divison elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Biology and Political Science, BS

In the BS biology and political science program, science courses lay the groundwork for strong basic training in mathematics, chemistry, and physics that are relevant to biology. In biology courses, students broadly explore the organization and processes of life—from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. In political science courses, students pursue core concepts of American government, comparative politics, international relations and political thought. Coursework in quantitative techniques is also required. Students choose from a range of advanced subject electives. An appreciation of the intersection of biology and political science is provided through advanced courses in science, technology and public policy, and in environmental politics and policy.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Biology Requirements

Code	Title	Hours
Introduction to College		
BIOL 1000	Biology at Northeastern	1
or POLS 1000	Political Science at Northeastern	
Biology		
Foundations		
BIOL 1107 and BIOL 1108	Foundations of Biology and Lab for BIOL 1107	5
Inquiries		
BIOL 2299	Inquiries in Biological Sciences	4
Genetics		
BIOL 2301 and BIOL 2302	Genetics and Molecular Biology and Lab for BIOL 2301	5
Project Lab		
BIOL 2309	Biology Project Lab	4
Biochemistry		
BIOL 3611 and BIOL 3612	Biochemistry and Lab for BIOL 3611	5
Intermediate/Advanced Biology		
Complete one of the following:		4-5
BIOL 2327 to BIOL 3999		
BIOL 4705 to BIOL 5999		
Organismal and Evolutionary Biology Elective		
Complete one of the following:		4-5
BIOL 2327	Human Parasitology	
BIOL 3401	Comparative Vertebrate Anatomy	
BIOL 3413	Current Topics in Organismal and Population Biology	
EEMB 2302 and EEMB 2303	Ecology and Lab for EEMB 2302	
EEMB 2400	Introduction to Evolution	
EEMB 2700 and EEMB 2701	Marine Biology and Lab for EEMB 2700	
EEMB 3460	Conservation Biology	
EEMB 3466	Disease Ecology	
EEMB 3600	Animal Behavior	

Mathematics		
MATH 1341	Calculus 1 for Science and Engineering	4
Chemistry		
General Chemistry		
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
Organic Chemistry		
CHEM 2311 and CHEM 2312	Organic Chemistry 1 and Lab for CHEM 2311	5
CHEM 2313 and CHEM 2314	Organic Chemistry 2 and Lab for CHEM 2313	5
Physics		
PHYS 1145 and PHYS 1146	Physics for Life Sciences 1 and Lab for PHYS 1145	5
PHYS 1147 and PHYS 1148	Physics for Life Sciences 2 and Lab for PHYS 1147	5

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Statistics		
Complete one of the following:		4-5
POLS 2400	Quantitative Techniques	
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500	
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete five POLS courses 2000 and above.		20

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 1403)
- Campaigns and Elections (p. 1403)
- Comparative Politics (p. 1403)
- Identity, Culture, and Politics (p. 1404)
- International Relations and Diplomacy (p. 1404)
- Law and Legal Studies (p. 1404)
- Public Policy (p. 1404)
- Security Studies (p. 1405)

Integrative Requirement and Capstone

Note: Science, Technology, and Public Policy (POLS 2390) and Environmental Politics and Policy (POLS 2395) cannot be used both as an integrative course and as an elective above.

Code	Title	Hours
Integrative Requirement		
POLS 2390	Science, Technology, and Public Policy	4

or POLS 2395	Environmental Politics and Policy	
Capstone		
Complete one of the following to fulfill capstone requirement:		1-4
BIOL 4701	Biology Capstone	
BIOL 4900	Biology Research Capstone (concurrent with BIOL 4991 or 4994, which may be used toward Intermediate/Advanced Biology)	
BIOL 4971	Junior/Senior Honors Project 2	
POLS 4701	Political Science Senior Capstone	

Program Requirement

136 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	

POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Please note that these are sample plans of study. While the requirements are the same for all students, individual schedules may vary.

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or POLS 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	POLS upper-division elective	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	POLS 1155	4				
MATH 1341	4	POLS 1156	0				
POLS 1150	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	Co-op	0	Co-op	0	Intermediate/advanced BIOL elective with lab	5
CHEM 2313	4	Elective (can be taken online)	4			POLS elective	4
CHEM 2314	1						
EESC 2000	1						
POLS 1160	4						
IC NUpath elective	4						
	18		**4**		**0**		**9**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 3611	4	Co-op	0	Co-op	0	Advanced writing	4
BIOL 3612	1					ER NUpath elective	4
PHYS 1145	4						
PHYS 1146	1						
Organismal and evolutionary biology elective	4						
Political thought elective	4						
	18		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHYS 1147	4	ENVR 2500	4
PHYS 1148	1	ENVR 2501	1

BIOL/POLS integrative course	4	Capstone	4
DD NUpath elective	4	POLS elective	4
POLS elective	4	POLS elective	4
	17		**17**

Total Hours: 136

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1000 or POLS 1000	1	BIOL 2299	4	BIOL 2301	4	Vacation	
BIOL 1107	4	CHEM 2311	4	BIOL 2302	1		
BIOL 1108	1	CHEM 2312	1	POLS elective	4		
CHEM 1161	4	ENGW 1111	4				
CHEM 1162	1	POLS 1155	4				
CHEM 1163	0						
MATH 1341	4						
POLS 1150	4						
	19		**17**		**9**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 2309	4	BIOL 3611	4	Intermediate/advanced BIOL with lab	5	Co-op	0
CHEM 2313	4	BIOL 3612	1	POLS elective	4		
CHEM 2314	1	PHYS 1145	4				
EESC 2000	1	PHYS 1146	1				
POLS 1160	4	Organismal and evolutionary biology elective	4				
IC NUpath elective	4	Political thought elective	4				
	18		**18**		**9**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	PHYS 1147	4	Advanced writing	4	Co-op	0
General elective (can be taken online)	4	PHYS 1148	1	ER NUpath elective	4		
		BIOL/POLS integrative course	4				
		DD NUpath elective	4				
		POLS elective	4				
	4		**17**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	ENVR 2500	4
		ENVR 2501	1
		Capstone	4
		POLS elective	4
		POLS elective	4
	0		**17**

Total Hours: 136

Computer Science and Political Science, BS

The computer science and political science combined major offers both a strong computer science foundation and a deep understanding of global and societal needs. You will become an engaged citizen of the world, participating in interdisciplinary scholarship and translational research to address regional and global issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or POLS 1000	Political Science at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Khoury Elective Courses		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 12 semester hours of upper-division CS, CY, DS, or IS courses that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Political Science Courses

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4

Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Capstone		
POLS 4701	Political Science Senior Capstone	4
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record.

- American Political Institutions (p. 841)
- Campaigns and Elections (p. 841)
- Comparative Politics (p. 841)
- Identity, Culture, and Politics (p. 842)
- International Relations and Diplomacy (p. 842)
- Law and Legal Studies (p. 842)
- Public Policy (p. 843)
- Security Studies (p. 843)

Integrative Requirement

Code	Title	Hours
Integrative Requirement		
Complete one of the following:		4
POLS 2390	Science, Technology, and Public Policy	
POLS 3405	International Political Economy	
POLS 3406	International Law	

Supporting Course

Code	Title	Hours
Complete one of the following:		4
AFAM 2600	Issues in Race, Science, and Technology	
CY 4170	The Law, Ethics, and Policy of Data and Digital Technologies	
CY 5240	Cyberlaw: Privacy, Ethics, and Digital Rights	
ENGL 2150	Literature and Digital Diversity	
HIST 2220	History of Technology	
INSH 2102	Bostonography: The City through Data, Texts, Maps, and Networks	
IS 1300	Knowledge in a Digital World	
or PHIL 1300	Knowledge in a Digital World	
PHIL 1145	Technology and Human Values	
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4

ENGW 3302	Advanced Writing in the Technical Professions
ENGW 3308	Advanced Writing in the Social Sciences
ENGW 3311	Advanced Writing for Prelaw
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines

Required General Electives

Code	Title	Hours
Complete 28 semester hours of general electives.		28

Khoury College GPA Requirement

A minimum 2.000 GPA is required in all CS, CY, DS, and IS courses.

Computer Science and Political Science Major Credit Requirement

100 semester hours required in the major

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing in the First Year
- Writing-Intensive in the Major
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8

POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	

POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or POLS 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	POLS 1155	4				
ENGW 1111	4	POLS 1160	4				
POLS 1150	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op	0	Co-op	0	Elective	4
CS 3000	4					Elective	4
CS 3200	4						
POLS 2399	4						
POLS thought elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	Co-op	0	Co-op	0	ENGW 3302, 3308, 3311, or 3315	4
Khoury elective 1	4					Elective	4

POLS elective 1	4						
POLS elective 2	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Computing and social issues	4	POLS 4701	4
Khoury elective 2	4	Khoury elective 3	4
POLS elective 3	4	POLS elective 4	4
POLS integrative requirement	4	Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or POLS 1000	1	CS 2510 and CS 2511	5	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	IS 2000	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	POLS 1155	4				
ENGW 1111	4	POLS 1160	4				
POLS 1150	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	CS 1210 or EESC 2000	1	Elective	4	Co-op	0
CS 3500 and CS 3501	5	POLS 2400	4	Elective	4		
POLS 2399	4	Khoury elective 1	4				
POLS thought elective	4	POLS elective 1	4				
		POLS elective 2	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Computing and social issues	4	ENGW 3302, 3308, 3311, or 3315	4	Co-op	0
		Khoury elective 2	4	Elective	4		
		POLS elective 3	4				
		POLS integrative requirement	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	POLS 4701	4
		Khoury elective 3	4
		POLS elective 4	4
		Elective	4
	0		**16**

Total Hours: 134

Computer Science and Politics, Philosophy, and Economics, BS

Politics, philosophy, and economics bring together three important frameworks from the humanistic social sciences for understanding the world around us. Computer science involves the application of theoretical concepts in the context of software development to the solution of problems that arise in almost every human endeavor, drawing on concepts and methods from mathematics, logic, science, and engineering. This interdisciplinary degree thus provides multiple perspectives and a set of skills that are indispensable in our increasingly interconnected world and essential in addressing the kinds of complex global problems future leaders need to tackle.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or PHIL 1000	Philosophy at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
CS 4500	Software Development	4
or CS 4530	Fundamentals of Software Engineering	
Khoury Elective		
With advisor approval, directed study, research, project study, and appropriate graduate-level courses may also be be taken for upper-division electives.		
Complete 4 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses from the following ranges:		4
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Politics, Philosophy, and Economics Courses

Complete at least four courses in each of the following subject areas: ECON, PHIL, and POLS.

Code	Title	Hours
Foundation Course		
PHIL 1160	Introduction to Economic Justice	4

Core Courses		
Philosophy		
PHIL 2303	Social and Political Philosophy	4
or PHIL 3822	Philosophy of Race and Racism	
PHIL 3435	Moral Philosophy	4
or PHIL 2325	Ancient Philosophy and Political Thought	
Political Science		
POLS 1150	American Government	4
or POLS 1155	Comparative Politics	
POLS 1160	International Relations	4
POLS 3405	International Political Economy	4
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
ECON 2315	Macroeconomic Theory	4
or ECON 2316	Microeconomic Theory	
Methods Course		
PHIL 3000	Interdisciplinary Methods for Politics, Philosophy, and Economics	4
Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
PHIL 4550	Philosophy of Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	
PPE Elective		
Complete one course from the following ranges:		4
ECON 1200 to ECON 1999		
ECON 3000 to ECON 4689		
ECON 4900 to ECON 4999		
ECON 5200 to ECON 5999		
PHIL 2000 to PHIL 5999		
POLS 2000 to POLS 5999		

Integrative Course Requirements

Code	Title	Hours
IS 4300	Human Computer Interaction	4
PHIL 1115	Introduction to Logic	4
POLS 2390	Science, Technology, and Public Policy	4

Supporting Courses

Code	Title	Hours
Statistics and Mathematics		
ECON 2350	Statistics for Economists	4
or POLS 2400	Quantitative Techniques	
or MATH 2280	Statistics and Software	
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	

English Requirements

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4

or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3309	Advanced Writing in the Humanities	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 20 semester hours of general electives.		20

Khoury College GPA Requirement

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Understanding Societies and Institutions
- Employing Ethical Reasoning
- Writing in the First Year
- Advanced Writing in the Disciplines
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

129 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3000	4	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3500 and CS 3501	5	CS 1210 or EESH 2000	1	ECON 2315 or 2316	4	Co-op	0
PHIL 3435 or 2325	4	CS 3200	4	Elective	4		
POLS 1150 or 1155	4	ECON 2350, POLS 2400, or MATH 2280	4				
POLS 3405	4	PHIL 2303 or 3822	4				
		Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	IS 4300	4	ENGW 3302, 3309, or 3315	4	Co-op	0

		PHIL 3000	4				
		POLS 2390	4				
		Elective	4				
	0		**16**		**4**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	CS 4530	4
		Capstone	4
		Khoury elective	4
		PPE elective	4
	0		**16**

Total Hours: 130

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or PHIL 1000	1	CS 2510 and CS 2511	5	CS 3500 and CS 3501	5	MATH 1231 or 1341	4
CS 1800 and CS 1802	5	ECON 1115 or 1116	4	Elective	4	Elective	4
CS 2500 and CS 2501	5	PHIL 1115	4				
ENGW 1111	4	POLS 1160	4				
PHIL 1160	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1210 or EESH 2000	1	Co-op	0	Co-op	0	ECON 2315 or 2316	4
CS 3000	4					Elective	4
PHIL 3435 or 2325	4						
POLS 1150 or 1155	4						
POLS 3405	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op	0	Co-op	0	ENGW 3302, 3309, or 3315	4
ECON 2350, POLS 2400, or MATH 2280	4						
PHIL 2303 or 3822	4						
Elective	4						
	16		**0**		**0**		**4**

Year 4

Fall	Hours	Spring	Hours
CS 4500 or 4530	4	IS 4300	4
Elective	4	Capstone	4
PHIL 3000	4	Khoury elective	4
POLS 2390	4	PPE elective	4
	16		**16**

Total Hours: 130

Criminal Justice and Political Science, BS

This combined major educates students in criminal justice and political science and in the interface between the two disciplines. The scope and sequence of political science courses provide students with a foundation in topics such as American government, comparative politics, international relations, and security and resilience. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students completing this program should be able to understand the relationships between the fields as they relate to understanding and addressing criminal behavior.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses provide students a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Systemic Issues		
A consideration of systemic issues facing the criminal justice system.		

Complete one of the following:		4
CRIM 3110	Gender, Crime, and Justice	
CRIM 3120	Race, Crime, and Justice	
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4 or 5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum (Social Science Practicum section)	

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	

Research Methods and Electives

Complete Option A, Option B, or Option C, below. *Note:* These options enable the student to take research methods courses (including statistics/quantitative techniques) as either CRIM courses or as POLS courses.

OPTION A

Code	Title	Hours
Research Methods		
CRIM 3600	Criminal Justice Research Methods	4
CRIM 3700	Analyzing and Using Data on Crime and Justice	4
Criminal Justice Electives		
Complete two additional courses in the following range:		8
CRIM 3001 to CRIM 5999		
Political Science Electives		
Complete five courses in the following range:		20
POLS 2000 to POLS 5999		

OPTION B

Code	Title	Hours
Research Methods		
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Criminal Justice Electives		
Complete three additional courses in the following range:		12
CRIM 3001 to CRIM 5999		
Political Science Electives		
Complete four courses in the following range:		20
POLS 2000 to POLS 5999		

OPTION C

Code	Title	Hours
Research Methods		
Complete one of the following sequences:		8
CRIM 3600 and POLS 2400	Criminal Justice Research Methods and Quantitative Techniques	
CRIM 3700 and POLS 2399	Analyzing and Using Data on Crime and Justice and Research Methods in Political Science	
Criminal Justice Electives		
Complete two additional courses in the following range:		8
CRIM 3001 to CRIM 5999		
Political Science Electives		
Complete four courses in the following range:		20
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 1850).

- American Political Institutions (p. 1850)
- Campaigns and Elections (p. 1850)
- Comparative Politics (p. 1850)
- Identity, Culture, and Politics (p. 1850)
- International Relations and Diplomacy (p. 1851)
- Law and Legal Studies (p. 1851)
- Public Policy (p. 1851)
- Security Studies (p. 1851)

Integrative Requirement

Code	Title	Hours
Senior Capstone Requirement		
CRIM 4949	Senior Capstone Seminar	4
or POLS 4701	Political Science Senior Capstone	
Due Process		
CRIM 1110	Criminal Due Process	4
Integrative Elective Courses		
Complete two of the following:		8
CRIM 1700	Crime, Media, and Politics	
CRIM 2310	Courts: The Third Branch of Government	
CRIM 4120	Courts and Sentencing	
POLS 3302	Judicial Process and Behavior	
POLS 3324	Law and Society	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

Combined Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Political Science Concentrations (Optional)

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	

POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy
POLS 3324	Law and Society

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-Ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1100	4	POLS 1155	4	Elective	4	CRIM Elective	4
CS 1100	4	CRIM Elective	4	Elective	4	POLS Elective	4
CS 1101	1	POLS Elective	4				
POLS 1150	4	Elective	4				
POLS 1160	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		CRIM Elective	4
CRIM 1120	4					POLS Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 3700	4	Co-op		Co-op		Elective	4
POLS 2400	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CRIM Advanced Elective	4	POLS 4701	4
POLS Advanced Elective	4	Integrative Course 2	4
Integrative Course 1	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Mathematics and Political Science, BS

The Mathematics and Political Science combined major provides training to prepare students to use quantitative training and methods to understand political trends and events.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 2331	Linear Algebra	4
MATH 3081	Probability and Statistics	4
Math Electives		
Complete two courses in the following range that are not required in the requirements above:		8
MATH 3001 to MATH 5999		

Political Science Requirements

Code	Title	Hours
Political Science Required Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three POLS courses numbered 2000 and above.		12

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below.

- American Political Institutions (p. 1549)
- Campaigns and Elections (p. 1549)
- Comparative Politics (p. 1549)

- Identity, Culture, and Politics (p. 1550)
- International Relations and Diplomacy (p. 1550)
- Law and Legal Studies (p. 1550)
- Public Policy (p. 1550)
- Security Studies (p. 1551)

Integrative Requirement

Code	Title	Hours
POLS 2390	Science, Technology, and Public Policy	4

Mathematics and Political Science Combined-Major Credit Requirement

Complete 68 semester hours in the major.

Program Requirement

128 total semester hours required

Optional Political Science Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	

POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	

POLS 2350	State and Local Politics
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
POLS 1155	4	POLS 1150	4	Elective	4
ENGW 1111	4	POLS Political Thought Course	4	Elective	4
MATH 1365	4	MATH 1342	4		
MATH 1341	4	Elective	4		
	16		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	POLS 2399	4	Co-op		Co-op	
POLS Elective	4	MATH 2341	4				
MATH 2321	4	MATH Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 2400	4	POLS Elective	4	Elective	4	Co-op	
POLS 2390	4	Elective	4	Elective	4		
MATH 2331	4	Elective	4				
MATH Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		POLS 4701 or 4703	4
		POLS Elective	4
		MATH 3081	4
		Elective	4
	0		**16**

Total Hours: 128

Political Science and Business Administration, BS

The combined major in political science and business administration offers students the opportunity to integrate the study of politics and government with an analysis of business practices and organizations. Students complete core courses in political science along with core courses in business administration that cover accounting, finance, marketing, and organizational behavior. This combined major highlights the important intersection between business practices and the evolution of politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Introduction to College		
POLS 1000	Political Science at Northeastern	1
or BUSN 1102	Personal Skill Development for Business	
Poltical Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Statistics		
POLS 2400	Quantitative Techniques	4
or MGSC 2301	Business Statistics	
Political Science Electives		
Complete four courses in the following range, or complete a political science concentration as outlined below:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record:

- American Political Institutions (p. 646)
- Campaigns and Elections (p. 646)
- Comparative Politics (p. 646)
- Identity, Culture, and Politics (p. 647)
- International Relations and Diplomacy (p. 647)
- Law and Legal Studies (p. 647)
- Public Policy (p. 647)
- Security Studies (p. 648)

Business Requirements

Code	Title	Hours
Accounting		
ACCT 1201	Financial Accounting and Reporting	4

ACCT 2301	Managerial Accounting	4
Finance		
FINA 2201	Financial Management	4
Marketing		
MKTG 2201	Introduction to Marketing	4
Organizational Behavior		
ORGB 3201	Organizational Behavior	4

Business Concentration

Complete one of the following business concentrations:

- Accounting (p. 654)
- Accounting and Advisory Services (p. 655)
- Brand Management (p. 656)
- Business Analytics (p. 657)
- Corporate Innovation (p. 658)
- Entrepreneurial Startups (p. 659)
- Family Business (p. 660)
- Finance (p. 661)
- Fintech (p. 662)
- Healthcare Management and Consulting (p. 664)
- International Business (p. 665) (available only as a second concentration)
- Management (p. 666)
- Management Information Systems (p. 667)
- Marketing (p. 668)
- Marketing Analytics (p. 669)
- Social Innovation and Entrepreneurship (p. 670)
- Supply Chain Management (p. 671)

Supporting Courses

Code	Title	Hours
Mathematics		
MATH 1231	Calculus for Business and Economics	4
or MATH 1341	Calculus 1 for Science and Engineering	
or MATH 1241	Calculus 1	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
Economics		
ECON 1115	Principles of Macroeconomics	4
or ECON 1116	Principles of Microeconomics	
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100 (Selecting this 5 SH option will add one additional semester hour to your degree program.)	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	
Co-op Preparation		
BUSN 1103	Professional Development for Business Co-op	1
or EESH 2000	Professional Development for Co-op	

Integrative Requirement

Code	Title	Hours
Senior Capstone		
POLS 4701	Political Science Senior Capstone (or POLS 4703 Senior Thesis)	4
or STRT 4501	Strategy in Action	

Business Cooperative Education

Complete one cooperative education experience

Political Science GPA Requirement

Minimum 2.000 GPA required in all political science courses

Business GPA Requirement

Minimum 2.000 GPA required in business courses

Program Requirement

128 total semester hours required

Political Science Concentrations (Optional)

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		

Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12

POLS 2340	Business and Government
POLS 2345	Urban Policies and Politics
POLS 2350	State and Local Politics
POLS 2357	Growth and Decline of Cities and Suburbs
POLS 2390	Science, Technology, and Public Policy
POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ACCT 1201	4	ECON 1115 or 1116	4	DD NUpath	4	Open elective	4
ENGW 1111	4	MGSC 2301 or POLS 2400	4	Open elective	4	Open elective	4
MATH 1231	4	POLS 1150	4				
POLS 1000 or BUSN 1102	1	POLS 1160	4				
POLS 1155	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BUSN 1103 or EESH 2000	1	Co-op		Co-op		ACCT 2301	4
MKTG 2201	4					FINA 2201	4
Computer Science Requirement	4-5						
POLS thought	4						
POLS elective	4						
	17-18		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ORGB 3201	4	Co-op		Co-op		POLS elective	4
POLS elective	4					ND NUpath	4
POLS elective	4						
Concentration class 1	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGW 3304, 3315, or 3307	4	POLS 4701 or STRT 4501	4
Concentration class 2	4	Concentration class 4	4
Concentration class 3	4	IC NUpath	4
EI NUpath	4	ER NUpath	4
	16		**16**

Total Hours: 130-131

Political Science and Communication Studies, BS

The combined major in political science and communication studies offers students the opportunity to integrate the study of politics and government with different forms and mediums of communication. Students complete core courses in political science along with core courses in communication studies that cover public speaking and persuasion. This combined major highlights the important role played by different forms of communication in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Methodology		
POLS 2399	Research Methods in Political Science	4
or COMM 2301	Communication Research Methods	
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentration (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p. 385).

- American Political Institutions (p. 385)
- Campaigns and Elections (p. 385)
- Comparative Politics (p. 385)
- Identity, Culture, and Politics (p. 386)
- International Relations and Diplomacy (p. 386)
- Law and Legal Studies (p. 386)
- Public Policy (p. 386)
- Security Studies (p. 387)

Communication Studies Requirements

Code	Title	Hours
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	

Communication Studies Electives

Code	Title	Hours
Foundation course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing Intensive		
Complete two writing intensive courses in communication studies.		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	
COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three additional Communication Studies courses.		12

Integrative Requirements

Code	Title	Hours
Integrative Courses		
POLS 3320	Politics and Mass Media	4
or COMM 3320	Political Communication	
Capstone Requirement		
Complete one of the following. This course also counts toward the political science or communication studies elective requirement:		4
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4533	Consultation Skills	
COMM 4602	Contemporary Rhetorical Theory	
COMM 4608	Strategic Communication Capstone	
COMM 4625	Online Communities	

COMM 4755	Production Capstone
POLS 4701	Political Science Senior Capstone
POLS 4703	Senior Thesis

Political Science and Communication Studies Combined Major Credit Requirement

Complete 84 semester hours in the major.

Communication Studies Major Grade Requirement

No more than two grades below a C in communication studies courses may be used to satisfy degree requirements.

Program Requirement

128 total semester hours required

Concentrations

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4

POLS 4915	Model Arab League
POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1000 or COMM 1000	1	POLS 1155	4	Communication Studies Foundation Course	4	Communication Studies Cluster Course	4
POLS 1150	4	COMM 1112 or 2301	4	Communication Studies Elective	4	Elective	4
COMM 1101	4	Elective	4				
ENGW 1111	4	Elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS 1160	4	Co-op		Co-op		Communication Studies Writing Intensive	4
POLS 2400	4					Elective	4
Communication Studies Elective	4						
Elective	4						
EESH 2000 or EEAM 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Political Thought Course	4	Co-op		Co-op		Communication Studies Writing Intensive	4
POLS 2399 or COMM 2301	4					Political Science Elective	4
Communication Studies Elective	4						
Political Science Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Political Science Elective	4	Capstone	4
Political Science Elective	4	Elective	4
Integrative Course	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Political Science and Economics, BS

The combined major in political science and economics offers students the opportunity to integrate the study of politics and government with the study of economics. Students complete the core courses in political science along with core courses in economics that cover both macroeconomic and microeconomic perspectives. This combined major highlights the important role that the economy plays in shaping politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Political Science Requirements		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Theory		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses from the following range, or complete a concentration as outlined below:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record. Requirements for the concentrations are listed below (p.).

- American Political Institutions (p. 2018)
- Campaigns and Elections (p. 2018)
- Comparative Politics (p. 2018)
- Identity, Culture, and Politics (p. 2019)
- International Relations and Diplomacy (p. 2019)
- Law and Legal Studies (p. 2019)
- Public Policy (p. 2019)
- Security Studies (p. 2020)

Economics Requirements for BS

Code	Title	Hours
Breadth Courses		
Computer Science		
Complete one of the following:		4-5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum	
MISM 2510	Fundamentals of Information Analytics	

Calculus		
It is recommended that MATH 1241 or higher is chosen:		
MATH 1231	Calculus for Business and Economics	4
or MATH 1241	Calculus 1	
or MATH 1245	Calculus with Applications	
or MATH 1251	Calculus and Differential Equations for Biology 1	
or MATH 1340	Intensive Calculus for Engineers	
or MATH 1341	Calculus 1 for Science and Engineering	
Required Economics Courses		
ECON 1115	Principles of Macroeconomics	4
ECON 1116	Principles of Microeconomics	4
ECON 2315	Macroeconomic Theory	4
ECON 2316	Microeconomic Theory	4
ECON 2560	Applied Econometrics	4
Economics Electives		
Complete three Economics elective courses found in the following ranges, with no more than one in the ECON 1200 to ECON 1999 range:		12
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		

Supporting Courses

Code	Title	Hours
Complete one of the statistics and departmental elective combinations listed below:		8
Combination A		
Statistics		
POLS 2400	Quantitative Techniques	
Economics		
Complete one course from the following ranges. This course may not also be used as an Economics elective:		
ECON 1200 to ECON 1999		
ECON 2990 to ECON 4689		
ECON 4900 to ECON 4996		
ECON 5200 to ECON 5999		
Combination B		
Statistics		
ECON 2350	Statistics for Economists	
Political Science		
Complete one course in the following range:		
POLS 2401 to POLS 5999		

Integrative Requirements

Code	Title	Hours
Senior Seminar/Capstone		
Complete one of the following:		4
ECON 4692	Senior Economics Seminar	
ECON 4997	Senior Economics Thesis	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Combined Major GPA/Credit Requirement:

Grades in the following required Economics courses and in Quantitative Techniques (POLS 2400) or Statistics for Economists (ECON 2350) must average to a minimum of C (2.000):

Code	Title	Hours
ECON 2315	Macroeconomic Theory	
ECON 2316	Microeconomic Theory	
ECON 2350	Statistics for Economists	
or POLS 2400	Quantitative Techniques	
ECON 2560	Applied Econometrics	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required.

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	

POLS 4918	Model NATO
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	

POLS 2395	Environmental Politics and Policy
POLS 3425	U.S. Foreign Policy

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 1115	4	CS 1100, DS 2000 ***and*** DS 2001, or MISM 2510	4	Elective	4	Elective	4
ENGW 1111	4	ECON 1116	4	Elective	4	Elective	4
POLS 1155	4	MATH 1231, 1241, 1245, 1251, 1340, or 1341	4				
Elective	4	POLS 1150	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ECON 2315	4	ECON 2316	4	Political Theory Course	4	Co-op	0
POLS 1160	4	POLS 2400 or ECON 2350*	4	Elective	4		
ECON elective 1	4	ECON elective 2	4				
POLS undergraduate elective	4	POLS undergraduate elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ECON 2560	4	ECON elective or POLS elective*	4	Co-op	0
		ECON elective 3	4	Elective	4		
		POLS undergraduate elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		POLS 4701, 4703, ECON 4692, or ECON 4997	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 128

* See Supporting Courses, Combinations A and B.

Political Science and Human Services, BS

The combined degree seeks to prepare students with skills and tools to advocate for social issues at all levels of society. Human services program students are well positioned to pursue fields in the social change arena (nongovernment organizations, or NGOS; counseling; and political advocacy). Political science students are also well positioned to change and shape the domestic and international political landscape in American politics, comparative politics, international relations, and public policy. Students engage in an integrated educational program that emphasizes experiential approaches to learning through service-learning, co-op, internship, and study-abroad opportunities. Upon completion of the degree, students can apply professional skills in counseling roles, nonprofit management, political advocacy, or organizational and community development. Successful students are poised to pursue law school, graduate school, careers in government and the nonprofit sector, as well as in teaching, journalism, legislative or lobbying positions, public relations activities, and work in international corporations and NGOs.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete three courses in the following range:		12
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your advisor so that it may be added to your record:

- American Political Institutions (p. 2520)
- Campaigns and Elections (p. 2521)
- Comparative Politics (p. 2521)
- Identity, Culture, and Politics (p. 2521)
- International Relations and Diplomacy (p. 2522)
- Law and Legal Studies (p. 2522)
- Public Policy (p. 2522)
- Security Studies (p. 2522)

Supporting Course for Political Science

Code	Title	Hours
Mathematics		
Complete one of the following to fulfill the prerequisite for POLS 2400:		4
MATH 1213	Interactive Mathematics	
MATH 1215	Mathematical Thinking	

MATH 1231	Calculus for Business and Economics
MATH 1241	Calculus 1

Human Services Requirements

Code	Title	Hours
Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 4994	Human Services Internship	6
Human Services and Diverse Populations		
Complete one of the following:		4
HUSV 2355	Race, Identity, Social Change, and Empowerment	
HUSV 2800	Sexual Orientation and Gender Expression	
HUSV 2960	Intercultural Studies through Human Services	
Human Services Electives		
Complete three HUSV courses.		12

Integrative Requirements

Code	Title	Hours
Integrative Courses		
POLS 3307	Public Policy and Administration	4
HUSV 3900	Social Policy	4
Research Methods		
Complete one of the following:		4
POLS 2399	Research Methods in Political Science	
HUSV 2970	Research Methods for Human Services	
Capstone and Elective		
Complete one of the following options:		8
Option A		
Complete POLS 4701 or POLS 4703 and complete one additional human services course that has not been used in previous requirements:		
POLS 4701	Political Science Senior Capstone	
or POLS 4703	Senior Thesis	
HUSV 1100 to HUSV 5999		
Option B		
Complete HUSV 4700 and complete one additional political science course numbered 2000 or higher that has not been used in previous requirements:		
HUSV 4700	Senior Seminar in Human Services	
POLS 2000 to POLS 5999		

Political Science and Human Services Combined Major Credit Requirement

Complete 86 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	

POLS 3302	Judicial Process and Behavior
POLS 3307	Public Policy and Administration
POLS 3310	Public Opinion, Voting, and Elections
POLS 3160	Campaign Strategy

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Year 1

Fall	Hours	Spring	Hours
HUSV 1000 or POLS 1000	1	POLS 1150	4
POLS 1155	4	POLS 1160	4
ENGW 1111	4	HUSV 2300	4
HUSV 1101	4	HUSV elective	4
Elective	4		
	17		**16**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	Co-op		Co-op		POLS 2400 supporting course	4
POLS thought	4					HUSV elective	4
HUSV diverse population course	4						
HUSV 3570	4						
Research methods course	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
POLS elective	4	Co-op		Co-op		POLS elective	4
POLS 2400	4					HUSV elective	4
POLS 3307	4						
HUSV 3900	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
POLS elective	4	Elective	4
Capstone and elective	8	Elective	4
HUSV 4700 and one POLS course (Option A) or POLS 4701 (or POLS 4703) and one HUSV course (Option B)		Elective	4
Elective	4	Elective	4
	16		**16**

Year 5

Fall	Hours
HUSV 4994	6
Elective	4
Elective	4
	14

Total Hours: 128

Political Science and Philosophy, BS

The combined major in political science and philosophy enables students to develop an integrated understanding of politics, political theory, ethical theory, and theories of justice. Students who complete the major will have the training to critically evaluate and assess public policies and social issues on both political and ethical grounds, including issues such as tax policy, immigration, environmental protection, trade policy, healthcare, education, defense policy, and much more.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Political Science Requirements

Code	Title	Hours
Core Courses in Political Science		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
POLS 2399	Research Methods in Political Science	4
POLS 2400	Quantitative Techniques	4
Political Thought		
Complete two of the following:		8
POLS 2325	Ancient Philosophy and Political Thought	
POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete four courses in the following range:		16
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record.

- American Political Institutions (p. 2379)
- Campaigns and Elections (p. 2379)
- Comparative Politics (p. 2379)
- Identity, Culture, and Politics (p. 2380)
- International Relations and Diplomacy (p. 2380)
- Law and Legal Studies (p. 2380)
- Public Policy (p. 2381)
- Security Studies (p. 2381)

Philosophy Requirements

Code	Title	Hours
Philosophy Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2303	Social and Political Philosophy	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4

Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Additional Electives		
Complete two additional PHIL courses not used to satisfy other requirements.		8

Integrative Requirement

Code	Title	Hours
Complete one of the following:		
PHIL 5001	Global Justice	4
or PHIL 5002	Ethics and Public Policy	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8

POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		
Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	

POLS 4500	U.S. Constitutional Law
POLS 4505	U.S. Civil Liberties

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MATH 1215	4	PHIL 2325 or POLS 2325	4	PHIL Elective	4
PHIL 1115	4	POLS 1150	4	PHIL Restricted Elective	4	Elective	4
POLS 1000	1	POLS 1160	4				
POLS 1155	4	Elective	4				
POLS elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	Co-op		Co-op		Critical Philosophy elective	4
POLS 2399	4					POLS Elective	4
POLS Thought	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 5001	4	Co-op		Co-op		POLS elective	4
POLS 2400	4					Elective	4
POLS elective	4						
POLS elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
PHIL Elective	4	PHIL Restricted Elective	4
POLS Thought course	4	Elective	4
POLS elective	4	Elective	4
POLS elective	4	Elective	4
	16		**16**

Total Hours: 129

Political Science, Minor

The political science minor introduces students to key concepts, practices, and perspectives in the study of politics and government. Students complete at least two of the three introductory courses—American government, comparative politics, and international relations—as well as three other courses in political science.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Courses

Code	Title	Hours
Complete two of the following:		8
POLS 1150	American Government	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	

Elective Courses

Code	Title	Hours
Complete three political science courses.		12

GPA Requirement

2.000 GPA required in the minor

American Political Institutions, Minor

The American political institutions minor introduces students to key concepts, practices, and perspectives in the study of American politics and government. Students complete the introductory American government course as well as four other courses that focus on various aspects of American politics and government at the national, state, and local levels.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: This minor is restricted to students who are not enrolled in the political science major or in any political science combined major.

Required Course

Code	Title	Hours
POLS 1150	American Government	4

Electives

Code	Title	Hours
Complete four of the following:		16
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

GPA Requirement

2.000 GPA required in the minor

International Security Studies, Minor

The international security studies minor introduces students to key concepts, practices, and perspectives in the study of international security. Students complete the introductory course in international relations as well as four other courses in political science that focus on various aspects of international security, including international law, international organizations, and U.S. security policy.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Note: Political science majors and combined majors may not pursue the minor in international security studies.

Required Core Courses

Code	Title	Hours
POLS 1160	International Relations	4
POLS 3420	U.S. National Security Policy	4
POLS 5408	International Security	4

Elective Courses

Code	Title	Hours
Students may not count any of the courses toward more than one requirement.		
Complete two of the following:		8
POLS 3406	International Law	
POLS 3420	U.S. National Security Policy	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 4910	Model United Nations	
POLS 5408	International Security	

GPA Requirement

2.000 GPA required in the minor

Sociology and Anthropology

Website (http://www.northeastern.edu/socant/)

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Sociology and cultural anthropology provide the critical perspective needed for studying the social and cultural arrangements in which people live, for understanding how societies function, for investigating the conditions under which people change their institutions, and for describing the modes and conditions of cooperation that make social life possible.

Courses in the program examine such areas as urbanization, the environment, health, globalization and human rights, gender and sexuality, social movements, the cultural underpinnings of science and technology, new media, and the comparative analysis of advanced capitalist societies. Many courses are directly relevant to majors in other fields, including economics, political science, philosophy, literature, criminal justice, and business.

The major in sociology or cultural anthropology seeks to prepare students for careers in public or private service, including such fields as law, teaching, social work, administration or management, and research.

Sociology and cultural anthropology both participate in a number of combined majors, which can be found listed under the Programs tab on this page.

Academic Progression Standards

Same as university-wide standards described under “Academic Status (p. 88).”

Programs

Bachelor of Arts (BA)

- Sociology (p. 2534)
- Cultural Anthropology (p. 2536)
- Communication Studies and Sociology (p. 292)
- Cultural Anthropology and Philosophy (p. 2292)
- Cultural Anthropology and Religious Studies (p. 2295)
- Cultural Anthropology and Theatre (p. 541)
- English and Cultural Anthropology (p. 2044)
- History and Cultural Anthropology (p. 2120)
- Human Services and Sociology (p. 1772)
- International Affairs and Cultural Anthropology (p. 2207)
- Media and Screen Studies and Sociology (p. 349)
- Public Health and Cultural Anthropology (p. 1212)
- Public Health and Sociology (p. 1221)
- Sociology and Cultural Anthropology (p. 2581)
- Sociology and Environmental Studies (p. 1506)
- Sociology and International Affairs (p. 2257)
- Sociology and Philosophy (p. 2335)
- Sociology and Political Science (p. 2467)
- Sociology and Religious Studies (p. 2338)

Bachelor of Science (BS)

- Sociology (p. 2605)
- Cultural Anthropology (p. 2607)
- Computer Science and Sociology (p. 849)
- Criminal Justice and Sociology (p. 1857)
- Health Science and Sociology (p. 1195)
- Human Services and Sociology (p. 1775)
- Linguistics and Cultural Anthropology (p. 1704)

- Mathematics and Sociology (p. 1555)
- Sociology and Cultural Anthropology (p. 2629)

Minors

- Cultural Anthropology (p. 2632)
- Science and Technology Studies (p. 2633)
- Sociology (p. 2634)
- Computational Social Science (https://catalog.northeastern.edu/undergraduate/social-sciences-humanities/interdisciplinary/computational-social-sciences-minor/#text)

Accelerated Programs

See Accelerated Bachelor/Graduate Degree Programs (p.)

Sociology, BA

Sociology is the scientific study of society. It begins with the premise that individuals are deeply affected by the social structures, institutions, and cultural milieus surrounding them. Sociology provides students with the conceptual tools to understand how various features of society, including inequalities based on race, class, or gender, affect its members. In so doing, sociology also provides conceptual tools that can be used to foster social change and the empowerment of historically marginalized groups.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Major Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
or INSH 3102	Introduction to Statistics in the Social Sciences	
SOCL 2321	Research Methods in Sociology	4
or INSH 3101	Research Methods in the Social Sciences	
SOCL 3300	Social Theory	4
Cultural Anthropology		
ANTH 2305	Global Markets and Local Culture	4
Advanced Methods Requirement		
Complete one of the following:		4
ANTH 3410	Ethnographic Field Experience	
DS 3000	Foundations of Data Science	
HINF 5301	Evaluating Health Technologies	
INSH 1500	Digital Methods for Social Sciences and Humanities	
SOCL 3487	Applied Sociology: Practice and Theory	
Senior Seminar		
SOCL 4600	Senior Seminar	4

Required Sociology Electives

Code	Title	Hours
Sociology Electives		
Students must complete seven elective courses in the major, at least four of which must be at the 3000 level or higher.		28
Social Science Electives		
Complete three social science courses in the following subject areas: AFRS, AFAM, ANTH, CRIM, ECON, HUSV, HIST, INTL, LING, LPSC, POLS, or PSYC.		12

Sociology Experiential Learning Requirement

Code	Title	Hours
Complete one of the following courses or a study abroad or a co-op:		4
SOCL 3487	Applied Sociology: Practice and Theory	
SOCL 4971	Junior/Senior Honors Project 2	

Sociology Major Grade Requirement

A GPA of 2.000 across all major courses is required.

Sociology Major Credit Requirement

Complete 68 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 1000	1	SOCL 1000+ level elective	4	General elective	4	General elective	4
SOCL 1101	4	Social science elective	4	General elective	4	General elective	4
ENGW 1111	4	SOCL 2321	4				
Foreign language BA course	4	Foreign language BA course	4				
SOCL 1000+ level elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 1000+ level elective	4	Co-op		Co-op		General elective	4
SOCL 2320	4					General elective	4
ANTH 2305	4						
Foreign language BA course	4						
EESH 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 3000+ level elective	4	Co-op		Co-op		General elective	4
ENGW 3315 or 3305	4					General elective	4
SOCL 3300	4						
Advanced methods requirement	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Social science elective	4	SOCL 3000+ level elective	4
SOCL 3000+ level elective	4	SOCL 4600	4
SOCL 3000+ level elective	4	General elective	4
Social science elective	4	General elective	4
	16		**16**

Total Hours: 130

Cultural Anthropology, BA

Anthropology is the holistic, cross-cultural study of humanity that explores the multiple ways humans live and create meaning in the world. At Northeastern University, the sociology and anthropology department specializes in **cultural anthropology** and **social anthropology**—the relationship of culture to the institutions, relationships, and practices of everyday life that make up social structures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Major Requirements

Code	Title	Hours
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3421	Foundations of Anthropological Theory	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 4600	Senior Seminar	4
SOCL 1101	Introduction to Sociology	4
Advanced Area Courses		
Additional courses taken in this section may be used as electives.		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete six ANTH courses. Two study- abroad courses may count toward this requirement with prior permission from the department.		24
Social Science Electives		
Complete three social science courses from the following subject areas. Social science electives may not include music or art: AFRS, AFAM, CRIM, ECON, HUSV, HIST, INTL, LING, LPSC, POLS, PSYC, or SOCL.		12

[1] Students must choose between a one-semester senior project, which they would complete in the context of Senior Seminar (ANTH 4600), or a two-semester senior thesis, which would require them to also enroll in a fall-semester directed study.

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 across all major courses is required.

Cultural Anthropology Major Credit Requirement

Complete 68 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1000	1	SOCL 1101	4	Vacation	0	Vacation	0
ANTH 1101	4	Anthropology elective	4				
Social science elective	4	ENGW 1111	4				
Elective	4	MATH 1215	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2300	4	Social science elective	4	Vacation	0	Co-op	0
Foreign language core course	4	Foreign language core course	4				
Social science elective	4	Elective	4				
Elective	4	Anthropology elective	4				
		EESH 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Advanced area ANTH 4500–ANTH 4515	4	ANTH 2305	4	Co-op	0
		Anthropology elective	4	Elective	4		
		ENGW 3315	4				
		Foreign language core course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Advanced area ANTH 4500–ANTH 4515	4	Elective	4	Co-op	0
		Anthropology elective	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ANTH 4600	4
		Elective	4
		Anthropology elective	4
		Elective	4
	0		**16**

Total Hours: 130

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1000	1	SOCL 1101	4	Vacation	0	Vacation	0
ANTH 1101	4	Anthropology elective	4				
Social science elective	4	ENGW 1111	4				
Elective	4	MATH 1215	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2300	4	Co-op	0	Co-op	0	Foreign language core course	4
Foreign language core course	4					Elective	4
Social science elective	4						
Anthropology elective	4						
EESH 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op	0	Co-op	0	Elective	4
Foreign language core course	4					Elective	4
ENGW 3315	4						
Anthropology elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Advanced area ANTH 4500–ANTH 4515	4	Co-op	0	Co-op	0	Vacation	0
Anthropology elective	4						
Social science elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Advanced area ANTH 4500–ANTH 4515	4	ANTH 4600	4
Anthropology elective	4	Elective	4
Elective	4	Elective	4
Anthropology elective	4	Elective	4
	16		**16**

Total Hours: 130

Communication Studies and Sociology, BA

The communication studies department and the sociology department offer an interdisciplinary combined major in communication studies and sociology. The combined major integrates the study of communication skills and processes with the study of social behaviors.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Societies and Institutions (SI) and Ethical Reasoning (ER) are met through the major course requirements.

NUpath requirements Natural and Designed World (ND), Creative Expression/Innovation (EI), Interpreting Culture (IC), Formal and Quantitative Reasoning (FQ), Difference and Diversity (DD), and Analyzing and Using Data (AD) may be met through electives in the major.

Communication Studies Requirements

Code	Title	Hours
Communication Studies Common Requirements		
COMM 1000	Communication Studies at Northeastern	1
COMM 1101	Introduction to Communication Studies	4
COMM 1112	Public Speaking	4
or COMM 2301	Communication Research Methods	
Foundation Course		
Complete one of the following:		4
COMM 1210	Persuasion and Rhetoric	
COMM 1225	Communication Theory	
COMM 1231	Principles of Organizational Communication	
COMM 1255	Communication in a Digital Age	
Cluster Course		
Complete one of the following:		4
COMM 1131	Sex, Relationships, and Communication	
COMM 2303	Global and Intercultural Communication	
COMM 2304	Communication and Gender	
COMM 2501	Communication Law	
COMM 2551	Free Speech in Cyberspace	
Writing-Intensive Courses		
Complete two of the following:		8
COMM 3200	Mobile Communication	
COMM 3201	Health Communication	
COMM 3230	Interpersonal Communication	
COMM 3304	Communication and Inclusion	
COMM 3320	Political Communication	
COMM 3415	Communication Criticism	
COMM 3445	Public Relations Principles	
COMM 3500	Environmental Issues, Communication, and the Media	

COMM 3501	Free Speech: Law and Practice	
COMM 3530	Communication and Sexualities	
COMM 3532	Theories of Conflict and Negotiation	
COMM 4535	Nonverbal Social Interaction	
COMM 4605	Youth and Communication Technology	
COMM 4631	Crisis Communication and Image Management	
Communication Studies Electives		
Complete three COMM courses.		12

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two courses between SOCL 1200 and SOCL 1999.		8
Intermediate-Level Elective		
Complete two courses between SOCL 2000 and SOCL 2999.		8
Advanced-Level Elective		
Complete one course above SOCL 3000.		4

Capstone and Integrative Requirements

Code	Title	Hours
Integrative Course		
Complete one of the following:		4
COMM 3320	Political Communication	
COMM 3532	Theories of Conflict and Negotiation	
SOCL 3450	Class, Power, and Social Change	
Capstone/Senior Seminar Option		
Complete one of the following two options:		8
Communications Capstone Option		
Complete one COMM course and one SOCL course from the following list:		
COMM 4102	Health Communication Campaigns	
COMM 4530	Communication and Quality of Life	
COMM 4625	Online Communities	
SOCL 3000 to SOCL 4999		
Sociology Senior Seminar Option		
Complete SOCL 4600 and one COMM course from the following list:		
SOCL 4600	Senior Seminar	
COMM 3000 to COMM 4999		

Communication Studies Grade Requirement

No more than two grades below a C in communication studies courses may be used to fulfill degree requirements.

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Communication Studies and Sociology Combined Major Credit Requirement

Complete 80 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
COMM 1000	1	ENGW 1111	4	Communication Studies cluster course	4	Introductory Sociology elective	4
COMM 1101	4	SOCL 2320	4	Elective	4	Elective	4
COMM 1112 or 2301	4	SOCL 2321	4				
SOCL 1101	4	Communication Studies foundation course	4				
SOCL 3300	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op	0	Co-op	0	Communication Studies elective	4
Communication Studies elective	4					Communication Studies writing-intensive	4
Introductory Sociology elective	4						
Elective	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Advanced Writing in the Discipline	4	Co-op	0	Co-op	0	Communication Studies elective	4
Communication Studies writing-intensive	4					Elective	4
Intermediate Sociology elective	4						
Intermediate sociology elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Advanced Sociology elective	4	Communication Studies or Sociology capstone	4
Integrative course	4	Communication Studies or Sociology capstone elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Cultural Anthropology and Philosophy, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in cultural anthropology and philosophy. Students in the combined major integrate the study of culture and social structures with the study of social and political philosophy, ethics, and the philosophy of science. The combined major enables students to understand and appreciate cultural differences in human interaction, ways of knowing, and systems of logic and human classification.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Complete two area courses above 4000; additional area courses taken may count as anthropology electives.		8
Capstone		
ANTH 4600	Senior Seminar	4
Electives		
Complete three 4-semester-hour courses in addition to the above requirements. One study-abroad course may also count toward this requirement with prior permission from the department.		12

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Foundational Philosophy of Science Elective		
Complete one of the following:		4
PHIL 1105	Science and Pseudoscience	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 3050	Information and Uncertainty	
PHIL 3360	Scientific Approaches to Philosophy	
Advanced Philosophy Electives		
Complete two PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		8
Critical Philosophy Elective		

Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Electives		
Complete two additional courses from the philosophy department.		8

Integrative Requirement

Code	Title	Hours
One integrative course is required from each discipline. Courses taken as electives above may not be used as integrative courses.		
PHIL 4500	Theory of Knowledge	4
or PHIL 4510	Philosophy of Science	
or PHIL 4550	Philosophy of Economics	
or PHIL 4555	Philosophy of Biology	
or PHIL 4903	Seminar in Religion	
SOCL 3450	Class, Power, and Social Change	4

Anthropology and Philosophy Combined Major Credit Requirement

Minimum 2.000 GPA required in anthropology and philosophy courses

88 semester hours required

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	ANTH elective	4
ENGW 1111	4	PHIL 2325	4	Elective	4	Elective	4
PHIL 1115	4	Critical Philosophy elective	4				
PHIL elective	4	ANTH elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 2330	4	ANTH 3410	4	Elective	4	Co-op	
ANTH elective	4	ANTH 3421	4	Elective	4		
ANTH area course	4	PHIL advanced elective	4				
Elective	4	PHIL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH area course	4	Elective	4	Co-op	
		ANTH elective	4	Elective	4		
		Integrative course	4				

		PHIL 4000/5000-level course	4		
	0		**16**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		ANTH capstone	4
		PHIL capstone	4
		Integrative course	4
		Elective	4
	0		**16**

Total Hours: 128

Cultural Anthropology and Religious Studies, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in anthropology and religious studies. Students in the combined major integrate the study of culture and social structures with the study of religious traditions and praxis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Additional area courses taken may count as anthropology electives. Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Capstone		
Students are expected to complete the following course in spring of their senior year:		
ANTH 4600	Senior Seminar	4
Electives		
Complete three 4-semester-hour courses in addition to the above requirements. One study-abroad course may also count toward this requirement with prior permission from the department.		12

Religion Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Electives		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	

PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Electives		
Complete five of the following courses that have not been used to satisfy another requirement in the combined major. At least one must be at the 2000 level or above and at least one must be at the 3000 level or above:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Seminar		
PHIL 4903	Seminar in Religion	4

Integrative Requirements

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		4
ANTH 2315	Religion and Modernity	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	

Cultural Anthropology GPA Requirement

Minimum 2.000 GPA required in all anthropology courses

Religion GPA Requirement

Minimum 2.000 GPA required in all religion courses

Cultural Anthropology and Religion Major Credit Requirement

84 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	Elective	4
PHIL 1110	4	Lived religion elective	4	Elective	4	Elective	4
PHIL elective	4	PHIL elective	4				
ANTH elective	4	ANTH elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Comparative religion elective	4	ANTH 3410	4	Elective	4	Co-op	
ANTH elective	4	ANTH 3421	4	Elective	4		
ANTH area course	4	Elective	4				
PHIL elective	4	PHIL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHIL elective	4	Elective	4	Co-op	
		ANTH area course	4	Elective	4		
		Elective	4				
		Integrative course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		PHIL seminar	4
		ANTH capstone	4
		Integrative course	4
		Elective	4
	0		**16**

Total Hours: 128

Cultural Anthropology and Theatre, BA

This major is designed for students who want to combine a knowledge of the art of theatre, including performance, design, and production, with sociocultural theories and conceptual frameworks for understanding human behavior. It offers both classroom and experiential learning in the practice of making theatre and performance theories with cross-cultural approaches. Offers students the opportunity to develop an understanding of theatre's impact on past and present cultures, as well as a deeper awareness of the world in which they live.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3421	Foundations of Anthropological Theory	4
ANTH 3410	Ethnographic Field Experience	4
Advanced Area Courses		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4520	Chinese Society and Culture	
Anthropology Electives		
Complete three courses in the following range. Two study-abroad courses may count toward this requirement with prior permission from the department:		12
ANTH 2300 to ANTH 4999		
Related Discipline Electives		
Complete three related discipline courses from the following subject areas:		12
AFRS, AFAM, CRIM, ECON, HUSV, HIST, INTL, LING, LPSC, POLS, PSYC, SOCL		

Theatre Requirements

A minimum grade of C is required in all THTR and INAM courses.

Code	Title	Hours
The following courses are recommended to be taken by the end of the fourth semester (third semester for transfer students):		
THTR 1100	Production Experience 1	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4

Code	Title	Hours
Foundational Courses		
THTR 1000	Theatre at Northeastern	1
THTR 1101	Introduction to Theatre	4
THTR 1120	Acting 1	4
THTR 1131	Introduction to Technical Theatre	4
THTR 1270	Introduction to Theatrical Design	4
THTR 3325	Dramaturgical Inquiry	4
INAM 2000	Ethics in Creativity	4
Making Theatre		
THTR 1100	Production Experience 1	1
THTR 2000	Production Experience 2	1
Texts, Community, & Social Context		
Complete one of the following:		4
INAM 1300 and INAM 1301	The Ethics of Narrative in Theatre and The Ethics of Narrative in Theatre Seminar	
THTR 1215	Activism and Performance	
THTR 1220	Race, Power, and Performance	
THTR 1400	Documentary Theatre Project	
THTR 2200	The American Black Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2983	Topics in Theatre History and Culture	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3650	Performing Theory	
Theatre Electives		
Complete two of the following:		8
THTR 2200	The American Black Theatre Experience	
THTR 2310	History of Musical Theatre	
THTR 2330	Playwriting	
THTR 2335	Boston Theatre Experience	
THTR 2340	Theatre and Society	
THTR 2342	Acting 2	
THTR 2345	Acting for the Camera	
THTR 2346	Viewpoints	
THTR 2370	Lighting Design	
THTR 2380	Costume Design	
THTR 2385	Fashion Construction and Pattern Making	
THTR 2400	Scenic Design	
THTR 2500	Breaking the Glass Ceiling: Women in Theatre	
THTR 2600	Voice and Speech Training	
THTR 2983	Topics in Theatre History and Culture	
THTR 2993	Topics in Dance	
THTR 3100	Creative Storytelling for Social Engagement	
THTR 3200	Queer Theatre and Performance	
THTR 3400	Stage Combat	
THTR 3550	Directing for the Stage	
THTR 3650	Performing Theory	
THTR 3670	Mixed-Media Performance Lab	
THTR 3973	Topics in Performance Studies	
THTR 4345	Advanced Acting for the Camera	
THTR 5300	Devised Theatre Project	

THTR 5450	Acting 3
THTR 5700	Design for Immersive Performance

Integrative Requirements

Code	Title	Hours
Complete one from each of the alternatives below (two courses total).		
THTR 2340	Theatre and Society	4
or THTR 3100	Creative Storytelling for Social Engagement	
THTR 4702	Capstone: Creative Practice Research Project	4
or ANTH 4600	Senior Seminar	

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 for ANTH courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Four Years, One Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 1000	1	THTR 1120	4	Elective	4	Vacation	
THTR 1100	1	THTR 1131	4	Elective	4		
THTR 1101	4	ANTH 2305	4				
ANTH 1101	4	ANTH elective	4				
Social science elective	4						
ENGW 1111	4						
	18		**16**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
THTR 2000	1	THTR Elective	4	Vacation		Vacation	
THTR 3325	4	THTR 1270	4				
INAM 2000	4	Foreign language	4				
ANTH elective	4	ANTH 3421	4				
THTR Texts, Community, & Social Context Course	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH elective	4	Co-op		Co-op		Elective	4
THTR Elective	4					Foreign language	4
Foreign language	4						
Social science elective	4						
EEAM 2000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ANTH advanced 1	4	Foreign language	4
Elective	4	Social science elective	4
Foreign language	4	ANTH advanced 2	4
ANTH 3410	4	THTR 4702	4
	16		**16**

Total Hours: 132

English and Cultural Anthropology, BA

The Department of English and the Department of Sociology and Anthropology offer an interdisciplinary combined major in English and cultural anthropology. Broadly speaking, students in the combined major in English and cultural anthropology at Northeastern integrate the study of literature, language, and writing with the study of human culture and its intersections with structures of inequality (e.g., race, class, and gender) and contemporary global issues.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

English Requirements

Code	Title	Hours
Foundational Courses		
ENGL 1400	Introduction to Literary Studies	4
ENGL 1160	Introduction to Rhetoric	4
or ENGL 1410	Introduction to Research on Writing	
ENGL 1700	Global Literatures 1	4
or ENGL 1701	Global Literatures 2	

English Electives

Two of the courses chosen from the lists below must be at the 3000 or 4000 level.

Code	Title	Hours
Diversity		
Complete one course from the following. You may reuse this course to fulfill an additional English requirement below.		4
ENGL 2150	Literature and Digital Diversity	
ENGL 2296	Early African-American Literature	
ENGL 2450	Postcolonial Literature	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2760	Writing in Global Contexts	
ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
ENGL 3685	Modern and Contemporary Jewish Literature	
Literary Periods		
Pre-19th Century Literature		
Complete one course from the following:		4
ENGL 1600	Introduction to Shakespeare	
ENGL 2296	Early African-American Literature	
ENGL 3101	Early Literatures	
ENGL 3120	17th- and 18th-Century Literatures	
ENGL 3618	Milton	

ENGL 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
or JWSS 3678	Bedrooms and Battlefields: Hebrew Bible and the Origins of Sex, Gender, and Ethnicity	
19th/20th/21st Century Literature		
Complete one of the following courses:		4
19th Century		
ENGL 2330	The American Renaissance	
ENGL 3140	19th-Century Literatures	
ENGL 3190	Topics in 19th-Century American Literature	
ENGL 3619	Emerson and Thoreau	
ENGL 3720	19th-Century Major Figure	
20th/21st Century		
ENGL 2301	The Graphic Novel	
ENGL 2440	The Modern Bestseller	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 3161	20th- and 21st-Century Literatures	
ENGL 3685	Modern and Contemporary Jewish Literature	
or JWSS 3685	Modern and Contemporary Jewish Literature	
ENGL 3730	20th- and 21st-Century Major Figure	
Theories and Methods		
Complete one of the following:		4
ENGL 1140	Grammar: The Architecture of English	
ENGL 1160	Introduction to Rhetoric	
ENGL 1410	Introduction to Research on Writing	
ENGL 2150	Literature and Digital Diversity	
ENGL 3325	Rhetoric of Law	
ENGL 3381	The Practice and Theory of Teaching Writing	
ENGL 3400	Opening the Archive	
ENGL 3700	Narrative Medicine	
LING 1150	Introduction to Language and Linguistics	
LING 2350	Linguistic Analysis	
LING 3450	Syntax	
LING 3452	Semantics	
LING 3454	History of English	
LING 3456	Language and Gender	
LING 3458	Topics in Linguistics	
Comparative Course		
Complete one of the following courses:		4
ENGL 1450	Reading and Writing in the Digital Age	
ENGL 1500	British Literature to 1800	
ENGL 1502	American Literature to 1865	
ENGL 2150	Literature and Digital Diversity	
ENGL 2420	Contemporary Poetry	
ENGL 2430	Contemporary Fiction	
ENGL 2455	American Women Writers	
ENGL 2470	Asian-American Literature	
ENGL 2510	Horror Fiction	
ENGL 2520	Science Fiction	
ENGL 2600	Irish Literary Culture (Abroad)	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
ENGL 3487	Film and Text (Abroad)	
Writing		
Complete one of the following:		4

ENGL 2700	Creative Writing	
ENGL 2710	Style and Editing	
ENGL 2730	Digital Writing	
ENGL 2740	Writing and Community Engagement	
ENGL 2760	Writing in Global Contexts	
ENGL 2770	Writing to Heal	
ENGL 2850	Writing for Social Media: Theory and Practice	
ENGL 3375	Writing Boston	
ENGL 3376	Creative Nonfiction	
ENGL 3377	Poetry Workshop	
ENGL 3378	Fiction Workshop	
ENGL 3380	Writing Seminar	
ENGL 3384	The Writer's Marketplace	
English Electives		
Complete any two ENGL courses that have not already been used to fulfill another requirement.		8

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Additional "area courses" taken may count as anthropology electives.		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete three 4-semester-hour courses in addition to the above requirements. One study-abroad course may also count toward this requirement with prior permission from the department.		12

Capstone Requirement

Code	Title	Hours
Capstone Requirements		8
ENGL 4710	Capstone Seminar	
or ENGL 4720	Capstone Project	
ANTH 4600	Senior Seminar	

Integrative Requirements

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
English Integrative Course		
Complete one of the following:		4
ENGL 2450	Postcolonial Literature	
ENGL 2620	What Is Nature?	
ENGL 2690	Boston in Literature	
Cultural Anthropology Integrative Courses		
Complete one of the following:		4
ANTH 3421	Foundations of Anthropological Theory	

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

English and Cultural Anthropology Combined Major Credit Requirement

Complete 92 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGL 1000	1	ENGL 1160	4	Elective	4	Elective	4
ENGL 1400	4	ENGW 1111	4	Elective	4	Elective	4
English elective	4	ANTH 3410	4				
ANTH 1101	4	Anthropology elective	4				
ANTH 2305	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Pre-19th Century period course	4	Co-op		Co-op		English Diversity course	4
Area Course	4					Writing course	4
Anthropology elective	4						
Theories & Methods course	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
English Comparative course	4	Co-op		Co-op		English elective	4
ANTH 3421	4					Advanced Writing in the Disciplines	4
Area course	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
ENGL Integrative course	4	ENGL 4710 or 4720	4
19th, 20th, 21st Century period course	4	Anthropology elective	4
ANTH 4600	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

History and Cultural Anthropology, BA

History and cultural anthropology offer an interdisciplinary combined major. Students interested in the combined major in history and cultural anthropology integrate the exploration of human history with the rigorous study of human cultures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

History Requirements

Code	Title	Hours
History Colloquium		
HIST 1000	History at Northeastern	1
HIST 1200	Historical Research and Writing	1
HIST 1201	First-Year Seminar	4
History Seminar and Historical Writing		
HIST 2301	The History Seminar	4
HIST 2302	Historical Writing	1
Pre-1800 History Elective		
Complete one course from the following:		4
HIST 1100	Law and History	
HIST 1180	African History	
HIST 1185	Introduction to Middle Eastern History	
HIST 1187	Introduction to Latin American History	
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804	
HIST 1252	Japanese Literature and Culture	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1285	Introduction to Russian Civilization	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 2330	Colonial and Revolutionary America	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
HIST 2390	Africa and the World in Early Times	
HIST 3334	Assassinations in World History	
History Elective		
Complete two HIST courses at any level in any field.		8
Introductory Level Elective		
Complete one history course from the 1000 level.		4
Intermediate/Advanced History Elective		
Complete minimum of one HIST course numbered 2000 to 2999 (excluding HIST 2301 and HIST 2302).		4
Advanced History Elective		
Complete minimum of one HIST course numbered 3000 to 4999 (excluding HIST 4701).		4

Cultural Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Area Courses		
Complete two courses from the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete three courses in the following range. One study-abroad course may count toward this requirement.		12
ANTH 2001 to ANTH 4599		

Capstone Requirements

Code	Title	Hours
Complete one of the following:		4
ANTH 4600	Senior Seminar [1]	
HIST 4701	Capstone Seminar	

[1] Students taking Senior Seminar (ANTH 4600) must complete either a one-semester senior project, which they would do in the context of ANTH 4600, or a two-semester senior thesis, which would require them to also enroll in a fall-semester directed study.

Integrative Requirements

ANTH courses below will double count as area courses.

Code	Title	Hours
ANTH 4350	Ethnography of Southeast Asia	4
ANTH 4510	Anthropology of Africa	4
HIST 2360	History of Capitalism in East Asia	4

Cultural Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Vacation		Vacation	
ENGW 1111	4	HIST elective or integrative 1	4				
HIST 1000	1	HIST elective or integrative 2	4				
HIST 1200	1	Elective	4				
HIST 1201	4						

Elective	4						
	18		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3410	4	ANTH 3421	4	Vacation		Co-op	
HIST 2301	4	HIST elective or integrative 3	4				
HIST 2302	1	HIST elective or integrative 4	4				
ANTH area course 1	4	Elective	4				
Elective	4						
	17		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH area course 2	4	Elective	4	Co-op	
		ANTH elective 1	4	Elective	4		
		HIST elective or integrative 5	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH elective 2	4	Elective	4	Co-op	
		ANTH elective 3	4	Elective	4		
		HIST elective or integrative 6	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op		HIST capstone or HIST senior project or ANTH capstone	4
		HIST elective or integrative 7	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 131

Human Services and Sociology, BA

Overview

Students pursuing a combined major in human services and sociology will integrate the theoretical understandings of these two fields to better understand organizational and group behavior and their implications for individuals and communities utilizing human services. The human services coursework prepares students for careers in social change by providing students with the theoretical and skill-based background necessary for practice and research. The sociology coursework prepares students to rigorously analyze the social, political, and economic spheres of society at the local and global levels. Students will develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at the individual and structural levels. The combined major provides students with the conceptual and practical tools to understand how various features of society affect its members as well as how people create social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Required Human Services Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Research Methods		
Complete Option A or Option B:		4-8
Option A		
Complete the following and one additional SOCL course:		
HUSV 2970	Research Methods for Human Services	
Option B		
Complete the following and one additional HUSV course:		
SOCL 2321	Research Methods in Sociology	
Human Services Elective		
Complete three additional HUSV courses.		12
Senior Capstone [1]		
HUSV 4700	Senior Seminar in Human Services	4

[1] With permission of human services, the student may complete sociology capstone Senior Seminar (SOCL 4600) and substitute one advanced human services elective for Senior Seminar in Human Services (HUSV 4700).

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
SOCL 1101	Introduction to Sociology	4

SOCL 2320	Statistical Analysis in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two electives between SOCL 1200 and SOCL 1999.		8
Intermediate-Level Elective		
Complete two courses between SOCL 2000 and SOCL 3990.		8
Advanced-Level Elective		
Complete one course above SOCL 4000.		4
Senior Seminar [2]		
SOCL 4600	Senior Seminar	4

[2] With permission of the sociology head advisor, the student may complete human services capstone Senior Seminar in Human Services (HUSV 4700) and substitute one advanced sociology elective for Senior Seminar (SOCL 4600).

Human Services/Sociology Integrative Course

Code	Title	Hours
HUSV 2355	Race, Identity, Social Change, and Empowerment	4

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Human Services and Sociology Combined Major Credit Requirement

Complete a minimum of 78 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	HUSV 2300	4	Elective	4	SOCL 2320	4
HUSV 1000 or SOCL 1000	1	MATH 1215	4	Elective	4	Elective	4
HUSV 1101	4	Elective	4				
SOCL 1101	4	Elective	4				
SOCL Intro Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 3570	4	EESH 2000	1	SOCL Intermediate-Level Elective	4	Co-op	0
SOCL 3300	4	SOCL Intro Elective	4	Elective	4		
Elective	4	Elective	4				
Elective	4	Elective	4				
		Elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	HUSV 2355	4	ENGW 3315	4	Co-op	0
		HUSV 4994	6	Elective	4		
		Research Methods Requirement	4				

		SOCL Intermediate-Level Elective	4		
	0		**18**	**8**	**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op	0	HUSV 3900	4
		HUSV 4700	4
		SOCL 4600	4
		SOCL Advanced Elective	4
	0		**16**

Total Hours: 132

International Affairs and Cultural Anthropology, BA

This combined major offers undergraduates the opportunity to develop an awareness of contemporary cultures within their international, transnational, and global contexts since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

International Affairs Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1160	International Relations	4
International Experiential Learning		
Complete at least one “international semester” via study abroad, international internship, international co-op, or two approved short-term programs abroad.		

International Affairs Elective

Code	Title	Hours
Please complete one of the following:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		
CRIM 3030	Global Criminology	
CRIM 3060	Political Crime and Terrorism	
CRIM 5203	Security in the 21st Century	
HIST 1206	Drug Trade and Drug War: History, Security, Culture	
HIST 1389	History of Espionage 1: Antiquity to World War II	
HIST 1390	History of Espionage 2: Cold War Spies	
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence	
HIST 3330	The Global Cold War	
HIST 3334	Assassinations in World History	
HIST 3335	History of Modern Terrorism	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
JRNL 3300	Covering Conflicts: Peace, War, and the Media	
or INTL 3300	Covering Conflicts: Peace, War, and the Media	
PHIL 5001	Global Justice	
POLS 2282	The Holocaust and Comparative Genocide	
POLS 3418	Nationalism	
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3430	Revolution, Civil War, and Insurrection	

or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	
ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media

JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two regional analysis courses, both of which must be in one region, from the following lists. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty advisor. See department for additional courses:		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 2395	Japanese Buddhism	
POLS 3482	East Asian Politics	
POLS 3485	China: Governance and Foreign Policy	
Europe		
CLTR 1501	Introduction to French Culture	
CLTR 1503	Introduction to Italian Culture	
CLTR 1504	Cultural History of Spain	
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath	
HIST 1272	Europe in the Middle Ages, 500–1500	
HIST 1286	History of the Soviet Union	
HIST 2370	Renaissance to Enlightenment	
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain	
INTL 3455	Russian Foreign Policy	
or POLS 3455	Russian Foreign Policy	
POLS 3435	Politics and Governance of Europe and the European Union	
Latin America		
ANTH 4500	Latin American Society and Development	
CLTR 1240	Latin American Film	

CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate-level two (course number 2101 or higher). *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Cultural Anthropology Major Requirements

Note: At least nine anthropology courses must be taken to complete the international affairs and cultural anthropology program.

Code	Title	Hours
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 3421	Foundations of Anthropological Theory	4
Anthropology Electives		
Complete five Anthropology courses from the following range, two of which must be area studies courses above 4000; none of these five courses may be counted elsewhere in the degree; one study-abroad course may count toward these requirements, with prior permission from the department.		20
ANTH 2000 to ANTH 4999		

Integrative Requirements

Note: If international affairs courses are taken in both the research methods and capstone areas, then an additional anthropology elective is required.

Code	Title	Hours
Research Methods		
INTL 2718	Research Methods in International Affairs	4
or ANTH 3410	Ethnographic Field Experience	
Global Markets		
ANTH 2305	Global Markets and Local Culture	4
Capstone		
ANTH 4600	Senior Seminar	4
or INTL 4700	Senior Capstone Seminar in International Affairs	

Students taking Senior Seminar (ANTH 4600) must complete either a one-semester senior project, which they would do in the context of ANTH 4600, or a two-semester senior thesis, which would require them to also enroll in a fall semester directed study.

Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

International Affairs and Anthropology Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
ENGW 1111	4	ECON 1115 or HIST 2211	4	Elective (Dialogue of Civilizations possible)	4	Elective (Dialogue of Civilizations possible)	4
INTL 1000	1	POLS 1160	4				
INTL 1101	4	Elective	4				
Foreign language course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EESH 2000	1	ANTH 3421	4	Elective (Dialogue of Civilizations possible)	4	Co-op	
INTL 2718 or ANTH 3410	4	Foreign Language Course	4	Elective (Dialogue of Civilizations possible)	4		
INTL Elective	4	Elective	4				
Foreign language course	4	Elective	4				
Elective	4						
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective (Dialogue of Civilizations possible)	4	Co-op	
		INTL 3400	4	Elective (Dialogue of Civilizations possible)	4		
		Foreign Language Course	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		INTL 4700	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

Sample Plan of Study: Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Vacation		Vacation	
ENGW 1111	4	ECON 1115 or HIST 2211	4				
INTL 1000	1	POLS 1160	4				
INTL 1101	4	Elective	4				

Foreign language core course	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3421	4	Co-op		Co-op		Vacation	
INTL 2718 or ANTH 3410	4						
Foreign language core course	4						
Elective	4						
	16		**0**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Elective	4
INTL 3400	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Elective	4	Co-op		Co-op		Elective	4
Elective	4					Elective	4
Elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 5

Fall	Hours	Spring	Hours
Elective	4	INTL 4700 or ANTH 4600	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Media and Screen Studies and Sociology, BA

The Media and Screen Studies Program and the Department of Sociology and Anthropology offer a combined major in media and screen studies and sociology. The combined major integrates the analysis, research, and production of traditional and emerging media along with the critical perspective needed for studying the social and cultural arrangements in which people live, for understanding how societies function, for investigating the conditions under which people change their institutions, and for describing the modes and conditions of cooperation that make social life possible.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

NUpath requirements Interpreting Culture (IC), Societies and Institutions (SI), and Difference and Diversity (DD) are met through the major course requirements.

NUpath requirements Creative Expression/Innovation (EI), Analyzing and Using Data (AD), and Ethical Reasoning (ER) may be met through electives in the major.

NUpath requirements Natural and Designed World (ND) and Formal and Quantitative Reasoning (FQ) must be met through general electives.

Media and Screen Studies Requirements

Code	Title	Hours
Media and Screen Studies Common Requirements		
MSCR 1220	Media, Culture, and Society	4
MSCR 1320	Media and Social Change	4
or MSCR 1420	Media History	
Foundation Course		
Complete one of the following:		4
MSCR 1230	Introduction to Film Production	
MSCR 2220	Understanding Media	
Diversity or Globalization Course		
Complete one of the following:		4
MSCR 2325	Global Media	
MSCR 2505	Digital Feminisms	
MSCR 3392	Gender and Film	
MSCR 3437	Media and Identity	
Writing-Intensive		
Complete two of the following:		8
MSCR 2505	Digital Feminisms	
MSCR 3420	Digital Media Culture	
MSCR 3422	Media Audiences	
MSCR 3600	Film Theory	
MSCR 3700	Queer Media	
MSCR 4208	TV History	

Media and Screen Studies Electives

Code	Title	Hours
Complete three courses from MSCR or from the following:		12
ARTD 2380	Video Basics	
ARTD 3480	Video: Sound and Image	
ARTD 3485	Experimental Video	
COMM 1450	Sound Production for Digital Media	
COMM 2550	Television Field Production	
COMM 2655	Television Studio Production	
COMM 3655	Digital Editing for TV	
COMM 3750	Special Effects and Postproduction for Television	
COMM 4755	Production Capstone	

Sociology Requirements

Code	Title	Hours
Core Courses in Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two electives between SOCL 1200 and SOCL 2999.		8
Advanced Electives		
Complete three electives between SOCL 3000 and SOCL 4999.		12

Integrative Requirement

Code	Title	Hours
Integrative Courses		
MSCR 3437	Media and Identity	4
SOCL 4600	Senior Seminar	4

Media and Screen Studies Grade Requirement

No more than two grades below a C in media and screen studies courses may be used to satisfy degree requirements

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	MSCR 1320 or 1420	4	Foreign language core course	4	Elective	4
MSCR 1000	1	SOCL 3300	4	Elective	4	Elective	4
MSCR 1220	4	MSCR foundation	4				
SOCL 1101	4	Foreign language core course	4				
Sociology elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
EEAM 2000	1	Co-op		Co-op		Elective	4
SOCL 2320	4					Elective	4

MSCR diversity/ globalization		4					
MSCR elective		4					
Foreign language core course		4					
		17		**0**		**0**	**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2321	4	Co-op		Co-op		Elective	4
MSCR writing-intensive	4					Elective	4
MSCR elective	4						
SOCL elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
Integrative course	4	MSCR 3437	4
MSCR writing-intensive	4	SOCL 4600	4
MSCR elective	4	Integrative course	4
SOCL elective	4	Elective	4
	16		**16**

Total Hours: 130

Public Health and Cultural Anthropology, BA

Overview

The combined Bachelor of Arts in Public Health and Cultural Anthropology integrates concepts and theories from cultural anthropology with public health concepts to approach complex health inequities. Students have an opportunity to gain foundational anthropological knowledge and skills and apply theory to public health approaches for addressing poor health outcomes. Students explore how culture and social structures affect health promotion strategies and outcomes. This combined major will appeal to students who want to pursue graduate study and research in anthropology, public health, public policy and administration, and education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	4
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE COURSES

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
COMM 1225	Communication Theory	
ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
Upper-Level Course		
Complete one course (total) from any of the following groups:		3-4
Society and Behavior		
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
ECON 3423	Environmental Economics	
COMM 3500	Environmental Issues, Communication, and the Media	
INTL/PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	

PHTH 5232	Evaluating Healthcare Quality
PHTH 5234	Economic Perspectives on Health Policy

Cultural Anthropology Requirements

REQUIRED CULTURAL ANTHROPOLOGY COURSES

Code	Title	Hours
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4

AREA COURSES

Code	Title	Hours
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	

CULTURAL ANTHROPOLOGY ELECTIVES

Code	Title	Hours
Complete three additional courses with the ANTH subject code.		12

Supporting Course Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
ANTH 1000	Anthropology at Northeastern	
Co-op Preparation		
Based on home college:		1
HSCI 2000	Professional Development for Bouvé Co-op	
EESH 2000	Professional Development for Co-op	
Writing Courses		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
Capstone		
Complete one of the following options:		4
Health Science Capstone		
Complete the following prerequisite:		
HSCI 4700	Health Science Capstone Introduction	
Complete one of the following:		
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	
Anthropology Senior Seminar		
ANTH 4600	Senior Seminar	

Integrative Course

Code	Title	Hours
ANTH 3441	Medical Anthropology	4

General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Public Health and Cultural Anthropology Major Credit Requirement

Minimum of 95 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/ Two Co-ops in Spring/Summer 1—Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ENGW 1111	4	ANTH 1101	4	PHTH 2350	4
HSCI 1000	1	PSYC 1101	4	ANTH elective	4
PHTH 1260	4	BIOL course—see options	4		
BIOL course—see options	4	Elementary LANG course	4		
Elementary LANG course	4				
	17		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		PHTH 2515	4
HSCI 2000	1			General elective	4	Social science course	4
PHTH 2210 and PHTH 2211	4						
PHTH 2300	4						
Intermediate LANG course	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 3410	4	Co-op		Co-op		PHTH 4540	4
ANTH 3421	4			General elective	4	ENGW 3306	4
ANTH 3441	4					HSCI 4700	0
ANTH area course	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	PHTH 4120	4
PHTH 4202	4	ANTH elective	4
ANTH area course	4	Social science course	4
ANTH elective	4	General elective	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
ANTH 1000	1	ANTH 1101	4	PHTH 2515	4
PHTH 1260	4	ENGW 1111	4	ANTH elective	4
PSYC 1101	4	BIOL course—see options	4		

BIOL course—see options	4	Elementary LANG course	4				
Elementary LANG course	4						
	17		**16**		**8**		

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2350	4	ANTH 2305	4	Social science course	4	Co-op	
ANTH elective	4	EESH 2000	1	General elective	4		
ANTH area course	4	PHTH 2210 and PHTH 2211	4				
Intermediate LANG course	4	PHTH 2300	4				
		ANTH elective	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH 3410	4	PHTH 4120	4	Co-op	
General elective	4	ANTH 3421	4	PHTH 4540	4		
		ANTH 3441	4				
		ENGW 3308	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600	4
General elective	4	PHTH 4202	4
		ANTH area course	4
		Social science course	4
	4		**16**

Total Hours: 130

Public Health and Sociology, BA

Overview

The combined Bachelor of Arts in Public Health and Sociology integrates social science theory and perspectives with public health concepts to approach complex health inequities. Students gain foundational sociological knowledge and skills and apply theory to public health approaches for addressing poor health outcomes. Students explore the ways that societal constructs, such as race, class, and gender, intersect with health. This combined major will appeal to students who want to pursue graduate study and research in sociology, public health, public policy and administration, and education.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Public Health Requirements

PUBLIC HEALTH CORE COURSES

Code	Title	Hours
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4540	Health Education and Program Planning	4

SCIENCE CORE REQUIREMENTS

Code	Title	Hours
PSYC 1101	Foundations of Psychology	4
Biology		
Complete one of the following options:		8-10
Option 1		
BIOL 1141	Microbes and Society	
BIOL 1147	The Human Organism	
Option 2		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	

SOCIAL SCIENCE REQUIREMENTS

Code	Title	Hours
Introductory Course		
Complete one of the following:		4
COMM 1225	Communication Theory	

ECON 1115 and ECON 1125	Principles of Macroeconomics and Recitation for ECON 1115	
ECON 1116 and ECON 1126	Principles of Microeconomics and Recitation for ECON 1116	
ENGL 1300	Introduction to Health and Humanities	
HUSV 1101	Social Change and Human Services	
INTL 1101	Globalization and International Affairs	
PHIL 1101	Introduction to Philosophy	
POLS 1160	International Relations	
Upper-Level Course		
Complete one course (total) from any of the following groups:		3-4
Society and Behavior		
COMM 3201	Health Communication	
COMM 4102	Health Communication Campaigns	
CRIM 3040	Psychology of Crime	
ECON 3420	Urban Economic Issues	
HLTH 5280	The (in)Visibility of (dis)Ability in Society	
PHTH 5222	Health Advocacy	
PSYC 3402	Social Psychology	
PSYC 3404	Developmental Psychology	
PSYC 3450	Learning and Motivation	
Globalization and Global Health		
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora	
ECON 3404	International Food Policy	
INTL 3200	Cities in a Global Context	
or INTL 3201	Cities in a Global Context (Abroad)	
INTL 3400	International Conflict and Negotiation	
PHTH 5230	Global Health	
POLS 3487	Politics of Developing Nations	
Environmental Health and Climate Change		
COMM 3500	Environmental Issues, Communication, and the Media	
ECON 3423	Environmental Economics	
INTL/PPUA 5100	Climate and Development	
PHTH 5214	Environmental Health	
PPUA 5238	Climate Change and Global Urbanization	
Law, Policy, and Human Rights		
ECON 3424	Law and Economics	
PHIL 5001	Global Justice	
PHIL 5002	Ethics and Public Policy	
POLS 3307	Public Policy and Administration	
POLS 3900	Social Policy	
PHTH 4515	Critical Issues in Health and Public-Health Policy	
Healthcare Administration and Management		
ECON 3413	Health Economics and Healthcare Policy	
MGMT 3340	Healthcare Management, Innovation, and Design	
ORGB 3201	Organizational Behavior	
PHTH 4511	Healthcare Management	
PHTH 5232	Evaluating Healthcare Quality	
PHTH 5234	Economic Perspectives on Health Policy	

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 3300	Social Theory	4
Electives		
Complete two electives with courses beyond those taken in the requirements above.		8
SOCL 1102 to SOCL 2999		
Complete four additional SOCL courses in the following range:		16
SOCL 3000 to SOCL 5999		

Supporting Course Requirements

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
SOCL 1000	Sociology at Northeastern	
Co-op Preparation		
Complete one of the following:		1
EESH 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Writing Courses		
First-Year Writing		
ENGW 1111	First-Year Writing	4
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
Statistics and Research Methods		
Complete one of the following:		8
PHTH 2210 and PHTH 2211 and PHTH 4202	Foundations of Biostatistics and Recitation for PHTH 2210 and Principles of Epidemiology in Medicine and Public Health	
SOCL 2320 and SOCL 2321	Statistical Analysis in Sociology and Research Methods in Sociology	
Capstone		
Complete one of the following options:		4
Health Science Capstone		
Complete the following prerequisite:		
HSCI 4700	Health Science Capstone Introduction	
And complete one of the following:		
HSCI 4720	Health Science Capstone—Service	
or HSCI 4730	Health Science Capstone—Research	
or HSCI 4740	Health Science Capstone Seminar	
Sociology Senior Seminar		
SOCL 4600	Senior Seminar	

Integrative Requirement

Code	Title	Hours
SOCL 3441	Sociology of Health and Illness	4

General Electives

Code	Title	Hours
Complete 12 semester hours of general electives.		12

Public Health Major Requirement

A grade of C or higher is required for all BIOL, HSCI, and PHTH courses.

Public Health and Sociology Major Credit Requirement

Minimum of 87 semester hours required

Program Requirement

130 total semester hours required

Plan of Study

Four Years/Two Co-ops in Spring/Summer 1— Bouvé Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
ENGW 1111	4	PSYC 1101	4	PHTH 2350	4	
HSCI 1000	1	SOCL 1101	4	SOCL elective (1000–2999)	4	
PHTH 1260	4	BIOL course—see options	4			
BIOL course—see options	4	Elementary language course	4			
Elementary language course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000	1	Co-op		Co-op		PHTH 2515	4
PHTH 2300	4			General elective	4	Social science course	4
PHTH 2210 and PHTH 2211	4						
SOCL 3300	4						
Intermediate language course	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		HSCI 4700	0
ENGW 3306	4			General elective	4	PHTH 4540	4
SOCL 3441	4					PHTH 4120	4
SOCL elective (1000–2999)	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
HSCI 4720, 4730, or 4740	4	Social science course	4
PHTH 4202	4	SOCL electives (3000–5999)	8
SOCL electives (3000–5999)	8	General elective	4
	16		**16**

Total Hours: 130

Four Years/Two Co-ops in Summer 2/Fall—CSSH Student Sample

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	
PHTH 1260	4	ENGW 1111	4	PHTH 2515	4	
PSYC 1101	4	SOCL 1101	4	General elective	4	
SOCL 1000	1	BIOL course—see options	4			
BIOL course—see options	4	Elementary language course	4			
Elementary language course	4					
	17		**16**		**8**	

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHTH 2350	4	ANTH 2305	4	General elective	4	Co-op	
SOCL 3300	4	EESH 2000	1	SOCL elective (3000–5999)	4		
SOCL elective (1000–2999)	4	PHTH 2300	4				
Intermediate language course	4	SOCL 2320	4				
		Social science course	4				
	16		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3308	4	PHTH 4120	4	Co-op	
General elective	4	SOCL 3441	4	PHTH 4540	4		
		Social science course	4				
		SOCL elective (3000–5999)	4				
	4		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 2321	4
General elective	4	SOCL 4600	4
		SOCL electives (3000–5999)	8
	4		**16**

Total Hours: 130

Sociology and Cultural Anthropology, BA

The Department of Sociology and Anthropology at Northeastern University offers a combined major in sociology and cultural anthropology that offers students various opportunities for community engagement, experiential learning, and development of research skills using quantitative and qualitative methods. Students study the disciplinary histories, practices, and methods of sociology and sociocultural anthropology; identify foundational and contemporary debates within and across these two disciplines; and evaluate their contributions to our understanding of local and global societies and cultures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Major Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
or ANTH 3421	Foundations of Anthropological Theory	
Sociology Electives		
Introductory Electives		
Complete two courses in the following range:		8
SOCL 1110 to SOCL 1999		
Intermediate Elective		
Complete two courses in the following range:		8
SOCL 2000 to SOCL 3999		
Advanced Elective		
Complete one course in the following range:		4
SOCL 4000 to SOCL 4999		

Cultural Anthropology Major Requirements

Code	Title	Hours
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 3410	Ethnographic Field Experience	4
Advanced Area Courses		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		

Complete five ANTH courses. One study-abroad course may also count toward this requirement with prior permission from the department.	20

Integrative Requirement

Students must choose between a one-semester senior project, which they would complete in the context of Senior Seminar (ANTH 4600) or Senior Seminar (SOCL 4600), or a two-semester senior thesis, which would require them to also enroll in a fall-semester directed study.

Code	Title	Hours
Required Course		
ANTH 2305	Global Markets and Local Culture	4
Capstone		
SOCL 4600	Senior Seminar	4
or ANTH 4600	Senior Seminar	

Sociology and Cultural Anthropology Major Grade Requirement

A GPA of 2.000 across all major courses is required.

Sociology and Cultural Anthropology Combined-Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1000	1	ANTH 3410	4	Elective	4	Elective	4
ANTH 1101 (one anthropology elective)	4	Anthropology elective	4	Elective	4	Elective	4
Anthropology elective	4	SOCL 2321	4				
Sociology elective	4	Sociology elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Sociology elective	4	SOCL 3300	4	Anthropology area course (4000 level)	4	Co-op	
Anthropology area course (4000 level)	4	Sociology elective	4	Elective	4		
Anthropology elective	4	ANTH 2305	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		Anthropology elective	4	Elective	4	Co-op	
		Elective	4	Elective	4		
		Elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600	4

	SOCL 4600 (students may take ANTH 4600 or SOCL 4600)	
	Elective	4
	Elective	4
	Elective	4
0		**16**

Total Hours: 129

Sociology and Environmental Studies, BA

This combined major will lead to undergraduates that have a broad awareness of the sociological and scientific foundations of environmental problem solving. They will have the opportunity to develop concrete skills in GIS and scientific communication that will facilitate student success. Due to overlap in course content, students majoring in environmental studies or any environmental studies combined majors may not complete a minor in environmental and sustainability sciences.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
or INSH 3101	Research Methods in the Social Sciences	
SOCL 2485	Environment, Technology, and Society	4
SOCL 3300	Social Theory	4
Statistics		
Complete one of the following:		4-5
ENVR 2500 and ENVR 2501	Biostatistics and Lab for ENVR 2500 (Adding in co-requirement lab portion)	
SOCL 2320	Statistical Analysis in Sociology	
Capstone		
Complete one of the following:		4
ENVR 4900	Earth and Environmental Science Capstone	
ENVS 4997	Senior Thesis	
SOCL 4600	Senior Seminar	
Sociology Elective A		**4**
Please note that SOCL 2485 may not be used to fulfill this requirement as it is required in the major. Complete one course in the following range:		
SOCL 1000 to SOCL 2999		
Sociology Elective B		**8**
Complete two additional sociology courses in the following range:		
SOCL 3000 to SOCL 5999		

Environmental Studies Requirements

Code	Title	Hours
Introductory Courses		
Complete one introductory science course:		4-5
ENVR 1101	Environmental Science	

ENVR 1200 and ENVR 1201	Dynamic Earth and Lab for ENVR 1200	
ENVR 1400 and ENVR 1401	Foundations in Environmental and Sustainability Sciences and Lab for ENVR 1400	
Complete one introductory social science course:		4
ANTH 1101	Peoples and Cultures	
HUSV 2401	Food Justice and Community Development	
PHIL 1180	Environmental Ethics	
SOCL 1246	Environment and Society	
Skills Course		
ENVR 3300 and ENVR 3301	Geographic Information Systems and Lab for ENVR 3300	5
Electives		
Complete four of the following, three of which must be at the 3000 level or above:		16
ARTG 5110	Information Design History	
BUSN 1101	Introduction to Business	
BUSN 3110	The Consulting Environment	
CIVE 5280	Remote Sensing of the Environment	
COMM 3500	Environmental Issues, Communication, and the Media	
EEMB 3466	Disease Ecology	
ENVR 3201	Coastal Sustainability: Ecology and Coupled Human-Natural Systems in Southeast Asia	
ENVR 3202	Coastal Sustainability: The Blue Economy of the Gulf of Maine	
ENVR 3701	Energy in the Desert Ecosystem	
ENVR 4504	Environmental Pollution	
ENVR 5350	Sustainable Energy and Climate Solutions	
ENVR 5563	Advanced Spatial Analysis	
ENVR 5700	Streams and Watershed Ecology	
ENVR 5800	Climate Adaptation and Nature-Based Solutions (Course is pending)	
FINA 2720	Sustainability in the Business Environment	
INNO 3520	Impact Investing and Social Finance	
JRNL 3650	Science Writing	
PHIL 1180	Environmental Ethics	
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	
PPUA 5268	International Environmental Policy	

Integrative Requirements

Code	Title	Hours
ENVR 5450	Applied Social-Ecological Systems Modeling	4
SOCL 4522	Environmental Justice	4

Sociology Major Grade Requirement

2.000 GPA required for major courses

Sociology and Environmental Studies Combined Major Credit Requirement

Complete 75 semester hours in the major.

Program Requirements

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	ENVR 1110	4	Elective	4	Elective	4
ENVR 1000	1	ENVR 2500	4	Elective	4	Elective	4

ENVR 1101	4	ENVR 2515	4				
SOCL 1101	4	SOCL 2321	4				
SOCL 1246	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENVR 3300 and ENVR 3301	5	ENVR elective; 1 of 4	4	Elective	4	Co-op	0
SOCL 2485	4	ENVR elective; 2 of 4	4	Elective	4		
SOCL 3300	4	Sociology elective	4				
Sociology elective	4	Sociology elective	4				
	17		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	ENVR elective; 3 of 4	4	Elective	4	Coop	
		ENVR elective; 4 of 4	4	Elective	4		
		Integrative req #1	4				
		Sociology elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	Capstone requirement	4
		Integrative requirement #2	4
		Sociology elective	4
		Sociology elective	4
	0		**16**

Total Hours: 130

Sociology and International Affairs, BA

Through this combined major, successful undergraduates develop an awareness of societies within their international, transnational, and global contexts since the early 20th century. The combined major addresses diverse and cross-disciplinary theories of interstate relations (conflict, cooperation, hierarchies); civil society, transnational advocacy networks, global social movements; and state-society relations (democracy, authoritarianism, social justice and inequalities, citizenship).

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
or INTL 2718	Research Methods in International Affairs	
SOCL 3300	Social Theory	4
Sociology Electives A		
Complete two courses in the following range:		8
SOCL 1000 to SOCL 2999		
Sociology Electives B		
Complete two courses in the following range:		8
SOCL 3000 to SOCL 5999		
Capstone Requirement		
SOCL 4600	Senior Seminar	4
or INTL 4700	Senior Capstone Seminar in International Affairs	

International Affairs Major Requirements

Courses used to fulfill major requirements may not be used to satisfy the global dynamics requirement. See department for additional courses.

Code	Title	Hours
Required Courses		
ECON 1115	Principles of Macroeconomics	4
or HIST 2211	The World Since 1945	
or HIST 2311	Colonialism/Imperialism	
INTL 1101	Globalization and International Affairs	4
INTL 3400	International Conflict and Negotiation	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Senior Seminar/Experiential Learning		
INTL 4700	Senior Capstone Seminar in International Affairs	4

International Experiential Learning

Complete at least one "international semester" via study abroad, international internship, international co-op, or two approved short-term programs abroad.

International Affairs Elective

Code	Title	Hours
Complete one of the following courses:		4

Code	Title	Hours
INTL 2480	Women and World Politics	
INTL 2500	Race and Global Human Mobility	
INTL 3150	Global Philanthropy	
INTL 3200	Cities in a Global Context	
INTL 3406	International Law	
INTL 3430	Revolution, Civil War, and Insurrection	
INTL 3450	Security, Culture, Power	
INTL 3520	Global Political Economy	
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons	
INTL 5010	International Human Rights Law and Policy	
INTL 5100	Climate and Development	

Global Dynamics Requirement

Code	Title	Hours
Complete one of the following (courses are divided into thematic groups to aid students in deciding which courses to take and have no bearing on major requirements):		4

Code	Title	Hours
Environment		
ENVR 1110	Global Climate Change	
ENVR 2515	Sustainable Development	
ENVR 3150	Food Security and Sustainability	
INTL 5100	Climate and Development	
INTL 5268	International Environmental Policy	
or PPUA 5268	International Environmental Policy	
SOCL 1246	Environment and Society	
Law, Diplomacy, and Global Governance		
COMM 2303	Global and Intercultural Communication	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 3520	Global Political Economy	
INTL 5010	International Human Rights Law and Policy	
POLS 1155	Comparative Politics	
POLS 1160	International Relations	
POLS 2370	Religion and Politics	
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 4910	Model United Nations	
Human Rights and Social Justice		
HIST 2303	Gender and Reproductive Justice	
HIST 2373	Gender and Sexuality in World History	
INTL 2480	Women and World Politics	
or WMNS 2480	Women and World Politics	
INTL 5010	International Human Rights Law and Policy	
PHIL 5001	Global Justice	
Conflict and Security		

CRIM 3030	Global Criminology
CRIM 3060	Political Crime and Terrorism
CRIM 5203	Security in the 21st Century
HIST 1206	Drug Trade and Drug War: History, Security, Culture
HIST 1389	History of Espionage 1: Antiquity to World War II
HIST 1390	History of Espionage 2: Cold War Spies
HIST 2217	The Global Far-Right since 1945: Politics, Culture, Violence
HIST 3330	The Global Cold War
HIST 3334	Assassinations in World History
HIST 3335	History of Modern Terrorism
INTL 3430	Revolution, Civil War, and Insurrection
INTL 3450	Security, Culture, Power
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
PHIL 5001	Global Justice
POLS 2282	The Holocaust and Comparative Genocide
POLS 3418	Nationalism
POLS 3420	U.S. National Security Policy
POLS 3423	Terrorism and Counterterrorism
POLS 3430	Revolution, Civil War, and Insurrection
or INTL 3430	Revolution, Civil War, and Insurrection
POLS 4918	Model NATO
Globalization	
AFAM 2600	Issues in Race, Science, and Technology
ANTH 2305	Global Markets and Local Culture
ANTH 2315	Religion and Modernity
ECON 3290	History of the Global Economy
ECON 3635	International Economics
HIST 1215	Origins of Today: Historical Roots of Contemporary Issues
HIST 2211	The World Since 1945
HIST 2311	Colonialism/Imperialism
INTB 3310	Cultural Aspects of International Business
INTL 2480	Women and World Politics
or WMNS 2480	Women and World Politics
INTL 3200	Cities in a Global Context
INTL 3520	Global Political Economy
POLS 1160	International Relations
POLS 2370	Religion and Politics
POLS 3405	International Political Economy
POLS 3406	International Law
Population, Migration, and Diaspora	
AFRS 1270	Introduction to Global Health
or PHTH 1270	Introduction to Global Health
AFRS 3424	Epidemiology of Pandemic Diseases and Health Disparities in the African Diaspora
ANTH 1101	Peoples and Cultures
HIST 1218	Pirates, Planters, and Patriots: Making the Americas, 1492–1804
HIST 1219	History of Global Pandemics
INTL 2500	Race and Global Human Mobility
INTL 3200	Cities in a Global Context
INTL 4100	Forced Migration: Refugees, Exiles, and Displaced Persons
PHIL 1111	Introduction to World Religions
PHIL 1271	Sex in Judaism, Christianity, and Islam
Development	

ANTH 2305	Global Markets and Local Culture
ECON 1291	Development Economics
ECON 3404	International Food Policy
ECON 3405	A Critique of Capitalism
ENVR 2515	Sustainable Development
HIST 2011	Capitalism and Business: A Global History
INNO 2206	Global Social Enterprise
INTB 1203	International Business and Global Social Responsibility
or INTB 1209	International Business and Global Social Responsibility
INTL 3150	Global Philanthropy
INTL 3520	Global Political Economy
INTL 5100	Climate and Development
PHTH 5230	Global Health
POLS 3487	Politics of Developing Nations
Communication and Media	
COMM 2303	Global and Intercultural Communication
INTB 3310	Cultural Aspects of International Business
JRNL 3300	Covering Conflicts: Peace, War, and the Media
or INTL 3300	Covering Conflicts: Peace, War, and the Media
JRNL 5360	Global Reporting
MSCR 2325	Global Media

Regional Analysis Requirement

Code	Title	Hours
Complete two of the following courses, both of which must be in one region. Select courses taken during a semester study abroad or specific Dialogue of Civilizations courses may count as regional analysis courses pending approval of the international affairs head faculty adviser. See department for additional courses.		8

Code	Title	Hours
Africa		
AFRS 1101	Introduction to African Studies	
AFRS 2307	Africa Today	
AFRS 2900	Swahili, Culture, and Politics in Kenya	
AFRS 3460	Contemporary Government and Politics in Africa	
AFRS 4939	Community Health, Culture, and Development in Kenya	
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4510	Anthropology of Africa	
HIST 1180	African History	
INNO 3308	Business Economic History of South Africa	
INTL 2464	Natural Resources and Sustainable Development	
or AFRS 2464	Natural Resources and Sustainable Development	
Asia		
ANTH 4515	Culture and Politics in Modern India	
ASNS 1150	East Asian Studies	
or HIST 1150	East Asian Studies	
CLTR 1500	Modern Chinese History and Culture	
CLTR 1506	Introduction to Chinese Popular Culture	
CLTR 1700	Introduction to Japanese Pop Culture	
HIST 1246	World War II in the Pacific	
HIST 1252	Japanese Literature and Culture	
HIST 1500	Modern Chinese History and Culture	
HIST 2351	Modern Japan	
PHIL 1275	Hinduism, Buddhism, and Beyond	

PHIL 1290	Chinese Philosophy and Religion
PHIL 2395	Japanese Buddhism
POLS 3482	East Asian Politics
POLS 3485	China: Governance and Foreign Policy
Europe	
CLTR 1501	Introduction to French Culture
CLTR 1503	Introduction to Italian Culture
CLTR 1504	Cultural History of Spain
HIST 1170	Europe: Empires, Revolutions, Wars, and Their Aftermath
HIST 1272	Europe in the Middle Ages, 500–1500
HIST 1286	History of the Soviet Union
HIST 2370	Renaissance to Enlightenment
HIST 2375	The Tudors, the Stuarts, and the Birth of Modern Britain
INTL 3455	Russian Foreign Policy
or POLS 3455	Russian Foreign Policy
POLS 3435	Politics and Governance of Europe and the European Union
Latin America	
ANTH 4500	Latin American Society and Development
CLTR 1240	Latin American Film
CLTR 1502	Introduction to Arabic Culture
CLTR 1505	Latin American Culture, History, and Politics
CLTR 3715	New Narratives: Latin America after 1989
CLTR 3720	Literature, Arts, and Poverty in Latin America
CLTR 4655	Latin American Literature
ECON 1292	Economic History of the Middle East
HIST 1185	Introduction to Middle Eastern History
HIST 1187	Introduction to Latin American History
HIST 2025	Latin American History through Film
LACS 1220	Latino, Latin American, and Caribbean Studies
Middle East	
INTL 1150	The Mediterranean World: An Overview
INTL 1160	Middle East Studies
INTL 2200	America and the Middle East
INTL 3250	Democracy and Development in North Africa and the Mediterranean
PHIL 1280	Islam: Rituals, Traditions, and Debates
PHIL 1285	Jewish Religion and Culture
POLS 3465	Government and Politics in the Middle East

International Affairs Foreign Language Requirement

Complete coursework in a language through at least intermediate level two. *Note:* Completing this requirement satisfies the language requirement for the BA degree.

Integrative Requirements

Code	Title	Hours
SOCL 3450	Class, Power, and Social Change	4

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Sociology and International Affairs Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2211, ECON 1115, or HIST 2311	4	ANTH 2305	4	Elective	4	Elective	4
INTL 1101	4	ENGW 1111	4	Elective	4	Elective	4
SOCL 1000	1	POLS 1160	4				
SOCL 1101	4	Elective	4				
Foreign Language Course	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	POLS 1155	4	Elective	4	Co-op	
SOCL 3300	4	POLS 1156	0	Elective	4		
Foreign Language Course	4	SOCL 2321 or INTL 2718	4				
Elective	4	Elective	4				
		Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective	4	Co-op	
		INTL 3400	4	Elective	4		
		SOCL 3450	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 4600 or INTL 4700	4
		Elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 129

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HIST 2211 or ECON 1115	4	ANTH 1101	4	Vacation		Vacation	
INTL 1101	4	ENGW 1111	4				
SOCL 1000	1	POLS 1160	4				
SOCL 1101	4	Elective	4				
Foreign Language Course	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	Co-op		Co-op		Elective	4
SOCL 3300	4					Elective	4
Foreign Language Course	4						

Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		Elective	4
POLS 1155	4					Elective	4
POLS 1156	0						
SOCL 2321 or INTL 2718	4						
Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	Co-op		Co-op		Vacation	
INTL 3400	4						
SOCL 3450	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Elective	4	SOCL 4600 or INTL 4700	4
Elective	4	Elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 129

Sociology and Philosophy, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in sociology and philosophy. Students in the combined major integrate the study of social structures and systems with the study of social and political philosophy, ethics, and the philosophy of science.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Electives		
One course can be taken at the 2000 level and three other courses at the 3000 level or higher.		16
Capstone		
Students are expected to complete the following course in spring of their senior year:		4
SOCL 4600	Senior Seminar	

Philosophy Requirements

Code	Title	Hours
Required Courses		
PHIL 1115	Introduction to Logic	4
PHIL 2325	Ancient Philosophy and Political Thought	4
or POLS 2325	Ancient Philosophy and Political Thought	
PHIL 2330	Modern Philosophy	4
Foundational Philosophy of Science Elective		
Complete one of the following:		4
PHIL 1105	Science and Pseudoscience	
PHIL 2001	Ethics and Evolutionary Games	
PHIL 3050	Information and Uncertainty	
PHIL 3360	Scientific Approaches to Philosophy	
Advanced Philosophy Electives		
Complete three PHIL courses with a designation of 3000 or above not used to satisfy another requirement, and at least one at 4000 or 5000 level.		12
Critical Philosophy Elective		
Take one of the following courses not used to fulfill another requirements:		4
AFAM 1101	Introduction to African American and Africana Studies	

PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 2155	Human Rights	
PHIL 2492	Indigenous Philosophy	
PHIL 2619	Race and Religion in Film	
PHIL 3500	Sexuality, Gender, and the Law	
PHIL 3822	Philosophy of Race and Racism	
Philosophy Elective		
Complete one additional PHIL course not used to satisfy other requirements.		4

Integrative Requirement

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
PHIL 4500	Theory of Knowledge	4
or PHIL 4510	Philosophy of Science	
or PHIL 4550	Philosophy of Economics	
SOCL 3450	Class, Power, and Social Change	4

Sociology GPA Requirement

Minimum 2.000 GPA required in all sociology courses

Philosophy GPA Requirement

Minimum 2.000 GPA required in all philosophy courses

Sociology and Philosophy Major Credit Requirement

80 semester hours required in the major

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study: Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
PHIL 1115	4	PHIL 2325 or POLS 2325	4	Elective	4	Elective	4
SOCL 1101	4	PHIL 2330	4	Elective	4	Elective	4
PHIL elective	4	PHIL elective	4				
SOCL elective	4	SOCL elective	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	SOCL 2321	4	Elective	4	Co-op	
SOCL 2320	4	SOCL 3300	4	Elective	4		
PHIL advanced elective	4	PHIL advanced elective	4				
SOCL 2000 elective	4	PHIL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		PHIL 4000/5000 elective	4	Elective	4	Co-op	
		SOCL 4000 elective	4	Elective	4		
		SOCL 5000 elective	4				

		Integrative course	4				
	0		**16**		**8**		**0**

Year 4

Fall	**Hours**	**Spring**	**Hours**
Co-op		PHIL capstone	4
		SOCL capstone	4
		SOCL 5000 elective	4
		Integrative course	4
	0		**16**

Total Hours: 128

Sociology and Political Science, BA

The combined major in sociology and political science offers students the opportunity to integrate the study of politics and government with an analysis of social systems. Students complete core courses in political science along with core courses in sociology that include social theory and an introduction to social systems. This combined major highlights the important intersection between social norms and organizations with the evolution of politics and government.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
SOCL 1101	Introduction to Sociology	4
SOCL 3270	Race, Ethnicity, and Inequality	4
SOCL 3300	Social Theory	4
SOCL 3468	Social Movements	4
Sociology Introductory Electives		
Complete three courses in the following range:		12
SOCL 1200 to SOCL 1999		
Sociology Intermediate Elective		
Please note that SOCL 3270, SOCL 3300, and SOCL 3468 may not be used to fulfill this requirement as they are required for the major. Complete one course in the following range:		4
SOCL 2000 to SOCL 3999		
Sociology Advanced Elective		
Complete one course in the following range:		4
SOCL 4000 to SOCL 5999		
Statistics and Methods		
Complete one of the following sets:		8
SOCL 2320 and SOCL 2321	Statistical Analysis in Sociology and Research Methods in Sociology	
POLS 2400 and POLS 2399	Quantitative Techniques and Research Methods in Political Science	

Political Science Requirements

Code	Title	Hours
Political Science Required Courses		
POLS 1150	American Government	4
POLS 1155	Comparative Politics	4
POLS 1160	International Relations	4
Political Thought		
Complete one of the following:		4
POLS 2325	Ancient Philosophy and Political Thought	

POLS 2328	Modern Political Thought	
POLS 2330	American Political Thought	
POLS 2332	Contemporary Political Thought	
Political Science Electives		
Complete five courses in the following range:		20
POLS 2000 to POLS 5999		

Political Science Concentrations (Optional)

If you are working toward one of the following concentrations, declare it with your adviser so that it may be added to your record.

- American Political Institutions (p. 2468)
- Campaigns and Elections (p. 2469)
- Comparative Politics (p. 2469)
- Identity, Culture, and Politics (p. 2469)
- International Relations and Diplomacy (p. 2469)
- Law and Legal Studies (p. 2470)
- Public Policy (p. 2470)
- Security Studies (p. 2470)

Capstone Requirement

Code	Title	Hours
Complete one of the following:		4
SOCL 4600	Senior Seminar	
POLS 4701	Political Science Senior Capstone	
POLS 4703	Senior Thesis	

Integrative Requirement

Code	Title	Hours
SOCL 3450	Class, Power, and Social Change	4
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 3320	Politics and Mass Media	
POLS 3324	Law and Society	
POLS 3418	Nationalism	

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

CONCENTRATION IN AMERICAN POLITICAL INSTITUTIONS

Code	Title	Hours
Complete four of the following:		16
POLS 2350	State and Local Politics	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3307	Public Policy and Administration	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3160	Campaign Strategy	

CONCENTRATION IN CAMPAIGNS AND ELECTIONS

Code	Title	Hours
Required Courses		
POLS 3160	Campaign Strategy	4
POLS 3302	Judicial Process and Behavior	4
Campaigns and Elections Electives		
Complete two of the following:		8
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 3162	Local Campaigns and Elections	
POLS 3310	Public Opinion, Voting, and Elections	
POLS 3320	Politics and Mass Media	

CONCENTRATION IN COMPARATIVE POLITICS

Code	Title	Hours
Theoretical Requirement		
Complete two of the following:		8
POLS 2282	The Holocaust and Comparative Genocide	
POLS 2356	Democratic Erosion	
POLS 2359	Immigration Politics	
POLS 2370	Religion and Politics	
POLS 3418	Nationalism	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
Regional Requirements		
Complete one of the following:		4
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 3465	Government and Politics in the Middle East	
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4915	Model Arab League	
POLS 4918	Model NATO	
POLS 4937	Dialogue of Civilizations: Government and Politics Abroad	

CONCENTRATION IN IDENTITY, CULTURE, AND POLITICS

Code	Title	Hours
Core Course		
POLS 3418	Nationalism	4
Electives		
Complete three of the following:		12
POLS 2359	Immigration Politics	
POLS 2368	Music and Politics in America and Abroad	
POLS 2370	Religion and Politics	
POLS 3309	Lesbian, Gay, Bisexual, and Transgender Issues in Public Policy	
POLS 3324	Law and Society	

CONCENTRATION IN INTERNATIONAL RELATIONS AND DIPLOMACY

Code	Title	Hours
Experiential/Practicum Requirement		
Complete one of the following:		4
POLS 4910	Model United Nations	
POLS 4915	Model Arab League	
POLS 4938	Dialogue of Civilizations: International Politics Abroad	
Core Courses		

Complete three of the following:		12
POLS 3405	International Political Economy	
POLS 3406	International Law	
POLS 3435	Politics and Governance of Europe and the European Union	
POLS 5408	International Security	

CONCENTRATION IN LAW AND LEGAL STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 2330	American Political Thought	
POLS 3300	The U.S. Congress	
POLS 3302	Judicial Process and Behavior	
POLS 3323	Race, Inequality, and the Law	
or AFAM 3323	Race, Inequality, and the Law	
POLS 3324	Law and Society	
POLS 3406	International Law	
POLS 3409	Global Governance	
POLS 4500	U.S. Constitutional Law	
POLS 4505	U.S. Civil Liberties	

CONCENTRATION IN PUBLIC POLICY

Code	Title	Hours
Core Requirement		
POLS 3307	Public Policy and Administration	4
Electives		
Complete three of the following:		12
POLS 2340	Business and Government	
POLS 2345	Urban Policies and Politics	
POLS 2350	State and Local Politics	
POLS 2357	Growth and Decline of Cities and Suburbs	
POLS 2390	Science, Technology, and Public Policy	
POLS 2395	Environmental Politics and Policy	
POLS 3425	U.S. Foreign Policy	

CONCENTRATION IN SECURITY STUDIES

Code	Title	Hours
Complete four of the following:		16
POLS 3420	U.S. National Security Policy	
POLS 3423	Terrorism and Counterterrorism	
POLS 3425	U.S. Foreign Policy	
POLS 3430	Revolution, Civil War, and Insurrection	
POLS 3487	Politics of Developing Nations	
POLS 5408	International Security	

Plan of Study

Sample Plan of Study: 4 years - 2 Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 1111	4	POLS 1160	4	SOCL Introductory Elective	4	SOCL Introductory Elective	4
POLS 1150	4	SOCL Introductory Elective	4	Elective	4	Elective	4
POLS 1155	4	SOCL/POLS Statistics	4				
SOCL 1000	1	SOCL/POLS Methods	4				
SOCL 1101	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 3300	4	POLS Elective	4	POLS Elective	4	Co-Op 1	0
POLS: Thought	4	POLS Elective	4	Elective	4		
POLS Elective	4	POLS Elective	4				
SOCL Intermediate Elective	4	SOCL Advanced Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-Op 1	0	ENGW 3308	4	Elective	4	Co-Op 2	0
		SOCL 3468	4	Elective	4		
		POLS Integrated Course 1	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-Op 2	0	SOCL 3270	4
		SOCL 3450	4
		POLS Integrated Course 2	4
		Capstone	4
	0		**16**

Total Hours: 129

Sociology and Religious Studies, BA

The Department of Sociology and Anthropology and the Department of Philosophy and Religion offer an interdisciplinary combined major in sociology and religious studies. Students in the combined major integrate the study of social structures and systems with the study of religious traditions and praxis.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

BA Language Requirements

All BA students are required to complete the BA degree language requirements, for a total of 12 semester hours of language study or demonstrated equivalent proficiency, as described in Additional Requirements for BA students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/ba-requirements/). Successful demonstration of proficiency does not reduce total minimum semester hours of study required to earn the BA degree.

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Electives		
One course can be taken at the 2000 level and three other courses at the 3000 level or higher.		16
Capstone		
Students are expected to complete the following course in spring of their senior year:		
SOCL 4600	Senior Seminar	4

Religion Requirements

Code	Title	Hours
Required Foundational Course		
PHIL 1110	Introduction to Religious Studies	4
Lived Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
Comparative Religion Elective		
Complete one of the following courses that is not used to satisfy another requirement:		4

PHIL 1111	Introduction to World Religions	
PHIL 1130	Comparative Ethics	
PHIL 1220	The Meaning of Death	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2395	Japanese Buddhism	
Electives		
Complete five of the following courses that have not been used to satisfy another requirement in the combined major. At least one must be at the 2000 level or above and at least one must be at the 3000 level or above:		20
PHIL 1104	Goddesses, Witches, Saints, and Sinners: Women and Religion	
PHIL 1111	Introduction to World Religions	
PHIL 1120	Understanding the Bible	
PHIL 1130	Comparative Ethics	
PHIL 1133	Selling Spirituality	
PHIL 1220	The Meaning of Death	
PHIL 1260	Apocalypticism in Film	
PHIL 1271	Sex in Judaism, Christianity, and Islam	
PHIL 1275	Hinduism, Buddhism, and Beyond	
PHIL 1280	Islam: Rituals, Traditions, and Debates	
PHIL 1285	Jewish Religion and Culture	
PHIL 1290	Chinese Philosophy and Religion	
PHIL 1666	The Problem of Evil in Film	
PHIL 1667	Science Fiction and Film: Moral Dilemmas and Ethical Analysis	
PHIL 2230	Music and Religion	
PHIL 2390	Cults and Sects	
PHIL 2395	Japanese Buddhism	
PHIL 2410	Possession, Sacrifice, and Divination in African Diasporic Religions	
PHIL 2619	Race and Religion in Film	
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	
PHIL 4903	Seminar in Religion	
Seminar		
Complete the following course that is not used to satisfy another requirement:		
PHIL 4903	Seminar in Religion	4

Integrative Requirements

Code	Title	Hours
One integrative course is required for each discipline. Courses taken as electives above may not be used as integrative courses.		
ANTH 2315	Religion and Modernity	4
PHIL 3100	The Religious Worlds of Boston: Faith and Devotion in Urban Life	4

Major Credit Requirement

Complete 84 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops in Summer 2/ Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours
PHIL 1110	4	SOCL 2320	4	Elective	4
SOCL 1101	4	PHIL elective	4	Elective	4
PHIL elective	4	SOCL elective	4		
SOCL elective	4	Lived religion elective	4		
	16		**16**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	SOCL 2321	4	Elective	4	Co-op	
Comparative religion elective	4	PHIL elective	4	Elective	4		
PHIL elective	4	PHIL elective	4				
SOCL 2000 elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		SOCL 3300	4	Elective	4	Co-op	
		Integrative course	4	Elective	4		
		SOCL 5000 elective	4				
		SOCL 5000 elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Co-op		PHIL seminar	4	Elective	4
		SOCL capstone	4	Elective	4
		Integrative course	4		
		SOCL 5000 elective	4		
	0		**16**		**8**

Total Hours: 128

Sociology, BS

Sociology is the scientific study of society. It begins with the premise that individuals are affected by the social structures, institutions, and cultural milieus surrounding them. Sociology provides students with the conceptual tools to understand how various features of society, including inequalities based on race, class, and gender, affect its members. In so doing, sociology also provides conceptual tools that can be used to foster social change and the empowerment of historically marginalized groups.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Major Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
or INSH 3102	Introduction to Statistics in the Social Sciences	
SOCL 2321	Research Methods in Sociology	4
or INSH 3101	Research Methods in the Social Sciences	
SOCL 3300	Social Theory	4
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
Additional Required Methodological Training		
Complete one of the following:		4
ANTH 3410	Ethnographic Field Experience	
DS 3000	Foundations of Data Science	
HINF 5301	Evaluating Health Technologies	
INSH 1500	Digital Methods for Social Sciences and Humanities	
SOCL 3487	Applied Sociology: Practice and Theory	
Senior Seminar		
SOCL 4600	Senior Seminar	4

Required Sociology Electives

Code	Title	Hours
Students must complete nine elective courses in the SOCL major, at least five of which must be at the 3000-level or higher.		36
Social Science Electives		
Complete five social science courses in the following subject areas: AFAM, AFRS, ANTH, CRIM, ECON, HIST, HUSV, INTL, LING, LPSC, POLS, or PSYC.		20

Sociology Experiential Learning Requirement

Code	Title	Hours
Complete one of the following courses or a study abroad or a co-op:		4
SOCL 3487	Applied Sociology: Practice and Theory	
SOCL 4971	Junior/Senior Honors Project 2	

Sociology Major Grade Requirement

A GPA average of 2.000 across all major courses is required.

Sociology Major Credit Requirement

Complete 88 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

FOUR-YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	Elective	4
ENGW 1111	4	SOCL 2321	4	Elective	4	Elective	4
SOCL 1000	1	SOCL 2320	4				
SOCL 1101	4	Elective	4				
Elective	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	SOCL 3300	4	SOCL advanced elective	4	Co-op	0
SOCL elective	4	SOCL advanced elective	4	Elective	4		
SOCL elective	4	SOCL advanced elective	4				
SOCL elective	4	SOCL elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	SOCL advanced elective	4	Social science elective	4	Co-op	0
		SOCL advanced elective	4	Social science elective	4		
		Social science elective	4				
		Social science elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op	0	SOCL 4600	4
		Social science elective	4
		Social science elective	4
		Social science elective	4
	0		**16**

Total Hours: 129

Cultural Anthropology, BS

Anthropology is the holistic, cross-cultural study of humanity that explores the multiple ways humans live and create meaning in the world. The anthropology major at Northeastern exposes students to diverse cultural perspectives from past and present societies; fosters student engagement with key contemporary issues such as global inequality, development, urbanization, and cultural change; and provides greater appreciation for the complexities of the world in which they live.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Cultural Anthropology Major Requirements

Code	Title	Hours
Cultural Anthropology		
SOCL 1101	Introduction to Sociology	4
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 3421	Foundations of Anthropological Theory	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 4600	Senior Seminar	4
Advanced Area Courses		
Complete two of the following. Additional courses taken in this section may be used as electives.		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete eight ANTH courses. Two study-abroad courses may count toward this requirement with prior permission from the department.		32
Social Science Electives		
Complete three social science courses from the following subject areas. Social science electives may not include music or art: AFRS, AFAM, CRIM, ECON, HUSV, HIST, INTL, LING, LPSC, POLS, PSYC, or SOCL.		12

[1] Students must choose between a one-semester senior project, which they would complete in the context of Senior Seminar (ANTH 4600), or a two-semester senior thesis, which would require them to also enroll in a fall-semester directed study.

Cultural Anthropology Major Grade Requirement

A cumulative GPA of 2.000 for all major courses is required.

Cultural Anthropology Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Five Years, Three Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1000	1	SOCL 1101	4	Vacation	0	Vacation	0
ANTH 1101	4	Anthropology elective	4				
Social science elective	4	MATH 1215	4				
Elective	4	ENGW 1111	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2300	4	ANTH 2305	4	Vacation	0	Co-op	0
Anthropology elective	4	Anthropology elective	4				
Social science elective	4	Elective	4				
Elective	4	Social science elective	4				
		EESH 2000	1				
	16		**17**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Advanced area ANTH 4500-ANTH 4515	4	Social science elective	4	Co-op	0
		Anthropology elective	4	ENGW 3315	4		
		Social science elective	4				
		Anthropology elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op	0	Anthropology elective	4	Social science elective	4	Co-op	0
		Anthropology elective	4	Elective	4		
		Advanced area ANTH 4500-ANTH 4515	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 5

Fall	Hours	Spring	Hours
Co-op	0	ANTH 4600	4
		Anthropology elective	4
		Elective	4
		Elective	4
	0		**16**

Total Hours: 130

Five Years, Three Co-ops in Spring/Summer 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1000	1	SOCL 1101	4	Vacation	0	Vacation	0
ANTH 1101	4	Anthropology elective	4				
Social science elective	4	ENGW 1111	4				
Elective	4	MATH 1215	4				
Elective	4						
	17		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2300	4	Co-op	0	Co-op	0	Anthropology elective	4
Anthropology elective	4					Social science elective	4
Social science elective	4						
Elective	4						
	16		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op	0	Co-op	0	Anthropology elective	4
Anthropology elective	4					ENGW 3315	4
Social science elective	4						
Elective	4						
EESH 2000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Anthropology elective	4	Co-op	0	Co-op	0	Vacation	0
Elective	4						
Advanced area ANTH 4500-ANTH 4515	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Advanced area ANTH 4500-ANTH 4515	4	ANTH 4600	4
Social science elective	4	Social science elective	4
Anthropology elective	4	Anthropology elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 130

Computer Science and Sociology, BS

The social aspects to computing continue to grow, primarily with respect to communication and the internet. The computer science and sociology combined major examines this significant impact on society and how people communicate and share culture. Students will have an opportunity to gain a solid programming foundation, as well as the practical and theoretical skills needed to address the complex social and cultural issues in a period of far-reaching social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Computer Science Courses

Code	Title	Hours
Computer Science Overview		
Must be taken in alignment with your home college:		
CS 1200	First Year Seminar	1
or SOCL 1000	Sociology at Northeastern	
CS 1210	Professional Development for Khoury Co-op	1
or EESH 2000	Professional Development for Co-op	
Computer Science Fundamental Courses		
CS 1800 and CS 1802	Discrete Structures and Seminar for CS 1800	5
CS 2500 and CS 2501	Fundamentals of Computer Science 1 and Lab for CS 2500	5
CS 2510 and CS 2511	Fundamentals of Computer Science 2 and Lab for CS 2510	5
Computer Science Required Courses		
CS 3000	Algorithms and Data	4
CS 3200	Database Design	4
CS 3500 and CS 3501	Object-Oriented Design and Lab for CS 3500	5
IS 2000	Principles of Information Science	4
Computer Science Writing-Intensive Requirement		
Complete one of the following:		4
CS 4500	Software Development	
or CS 4530	Fundamentals of Software Engineering	
DS 4200	Information Presentation and Visualization (Take DS 3000 either as a prerequisite of or concurrently with DS 4200.)	
IS 3500	Information System Design and Development	
Khoury Elective Courses		
With adviser approval, directed study, research, project study, and appropriate graduate-level courses may also be taken as upper-division electives.		
Complete 12 semester hours of upper-division CS, CY, DS, or IS classes that are not already required. Choose courses within the following ranges:		12
CS 2500 or higher, except CS 5010		
CY 2000 or higher, except CY 4930		
DS 2500 or higher, except DS 4900		
IS 2000 or higher, except IS 4900		

Sociology Courses

Code	Title	Hours
Sociology Required Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Sociology Electives		
Complete one sociology elective in each of the following ranges:		12
Introductory elective: SOCL 1000 to SOCL 1999		
Intermediate elective: SOCL 2000 to SOCL 3999		
Advanced elective: SOCL 4000 to SOCL 4999		
Sociology Required Capstone		
SOCL 4600	Senior Seminar	4

Integrative Course Requirement

Code	Title	Hours
Complete one of the following:		4
SOCL 1280	The Twenty-First-Century Workplace	
SOCL 2485	Environment, Technology, and Society	
SOCL 4528	Computers and Society	

Computer Science Writing Requirement

Code	Title	Hours
College Writing		
ENGW 1111	First-Year Writing	4
or ENGW 1102	First-Year Writing for Multilingual Writers	
Advanced Writing in the Disciplines		
Complete one of the following:		4
ENGW 3302	Advanced Writing in the Technical Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
ENGW 3315	Interdisciplinary Advanced Writing in the Disciplines	

Required General Electives

Code	Title	Hours
Complete 32 semester hours of general electives.		32

Khoury College GPA Requirements

Minimum 2.000 GPA required in all CS, CY, DS, and IS courses

Sociology GPA Requirements

2.000 average GPA requirement across all sociology classes

NUpath Requirements Satisfied

- Engaging with the Natural and Designed World
- Conducting Formal and Quantitative Reasoning
- Analyzing and Using Data
- Writing-Intensive in the Major
- Writing in the First Year
- Advanced Writing in the Disciplines
- Interpreting Culture
- Understanding Societies and Institutions
- Demonstrating Thought and Action in a Capstone

Integrating Knowledge and Skills Through Experience is satisfied through co-op.

Program Requirement

133 total semester hours required

Plan of Study

Sample Plan of Study

FOUR YEARS, TWO CO-OPS IN SPRING/SUMMER 1

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or SOCL 1000	1	ANTH 1101	4	CS 3500 and CS 3501	5	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5	Elective	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4	SOCL 2320	4				
SOCL 1101	4						
	19		**17**		**9**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		Elective	4
CS 1210 or EESH 2000	1					Elective	4
CS 3000	4						
SOCL 2321	4						
Elective	4						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 3200	4	Co-op		Co-op		ENGW 3302, 3308, or 3315	4
SOCL 3300	4					Elective	4
Khoury Elective	4						
Sociology Introductory Elective	4						
	16		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
CS Intensive Writing Requirement	4	SOCL 4600	4
Integrative Requirement	4	Khoury Elective 3	4
Khoury Elective 2	4	Sociology Advanced Elective	4
Sociology Intermediate Elective	4	Elective	4
	16		**16**

Total Hours: 134

FOUR YEARS, TWO CO-OPS IN SUMMER 2/FALL

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CS 1200 or SOCL 1000	1	ANTH 1101	4	CS 3000	4	Elective	4
CS 1800 and CS 1802	5	CS 2510 and CS 2511	5	Elective	4	Elective	4
CS 2500 and CS 2501	5	IS 2000	4				
ENGW 1111	4	SOCL 2320	4				

SOCL 1101	4						
	19		**17**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	CS 1210 or EESH 2000	1	Elective	4	Co-op	
CS 3500 and CS 3501	5	CS 3200	4	Elective	4		
SOCL 2321	4	SOCL 3300	4				
Elective	4	Khoury Elective	4				
		Sociology Introductory Elective	4				
	17		**17**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		CS Intensive Writing Requirement	4	ENGW 3302, 3308, or 3315	4	Co-op	
		Integrative Requirement	4	Elective	4		
		Khoury Elective 2	4				
		Sociology Intermediate Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		SOCL 4600	4
		Khoury Elective 3	4
		Sociology Advanced Elective	4
		Elective	4
	0		**16**

Total Hours: 134

Criminal Justice and Sociology, BS

This combined major educates students in criminal justice and sociology and in the interface between the two disciplines. The scope and sequence of sociology courses provide students with a foundation in social theory and social systems. Criminal justice courses provide a foundation for understanding individual and systemic aspects of criminology and criminal justice. Students successfully completing this program should be able to understand the ways that crime and the justice system are situated in larger social systems and structures.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Criminal Justice Requirements

Code	Title	Hours
Introduction to Crime, Law, and the Justice System		
What do we know about crime and justice? In these three courses, students have an opportunity to develop a foundational understanding of three related phenomena: why crime exists, how our criminal justice system responds to crime, and the constitutional and legal oversight of this process.		
CRIM 1100	Introduction to Criminal Justice	4
CRIM 1110	Criminal Due Process	4
CRIM 1120	Criminology	4
Current Crime and Justice Issues		
These courses introduce students to topical issues related to crime and justice.		
Complete one of the following:		4
CRIM 1300	The Death Penalty	
CRIM 1400	Human Trafficking	
CRIM 1500	Corruption, Integrity, and Accountability	
CRIM 1700	Crime, Media, and Politics	
Understanding and Experiencing Criminal Justice Institutions and Systems		
How does justice work and for whom? These courses introduce students to the systems and institutions tasked with providing justice. Each includes experiential learning components in cooperation with local criminal justice institutions.		
Complete one of the following:		4
CRIM 2310	Courts: The Third Branch of Government	
CRIM 2320	Youth Crime and Justice	
CRIM 2330	Punishment in the Age of Mass Incarceration	
CRIM 2340	Corporate Security: Securing the Private Sector	
CRIM 2350	Policing a Democratic Society	
CRIM 2370	Restorative Justice: Transforming the System	
Crime Problems		
The following courses provide students with a deeper look at a range of crime problems.		
Complete one of the following:		4
CRIM 3010	Criminal Violence	
CRIM 3030	Global Criminology	
CRIM 3040	Psychology of Crime	
CRIM 3060	Political Crime and Terrorism	
CRIM 3070	Corporate and White-Collar Crime	
Criminal Justice Electives		
These courses round out our knowledge of crime and justice.		
Complete three additional criminal justice electives. Two must be from the 3000, 4000, or 5000 level.		12

Sociology Requirements

Code	Title	Hours
Complete a minimum of nine courses in sociology from the requirements below.		
Sociology Requirements		
SOCL 1101	Introduction to Sociology	4
SOCL 3300	Social Theory	4
Sociology Introductory Electives		
Complete two courses in the following range:		8
SOCL 1200 to SOCL 1999		
Sociology Intermediate Electives		
Complete two courses in the following range:		8
SOCL 2000 to SOCL 3999		
Sociology Advanced Elective		
Complete one course in the following range:		4
SOCL 4000 to SOCL 5999		

Introduction, Methods, and Statistics

Code	Title	Hours
Introduction		
Complete one of the following:		1
CRIM 1000	Criminal Justice at Northeastern	
SOCL 1000	Sociology at Northeastern	
Research Methods		
SOCL 2321	Research Methods in Sociology	4
Statistics		
CRIM 3700	Analyzing and Using Data on Crime and Justice	4

Supporting Courses

Code	Title	Hours
Digital Skills		
Successful students develop digital skills and master digital tools useful for careers related to crime and justice. Students choose one of two courses (each has a required lab). The computer science course introduces students to spreadsheets and databases. The data science course introduces students to programming with data.		
Complete one of the following (and the appropriate lab):		4 or 5
CS 1100 and CS 1101	Computer Science and Its Applications and Lab for CS 1100	
DS 2000 and DS 2001	Programming with Data and Data Science Programming Practicum ((Social Science Practicum section))	
Co-op Integration Requirements		
Complete before the first co-op:		1
EESH 2000	Professional Development for Co-op	
Complete after the first co-op:		1
CRIM 3000	Co-op Integration Seminar 2	
Complete after the second co-op:		1
CRIM 4000	Co-op Integration Seminar 3	

Integrative Requirement

Code	Title	Hours
Senior Capstone Requirement		
CRIM 4949	Senior Capstone Seminar	4
or SOCL 4600	Senior Seminar	
Integrative Elective Courses		
Complete one of the following:		4
CRIM 3030	Global Criminology	
CRIM 3110	Gender, Crime, and Justice	

CRIM 3120	Race, Crime, and Justice	
Complete the following:		4
SOCL 1245	Sociology of Poverty	

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study
Four Years, Two Co-ops

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1000 or SOCL 1000	1	SOCL 3300	4	Vacation	0	Elective	4
CRIM 1100	4	Criminology thematic elective	4			Elective	4
SOCL 1101	4	Sociology introductory elective	4				
CS 1100 or DS 2000	4	Elective	4				
MATH 1215	4						
	17		**16**		**0**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
CRIM 1110	4	Co-op		Co-op		Criminology survey elective	4
CRIM 1120	4					Sociology intermediate elective	4
Sociology introductory elective	4						
Elective	4						
EESH 2000	1						
	17		**0**		**0**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2321	4	Co-op		Co-op		Elective	4
CRIM 3700	4					Criminal justice elective	4
Elective	4						
Elective	4						
CRIM 3000	1						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours
Criminology systemwide elective	4	CRIM 4949 or SOCL 4600	4	Elective	4
Sociology advanced elective	4	Integrative course 2	4		
Integrative course 1	4	Elective	4		
Criminal justice elective	4	Elective	4		
	16		**16**		**4**

Total Hours: 127

Health Science and Sociology, BS

The combined Bachelor of Science in Health Science and Sociology integrates social scientific perspectives to the study of health, illness, and healthcare. Students explore basic sociological concepts relevant for the study of health and healthcare, such as social construction and medicalization. Students explore why, for instance, despite having the most expensive healthcare system, the United States ranks comparatively low in life expectancy and health and well-being outcomes. Provides students with an opportunity to explore the ways that societal factors such as race, class, and gender interplay with health, healthcare, and health disparities.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Health Science Requirements

Code	Title	Hours
Public Health Core		
PHTH 1260	The American Healthcare System	4
or PHTH 1261	Comparative Healthcare Systems	
PHTH 2300	Communication Skills for the Health Professions	4
or PHTH 2301	Communication Skills for the Health Professions—Global	
PHTH 2350	Community and Public Health	4
or PHTH 2351	Community and Public Health - Global	
PHTH 2515	Healthcare Policy and Administration	4
PHTH 4120	Global Perspectives on Discrimination and Health	4
PHTH 4202	Principles of Epidemiology in Medicine and Public Health	4
PHTH 4540	Health Education and Program Planning	4
Supporting Courses for Health Science		
BIOL 1111 and BIOL 1112	General Biology 1 and Lab for BIOL 1111	5
BIOL 1113 and BIOL 1114	General Biology 2 and Lab for BIOL 1113	5
CHEM 1161 and CHEM 1162 and CHEM 1163	General Chemistry for Science Majors and Lab for CHEM 1161 and Recitation for CHEM 1161	5
PSYC 1101	Foundations of Psychology	4

Sociology Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Cultural Anthropology		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
Social Change Selective		
Complete one of the following:		4
SOCL 1260	Sociology of Gender	
SOCL 3450	Class, Power, and Social Change	
SOCL 3468	Social Movements	

Social Inequality Selective		
Complete one of the following:		4
SOCL 1245	Sociology of Poverty	
SOCL 2225	Sociology of Disability	
Lower-Level Elective		
Complete one of the following:		4
SOCL 1000 to SOCL 3999		
Advanced Elective		
Complete one of the following:		4
SOCL 4000 to SOCL 4999		

Supporting Courses

Code	Title	Hours
Introduction to College		
Complete one of the following:		1
HSCI 1000	College: An Introduction	
SOCL 1000	Sociology at Northeastern	
Writing in the First Year		
ENGW 1111	First-Year Writing	4
Statistics		
Complete one of the following:		4
PHTH 2210 and PHTH 2211	Foundations of Biostatistics and Recitation for PHTH 2210	
SOCL 2320	Statistical Analysis in Sociology	
Co-op Preparation (Based on Home College)		
Complete one of the following:		1
EESH 2000	Professional Development for Co-op	
HSCI 2000	Professional Development for Bouvé Co-op	
Advanced Writing in the Discipline		
Complete one of the following:		4
ENGW 3306	Advanced Writing in the Health Professions	
ENGW 3308	Advanced Writing in the Social Sciences	
NUPath: Ethical Reasoning		
PHIL 1165	Moral and Social Problems in Healthcare	4
Capstone (Based on Home College)		
Complete one of the following:		4
HSCI 4720	Health Science Capstone—Service (Prerequisite course HSCI 4700))	
HSCI 4730	Health Science Capstone—Research (Prerequisite course HSCI 4700)	
SOCL 4600	Senior Seminar	
Open Electives		**24**

Integrative Requirement

Code	Title	Hours
Choose one of the courses below:		4
ANTH 3441	Medical Anthropology	
SOCL 3441	Sociology of Health and Illness	

Health Sciences GPA Requirement

A grade of C or higher is required for all BIOL, CHEM, HLTH, HSCI, MATH, and PHTH courses.

Program Requirement

133 total semester hours required

Plan of Study

Four Years, One Co-op Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	BIOL 1113	4	Vacation		Vacation	
BIOL 1112	1	BIOL 1114	1				
HSCI 1000 or SOCL 1000	1	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PHTH 1260	4	ENGW 1111	4				
PSYC 1101	4	Elective	4				
SOCL 1101	4						
	18		**18**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	SOCL 2321	4	PHIL 1165	4	Vacation	
PHTH 2210 and PHTH 2211	4	SOCL 3300	4	Public health core	4		
Lower-level sociology elective	4	Public health core	4				
Public health core	4	Social change or social inequality selective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		ENGW 3306 or 3308	4
HSCI 2000 or EESH 2000	1					PHTH 4540	4
Public health core	4					HSCI 4700	0
Social inequality and social change selective	4						
Open electives	4						
	17		**0**		**0**		**8**

Year 4

Fall	Hours	Spring	Hours
SOCL 3441	4	Open electives	12
Advanced sociology elective	4	PHTH 4120	4
Open Elective	4		
Capstone Course	4		
	16		**16**

Total Hours: 133

Four Years, Two Co-ops Plan

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
BIOL 1111	4	ANTH 1101	4	PHTH 2350	4	Vacation	
BIOL 1112	1	BIOL 1113	4	Open Elective	4		
HSCI 1000 or SOCL 1000	1	BIOL 1114	1				
PHTH 1260	4	CHEM 1161 and CHEM 1162 and CHEM 1163	5				
PSYC 1101	4	ENGW 1111	4				
SOCL 1101	4						
	18		**18**		**8**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HSCI 2000 or EESH 2000	1	Co-op		Co-op		ENGW 3306	4
SOCL 2320 or PHTH 2210 (and PHTH 2211)	4			Open elective	4	PHIL 1165	4
SOCL 2321	4						
SOCL 3300	4						
Public health core	4						
	17		**0**		**4**		**8**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	Co-op		Co-op		PHTH 4540	4
SOCL 3441	4			Open elective	4	Public health core	4
Lower-level sociology elective	4					HSCI 4700	0
Public health core	4						
	16		**0**		**4**		**8**

Year 4

Fall	Hours	Spring	Hours
Social change or social inequality selective	4	Public health core	4
Capstone Course	4	Social change or social inequality selective	4
Advanced sociology elective	4	Open electives	8
Open elective	4		
	16		**16**

Total Hours: 133

Human Services and Sociology, BS

Overview

Students pursuing a combined major in human services and sociology will integrate the theoretical understandings of these two fields to better understand organizational and group behavior and their implications for individuals and communities utilizing human services. The human services coursework prepares students for careers in social change by providing students with the theoretical and skill-based background necessary for practice and research. The sociology coursework prepares students to rigorously analyze the social, political, and economic spheres of society at the local and global levels. Students will develop a holistic understanding of preventative and reactive responses to social inequality and an understanding of how to impact change at the individual and structural levels. The combined major provides students with the conceptual and practical tools to understand how various features of society affect its members as well as how people create social change.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Human Services Requirements

Code	Title	Hours
Human Services Required Courses		
HUSV 1101	Social Change and Human Services	4
HUSV 2300	Counseling in Human Services	4
HUSV 3570	The Nonprofit Sector, Philanthropy, and Social Change	4
HUSV 3900	Social Policy	4
HUSV 4994	Human Services Internship	6
Human Services Electives		
Complete three additional HUSV courses.		12
Research Methods		
Complete option A or option B:		4-8
Option A		
HUSV 2970	Research Methods for Human Services	
Option B		
SOCL 2321	Research Methods in Sociology	
and		
Complete an additional HUSV Elective		
Senior Capstone [1]		
HUSV 4700	Senior Seminar in Human Services	4

[1] With permission of human services, the student may complete sociology capstone Senior Seminar (SOCL 4600) and substitute one advanced human services elective for Senior Seminar in Human Services (HUSV 4700).

Sociology Requirements

Code	Title	Hours
Required Sociology Courses		
SOCL 1101	Introduction to Sociology	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 3300	Social Theory	4
Introductory Electives		
Complete two of the following:		8
ANTH 1101	Peoples and Cultures	
SOCL 1245	Sociology of Poverty	

SOCL 1246	Environment and Society	
SOCL 1255	Sociology of the Family	
SOCL 1260	Sociology of Gender	
SOCL 1295	Drugs and Society	
Intermediate-Level Elective		
Complete two of the following:		8
ANTH 2302	Gender and Sexuality: A Cross-Cultural Perspective	
ANTH 2305	Global Markets and Local Culture	
ANTH 2315	Religion and Modernity	
SOCL 2358	Current Issues in Cities and Suburbs	
SOCL 3241	Violence and Society	
SOCL 3270	Race, Ethnicity, and Inequality	
SOCL 3441	Sociology of Health and Illness	
SOCL 3468	Social Movements	
SOCL 3487	Applied Sociology: Practice and Theory	
Advanced-Level Elective		
Complete one of the following:		4
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
ANTH 4580	Special Topics in Anthropology	
SOCL 4518	Law and Society in a Digital World	
SOCL 4520	Race, Class, and Gender	
Senior Seminar [2]		
SOCL 4600	Senior Seminar	4

[2] With permission of the sociology head adviser, the student may complete Senior Seminar in Human Services (HUSV 4700) and substitute one advanced sociology elective for Senior Seminar (SOCL 4600).

Human Services/Sociology Integrative Course

Code	Title	Hours
HUSV 2355	Race, Identity, Social Change, and Empowerment	4

Sociology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Human Services and Sociology Combined Major Credit Requirement

Complete 78 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV 1101	4	MATH 1215	4	Vacation	0	Vacation	0
ENGW 1111	4	HUSV 2300	4				
SOCL 1101	4	SOCL Introductory Elective	4				
		2					

SOCL Introductory Elective 1	4	HSVC elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
HUSV Elective	4	HUSV 2355	4	Vacation	0	Vacation	0
HUSV Elective	4	SOCL Intermediate Elective	4				
Elective	4	Elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
SOCL 2320	4	HUSV 2970 or SOCL 2321	4	Vacation	0	Vacation	0
SOCL 3300	4	Elective	4				
Elective	4	SOCL Intermediate-Level Elective	4				
HUSV 3570	4	ENGW 3315	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
HUSV 3900	4	HUSV 4700	4
HUSV 4994	6	SOCL 4600	4
Elective	4	Elective	4
SOCL Advanced-Level Elective	4	Elective	4
	18		**16**

Total Hours: 130

Linguistics and Cultural Anthropology, BS

Overview

The combined major in linguistics and cultural anthropology focuses on the relationship of culture to the institutions, interpersonal relations, and practices that make up their social structure while emphasizing the structure of human language and its involvement in social interaction and culture. Students examine how language both reflects and influences cultural phenomena and how it can be used as a tool to study those phenomena; and they apply their interests across a range of connected courses, co-op opportunities, and potential research projects.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Linguistics Major Language Requirement

Complete two courses in the same language with a grade of C or higher. Proficiency at elementary level 2 or higher is required.

Linguistics Requirements

Note: A grade of C or higher is required for all courses in this section.

Code	Title	Hours
Linguistics Requirements		
LING 1150	Introduction to Language and Linguistics	4
or LING 1449	English Now and Then	
LING 2350	Linguistic Analysis	4
LING 3442	Sociolinguistics	4
LING 3456	Language and Gender	4
Linguistic Structure		
Complete three of the following:		12
LING 3420	Phonetics	
LING 3422	Phonology	
LING 3424	Morphology	
LING 3450	Syntax	
LING 3452	Semantics	
Linguistics Research		
Complete one of the following:		4
LING 4891	Research Seminar in Linguistics	
LING 4970 and LING 4971	Junior/Senior Honors Project 1 and Junior/Senior Honors Project 2	
LING 4991	Directed Study Research	
Linguistics Elective		
Complete one elective (any course in the range LING 3000–4999 that hasn't already been taken to fulfill other major requirements, or the following): [1]		4
DEAF 2700	ASL Linguistics	

[1] Please visit the Linguistics Courses page (https://catalog.northeastern.edu/undergraduate/science/linguistics/#coursestext) within this catalog to review the list of courses in the LING 3000 - LING 4999 range.

Anthropology Requirements

Code	Title	Hours
Foundation Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
ANTH 4600	Senior Seminar	4
Anthropology Advanced Area Courses		
Complete three of the following:		12
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		
Complete three ANTH courses not already taken.		12

Linguistics/Anthropology Integrative Requirement

Code	Title	Hours
Integrative Course		
LING 3412	Language and Culture	4

Anthropology Major Grade Requirement

A GPA of 2.000 for major courses is required.

Linguistics/Anthropology Combined Major Credit Requirement

Complete 76 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Four Years, Two Co-ops in Summer 2/Fall

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Elective	4	Elective	4
ENGW 1111	4	LING 2350	4	Elective	4	Elective	4
LING 1150	4	LING 3412	4				
MATH 1215	4	Foreign language course	4				
	16		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	LING 3442	4	Anthropology elective	4	Co-op	
Linguistic structure course	4	Linguistic structure course	4	Elective	4		
Anthropology elective	4	Anthropology elective	4				
Linguistics elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ENGW 3315	4	Elective	4	Co-op	
		LING 3456	4	Elective	4		
		Anthropology advanced area course	4				
		Linguistic structure course	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600	4
		Anthropology advanced area course	4
		Anthropology advanced area course	4
		Linguistics research	4
	0		**16**

Total Hours: 128

Four Years, No Co-op

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 2305	4	Vacation		Vacation	
ENGW 1111	4	LING 2350	4				
LING 1150	4	LING 3412	4				
MATH 1215	4	Foreign language course	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Foreign language course	4	LING 3442	4	Vacation		Vacation	
Linguistic structure course	4	Linguistic structure course	4				
Anthropology elective	4	Anthropology elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ENGW 3315	4	LING 3456	4	Vacation		Vacation	
Anthropology advanced area course	4	Anthropology advanced area course	4				
Anthropology elective	4	Linguistic structure elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours
Anthropology advanced area course	4	ANTH 4600	4
Linguistics research	4	Linguistics elective	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Mathematics and Sociology, BS

In the mathematics and sociology combined-major BS program, sociology and mathematics courses help lay the groundwork for strong basic training that seeks to prepare students for developing sociological models using mathematics.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Mathematics Requirements

Code	Title	Hours
Problem Solving		
MATH 1365	Introduction to Mathematical Reasoning	4
Calculus		
MATH 1341	Calculus 1 for Science and Engineering	4
MATH 1342	Calculus 2 for Science and Engineering	4
MATH 2321	Calculus 3 for Science and Engineering	4
Intermediate and Advanced Mathematics		
MATH 2331	Linear Algebra	4
MATH 2341	Differential Equations and Linear Algebra for Engineering	4
MATH 3081	Probability and Statistics	4
Math Electives		
Complete two courses in the following range that are not required in the requirements above:		8
MATH 3001 to MATH 5999		

Sociology Requirements

Code	Title	Hours
Sociology Required Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 2305	Global Markets and Local Culture	4
SOCL 2320	Statistical Analysis in Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Sociology Electives		
Complete one course from each course range:		
Introductory Elective		*4*
SOCL 1101 to SOCL 1999		
Intermediate Elective		*4*
SOCL 2000 to SOCL 3999		
Advanced Elective		*4*
SOCL 4000 to SOCL 4999		
Capstone Requirement		
SOCL 4600	Senior Seminar	4

Integrative Requirement

Code	Title	Hours
Complete one of the following:		4
MATH 4025	Applied Mathematics Capstone	

MATH 5131	Introduction to Mathematical Methods and Modeling
SOCL 1280	The Twenty-First-Century Workplace
SOCL 2485	Environment, Technology, and Society
SOCL 4528	Computers and Society

Mathematics and Sociology Combined Major Credit Requirement

Complete 68 semester hours in the major.

Program Requirement

128 total semester hours required

Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	MATH 1342	4	Vacation		Vacation	
ENGW 1111	4	SOCL 2320	4				
MATH 1341	4	SOCL 3300	4				
MATH 1365	4	Elective	4				
	16		**16**		**0**		**0**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 2305	4	MATH 2341	4	Vacation		Vacation	
MATH 2321	4	MATH elective	4				
SOCL 2321	4	SOCL elective	4				
Elective	4	Elective	4				
	16		**16**		**0**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 2331	4	Co-op		Co-op		Vacation	
MATH elective	4						
SOCL elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 4

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
MATH 3081	4	Co-op		Co-op		Vacation	
SOCL elective	4						
Elective	4						
Elective	4						
	16		**0**		**0**		**0**

Year 5

Fall	Hours	Spring	Hours
Elective	4	Capstone	4
Elective	4	Integrative course	4
Elective	4	Elective	4
Elective	4	Elective	4
	16		**16**

Total Hours: 128

Sociology and Cultural Anthropology, BS

The Department of Sociology and Anthropology at Northeastern University offers a combined major in sociology and cultural anthropology. Students learn the disciplinary histories, practices, and methods of sociology and sociocultural anthropology, identify foundational and contemporary debates within and across these two disciplines, and evaluate their contributions to our understanding of local and global societies and cultures. The combined major offers students various opportunities for community engagement, experiential learning, and for gaining research skills using quantitative and qualitative methods.

Program Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

Universitywide Requirements

All undergraduate students are required to complete the Universitywide Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/university-wide-requirements/).

NUpath Requirements

All undergraduate students are required to complete the NUpath Requirements (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/university-academics/nupath/).

Sociology Requirements

Code	Title	Hours
Required Sociology		
SOCL 1101	Introduction to Sociology	4
SOCL 2321	Research Methods in Sociology	4
SOCL 3300	Social Theory	4
Sociology Electives		
Introductory Electives		
Complete two courses in the following range:		8
SOCL 1110 to SOCL 1999		
Intermediate Elective		
Complete one course in the following range:		4
SOCL 2000 to SOCL 3999		
Advanced Elective		
Complete one course in the following range:		4
SOCL 4000 to SOCL 4999		
Experiential Learning		
Complete one of the following courses, or complete a study abroad or a dialogue of civilizations:		4
COOP 3945	Co-op Work Experience	
SOCL 3487	Applied Sociology: Practice and Theory	
SOCL 4971	Junior/Senior Honors Project 2	

Cultural Anthropology Requirements

Code	Title	Hours
Cultural Anthropology Core Courses		
ANTH 1101	Peoples and Cultures	4
ANTH 3410	Ethnographic Field Experience	4
ANTH 3421	Foundations of Anthropological Theory	4
Advanced Area Courses		
Complete two of the following:		8
ANTH 4350	Ethnography of Southeast Asia	
ANTH 4500	Latin American Society and Development	
ANTH 4505	Native North Americans	
ANTH 4510	Anthropology of Africa	
ANTH 4515	Culture and Politics in Modern India	
Anthropology Electives		

Complete four ANTH courses. One study-abroad course may also count toward this requirement with prior permission from the department.	16

Integrative Requirement

Students must choose between a one-semester senior project, which they would complete in the context of Senior Seminar (ANTH 4600) or Senior Seminar (SOCL 4600), or a two-semester senior thesis, which would require them to also enroll in a fall-semester directed study.

Code	Title	Hours
Required Course		
ANTH 2305	Global Markets and Local Culture	4
Capstone		
SOCL 4600	Senior Seminar	4
or ANTH 4600	Senior Seminar	

Sociology and Cultural Anthropology Major Grade Requirement

A GPA of 2.000 across all major courses is required.

Sociology and Cultural Anthropology Combined Major Credit Requirement

Complete 76 semester hours in the major.

Experiential Liberal Arts

All students in this College of Social Sciences and Humanities program are required to complete the Experiential Liberal Arts Requirement (p. 1727).

Program Requirement

128 total semester hours required

Plan of Study

Sample Plan of Study

Year 1

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
ANTH 1101	4	ANTH 3410	4	Elective	4	Elective	4
SOCL 1000	1	SOCL 2321	4	Elective	4	Elective	4
SOCL 1101	4	Anthropology elective	4				
Sociology elective	4	Sociology elective	4				
Writing	4						
	17		**16**		**8**		**8**

Year 2

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Anthropology area course	4	ANTH 2305	4	Anthropology area course	4	Co-op	
Anthropology elective	4	SOCL 3300	4	Elective	4		
Sociology elective	4	Sociology elective	4				
Elective	4	Elective	4				
	16		**16**		**8**		**0**

Year 3

Fall	Hours	Spring	Hours	Summer 1	Hours	Summer 2	Hours
Co-op		ANTH 3421	4	Elective	4	Co-op	
		Anthropology elective	4	Elective	4		
		Sociology elective	4				
		Elective	4				
	0		**16**		**8**		**0**

Year 4

Fall	Hours	Spring	Hours
Co-op		ANTH 4600 or SOCL 4600	4
		CSSH ELA requirement	4
		Elective	4

Elective	4
0	**16**

Total Hours: 129

Cultural Anthropology, Minor

The cultural anthropology minor at Northeastern focuses on the study of culture as it is located in issues of race, ethnicity, class, gender, history, and globalization. Students develop proficiencies in widely applicable skills and frameworks, such as cultural relativism, comparative analysis, cross-cultural communication, research design, and ethnographic field research. Students have the opportunity to work with faculty members with regional expertise in Latin America, Europe, Asia, Africa, and North America and who teach courses on contemporary issues such as globalization, digital technologies, consumerism, sports, gender and sexuality, tourism, and social movements. This minor can complement a wide range of majors throughout the university, providing students with regional expertise and a depth of cultural understanding.

Minor Requirements

Students minoring in Cultural Anthropology must complete Peoples and Cultures (ANTH 1101), plus any three ANTH electives, at least one of which must be at the 3000 level of above.

Required Courses

Code	Title	Hours
ANTH 1101	Peoples and Cultures	4

Anthropology Electives

Code	Title	Hours
Complete three ANTH electives, one of which must be at the 3000 level or above.		12

GPA Requirement

2.000 GPA required in the minor

Science and Technology Studies, Minor

The science and technology studies (STS) minor offers an interdisciplinary program of study focused on the critical role of science and technology in contemporary societies. Rather than viewing science and technology as autonomous or self-generating domains, STS traces the complex interplay that exists between science and technology and the social, political, and cultural contexts in which they are formed. Combining coursework in such fields as sociology, history, philosophy, engineering, and the humanities, the STS program offers students an opportunity to obtain a deeper understanding of the norms, values, and beliefs that often lie hidden within scientific knowledge and engineering designs. In this way, the program is designed to equip students to anticipate and address the many ethical and policy dilemmas that scientific and engineering knowledge provoke, especially as these bear on health, the environment, and community life around the world.

The STS minor is relevant for students embarking on STEM careers as well as those majoring in social science or humanities fields. The curriculum is flexible, enabling students to customize their studies in accordance with their individual interests.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Required Course

Code	Title	Hours
SOCL 2485	Environment, Technology, and Society	4
or HIST 2220	History of Technology	

STS Electives

Code	Title	Hours
Foundational Requirement		
Complete one 1000–2000-level course from the following:		*4*
CIVE 1200	How Cities Work: Experiencing Urban Infrastructure	
ENVR 1202	History of Earth and Life	
HIST 1225	Gender, Race, and Medicine	
HIST 2233	The History of Medicine in North America	
PHIL 1145	Technology and Human Values	
PHIL 3050	Information and Uncertainty	
POLS 2390	Science, Technology, and Public Policy	
SOCL 1280	The Twenty-First-Century Workplace	
WMNS 2505	Digital Feminisms	
Advanced Electives		
Complete two of the following:		*8*
ANTH 3441	Medical Anthropology	
ENGL 3340	Technologies of Text	
PHIL 4510	Philosophy of Science	
PPUA 5264	Energy Democracy and Climate Resilience: Technology, Policy, and Social Change	
SOCL 4528	Computers and Society	

GPA Requirement

2.000 GPA required in the minor

Sociology, Minor

The sociology minor at Northeastern helps students to understand how to apply empirical evidence to address a wide range of social problems. Sociology minors can take courses in quantitative and qualitative research methods and theoretical and empirical reasoning. Elective courses draw on our faculty's expertise in violence, family life, health and illness, the environment, technology, gender and sexuality, occupations and professions, social movements, the law, and social inequality. This minor can complement a wide range of majors throughout the university, providing students with a range of skills to better understand their place in complex social environments.

Minor Requirements

Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified.

Introduction to Sociology

Code	Title	Hours
SOCL 1101	Introduction to Sociology	4

Electives

Code	Title	Hours
Complete three SOCL courses, at least one course must be from the 3000 level or above.		12

GPA Requirement

2.000 GPA required in the minor

Accelerated Bachelor/Graduate Degree Programs

The College of Social Sciences and Humanities offers a number of bachelor's/graduate degree programs that allow students to accelerate the attainment of the graduate degree by applying graduate credits taken as an undergraduate toward both the undergraduate and graduate degrees. Degrees are earned sequentially, with the bachelor's degree attainment followed by coursework to complete the graduate degree. See additional information on accelerated bachelor/graduate degree programs (https://registrar.northeastern.edu/article/plusone-program-accelerated-bachelorgraduate-degree-programs/).

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General Information

- Notifications and Disclosures (p. 2720)
- Governing Boards and Officers of Northeastern (p. 2722)
- University Leadership (p. 2724)
- Accreditation (p. 2725)
- Authorizations (p. 2729)
- Major CIP Codes (p. 2733)
- Resources (p. 2753)

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The *Northeastern University Catalog* contains the university's primary statements about approved academic programs and degree requirements, as authorized by the president or the Board of Trustees.

The *Northeastern University Catalog* contains current information about the university calendar, admissions, degree requirements, fees, and certain procedures and regulations; however, such information is not intended and should not be regarded to be contractual. Course information was current as of July 31, 2023. For updated course information, students and advisors should consult the Banner course catalog (https://nubanner.neu.edu/StudentRegistrationSsb/ssb/term/termSelection/?mode=courseSearch).

Accreditation

Please visit the Accreditation (https://catalog.northeastern.edu/archive/2023-2024/graduate/appendix/statements-accreditation/) page of this catalog for details of Northeastern University's accreditation status.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

In accordance with the Family Educational Rights and Privacy Act of 1974, Northeastern University permits its students to inspect their records wherever appropriate and to challenge specific parts of them when they feel it is necessary to do so. Specific details of the law as it applies to Northeastern are discussed in this section of the catalog (https://catalog.northeastern.edu/archive/2023-2024/graduate/academic-policies-procedures/ferpa/).

PERSISTENCE RATES UNDER THE STUDENT RIGHT-TO-KNOW ACT

In the fall of 2022, the persistence rate for undergraduate students who entered in the fall 2021 cohort was 97.2%.

TUITION DEFAULT POLICY

In cases where the student defaults on their tuition, the student shall be liable for the outstanding tuition and all reasonable associated collection costs incurred by the university, including attorneys' fees.

NONDISCRIMINATION POLICIES

Northeastern University is committed to providing a living, learning, and working environment free from discrimination and harassment and does not discriminate on the basis of race, color, religion, genetic information, sex, gender, gender identity, sexual orientation, age, national origin, ancestry, disability, or veteran status in admission to, access to, treatment in, or employment in its programs and activities. The university will not tolerate any conduct that violates rights guaranteed by law, or any of the university policies that prohibit discrimination, including the Policy on Equal Opportunity (https://www.northeastern.edu/policies/pdfs/Policy_on_Equal_Opportunity.pdf), Policy on Sexual and Gender-Based Harassment and Title IX (https://policies.northeastern.edu/policy104/#_ga=2139912052678023693168597 2406-9222403871666097079), and the Policy on Non-Fraternization (https://www.northeastern.edu/policies/pdfs/Policy_on_Non-Fraternization.pdf). Furthermore, university policy also includes prohibitions of retaliation for filing complaints of discrimination with the Office for University Equity and Compliance. Links to the university's nondiscrimination policies and its grievance procedures are available at the OUEC (https://www.northeastern.edu/ouec/). Inquiries regarding the university's nondiscrimination policies may be directed to:

Office for University Equity and Compliance (https://www.northeastern.edu/ouec/)
125 Richards Hall
Northeastern University
Boston, Massachusetts 02115
617.373.4644
ouec@northeastern.edu

The university strongly encourages any person to report information relating to alleged discrimination or harassment to the OUEC (https://www.northeastern.edu/ouec/) by completing the form available here (https://cm.maxient.com/reportingform.php?NortheasternUniv&layout_id=7) or through any of the contact options listed above. OUEC's policies, as well as other helpful information, can be found at the OUEC website (https://www.northeastern.edu/ouec/).

DISABILITY RESOURCE CENTER

The Disability Resource Center provides a variety of disability-related services and accommodations to Northeastern University's students with disabilities.

Northeastern University's compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 are coordinated by the senior director of the Disability Resource Center. Persons requiring information regarding the Disability Resource Center should contact the center at 617.373.2675 or drc@northeastern.edu.

CLERY ACT

Northeastern University is committed to assisting all members of the university community in providing for their own safety and security. Information regarding campus security and personal safety, including topics such as crime prevention, university police law enforcement authority, crime reporting policies, crime statistics for the most recent three-year period, and disciplinary procedures, is available in the Annual Security & Fire Safety Reports, located on the NUPD website (https://nupd.northeastern.edu/annual-reports/).

EMERGENCY INFORMATION

The university is prepared to respond to emergencies and urgent situations that require immediate action with a trained team of police officers, EMTs, health and counseling experts, student affairs and residential life staff, and other professionals from a coordinated group that is able to manage a wide range of potential situations.

In case of emergency or crisis situations that require immediate notification, university officials will deploy the NU Alert system, which sends email, voice mail, and text messages to students, faculty, and staff. NU Alert is intended to communicate pertinent information and, when appropriate, provide directions to those in the affected area(s).

A record of past Timely Warning and NU Alert Emergency Notifications for our campus community can be found on the NUPD website (https://nupd.northeastern.edu/safety-notifications/).

Examples of crisis situations range from snowstorms to national emergencies that have a local impact.

Additional information on the university's emergency information systems can be found on the university's Emergency Information (https://www.northeastern.edu/emergency-information/) website.

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To create and translate knowledge to meet global and societal needs.

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Hazel L. Sive, BSc, BScHons., PhD, *Dean of the College of Science*
Elizabeth Hudson, BA, MA, PhD, *Dean of the College of Arts, Media and Design*
Jared Auclair, BS, MA, PhD, *Interim Dean of the College of Professional Studies*
James R. Hackney, AB, JD, *Dean of the School of Law*
Ron Sandler, PhD, *Interim Dean of the College of Social Sciences and Humanities*
Carmen L. Sceppa, BS, MD, PhD, *Dean of the Bouvé College of Health Sciences*

Accreditation

Northeastern University has maintained its status as a member in good standing of the New England Commission of Higher Education, Inc. (NECHE), previously New England Association of Schools and Colleges (NEASC), since it was awarded its initial accreditation in 1940. The university was last reviewed by NECHE in 2018 and will be reviewed again in fall 2028.

Northeastern University possesses degree-granting authority in Massachusetts, under the auspices of the Massachusetts Board of Higher Education.

BOUVÉ COLLEGE OF HEALTH SCIENCES

Program	Accrediting Agency
BA Public Health (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/public-health-ba/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BS Health Science (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/community-health-behavioral-sciences/health-science-bs/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
MPH Public Health (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/public-health-mph/)	Council on Education for Public Health (CEPH) (https://ceph.org/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/bsn/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[2]	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
BSN Nursing, Accelerated Program for Second-Degree Students (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/health-sciences/nursing/accelerated-second-degree-students-bsn/)[3]	North Carolina Board of Nursing (https://www.ncbon.com/)[3]
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
MS Nursing—Direct Entry (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-direct-entry-ms/)	Massachusetts Board of Registration in Nursing (https://www.mass.gov/orgs/board-of-registration-in-nursing/)[2]
MS Physician Assistant Studies (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/physician-assistant-studies-ms/)	Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) (http://www.arc-pa.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association (ASHA) (https://caa.asha.org/)
MS Speech-Language Pathology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/speech-language-pathology-ms/)	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
CAGS Nursing (multiple concentrations) (https://nextcatalog.northeastern.edu/graduate/health-sciences/nursing/#programstext)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

CAGS School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-cags/)[1]	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[1]
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Council on Accreditation of Nurse Anesthesia Educational Programs (COA) (https://www.coacrna.org/)
DNP Nurse Anesthesia (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nurse-anesthesia-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DNP Nursing Practice—Post-Master's (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/nursing/nursing-practice-dnp/)	Commission on Collegiate Nursing Education (CCNE) (https://www.aacnnursing.org/CCNE/)
DPT Physical Therapy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/clinical-rehabilitation-sciences/dpt-post-baccalaureate-entry/)	Commission on Accreditation in Physical Therapy Education (CAPTE) (https://www.capteonline.org/)
PharmD Pharmacy (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/pharmacy/pharmd-direct-entry/)	Accreditation Council for Pharmacy Education (ACPE) (https://www.acpe-accredit.org/)
PhD Counseling Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/counseling-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	American Psychological Association (APA) (https://accreditation.apa.org/accredited-programs/?_gl=1*iljb96*_ga*NjI5NzI0OTk4LjE2OTI3MjI0OTQ.*_ga_SZXLGDJGNB*MTY5MjcyMjQ5
PhD School Psychology (https://catalog.northeastern.edu/archive/2023-2024/graduate/health-sciences/community-health-behavioral-sciences/school-psychology-phd/)	National Association of School Psychologists (NASP) (https://www.nasponline.org/)

1 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.
2 The Massachusetts Board of Registration in Nursing approves (not accredits) programs.
3 The North Carolina Board of Nursing approves (not accredits) programs.

COLLEGE OF ARTS, MEDIA AND DESIGN

Program	Accrediting Agency
Master of Architecture (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/architecture/#text)	National Architectural Accreditation Board (NAAB) (https://www.naab.org/)

COLLEGE OF ENGINEERING

Program	Accrediting Agency
BSBioE Bioengineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/bioengineering/bioengineering-bsbioe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSChE Chemical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/chemical/chemical-engineering-bsche/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCE Civil Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/civil-engineering-bsce/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSCmpE Computer Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/computer-engineering-bscompe/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEE Electrical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/electrical-computer/electrical-engineering-bsee/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSEnvE Environmental Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/civil-environmental/environmental-engineering-bsenve/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org
BSIE Industrial Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsie/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

BSME Mechanical Engineering (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/engineering/mechanical-industrial/bsme/)	Accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org

COLLEGE OF PROFESSIONAL STUDIES

Program	Accrediting Agency
BS Finance and Accounting Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/finance-accounting-management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BS Management (https://catalog.northeastern.edu/archive/2023-2024/professional-studies/bachelors-postbaccalaureate/management/)[1]	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)
BSET Computer Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Electrical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
BSET Mechanical Engineering Technology	Accredited by the Technology Accreditation Commission of ABET, 111 Market Place Suite 1050 Baltimore, MD 21202-4012 Telephone: 410.347.7700 (https://www.abet.org/)
MS Organizational Leadership (with concentration in Project Management) (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/organizational-leadership-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MS Project Management (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/)	Project Management Institute's Global Accreditation Center (https://www.pmi.org/global-accreditation-center/)
MSLD Sports Leadership (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/master-of-sports-leadership/)	Commission on Sport Management Accreditation (https://www.cosmaweb.org/)
Master of Arts in Teaching programs in: (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/teaching-secondary-licensure-mat/#text)	
Elementary Education, 1–6	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Sheltered English Immersion Administrator—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)
Sheltered English Immersion Teacher—Endorsement	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Biology, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Chemistry, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Earth and Space Science, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of English as a Second Language (ESL), PreK–6, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of History, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Mathematics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Physics, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Political Science/Political Philosophy, 8–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

Teacher of Social Science, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]
Teacher of Students with Moderate Disabilities, PreK–8, 5–12	Massachusetts Department of Elementary and Secondary Education (https://www.doe.mass.edu/)[2]

1 Accredited under the aegis of the "sponsoring" full-time college.
2 The Massachusetts Department of Elementary and Secondary Education approves (not accredits) programs.

COLLEGE OF SCIENCE

Program	Accrediting Agency
BS Biochemistry (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/science/biochemistry/biochemistry-bs/)	American Society for Biochemistry and Molecular Biology (ASBMB) (https://www.asbmb.org/)

COLLEGE OF SOCIAL SCIENCES AND HUMANITIES

Program	Accrediting Agency
BS American Sign Language—English Interpreting (https://catalog.northeastern.edu/archive/2023-2024/undergraduate/social-sciences-humanities/cultures-societies-global-studies/american-sign-language-english-interpreting-bs/)	Commission on Collegiate Interpreter Education (http://www.ccie-accreditation.org/)
MPA Public Administration (https://catalog.northeastern.edu/archive/2023-2024/graduate/social-sciences-humanities/public-policy-urban-affairs/public-administration-mpa/)	Network of Schools of Public Policy, Affairs, and Administration (https://www.naspaa.org/)

D'AMORE-MCKIM SCHOOL OF BUSINESS

Program	Accrediting Agency
All programs offered in 2023–24	AACSB International—The Association to Advance Collegiate Schools of Business (https://www.aacsb.edu/)

SCHOOL OF LAW

Program	Accrediting Agency
JD Law (https://catalog.northeastern.edu/archive/2023-2024/graduate/law/law-jd/)	American Bar Association; Association of American Law Schools[1]

1 The Association of American Law Schools is an elected membership organization, not an accrediting body.

Authorizations

Campus Locations and Regulatory Agencies

In addition to accreditation by the New England Commission of Higher Education, Northeastern University is regulated by local authorities for its global campus network locations. These agencies are as follows:

- Arlington, Virginia
  - State Council of Higher Education for Virginia
- Charlotte, North Carolina
  - Board of Governors of the University of North Carolina
- Miami, Florida
  - Florida Commission for Independent Education
- Portland, Maine
  - Maine State Board of Education
- Oakland, California
  - Bureau for Private Postsecondary Education
- San Francisco, California
  - Bureau for Private Postsecondary Education
- San Jose, California
  - Bureau for Private Postsecondary Education
- Seattle, Washington
  - Washington Student Achievement Council
- Toronto, Ontario, Canada
  - Ministry of Colleges and Universities
- Vancouver, British Columbia, Canada
  - Ministry of Post-Secondary Education and Future Skills

Required Disclosures

VIRGINIA

Northeastern has processes in place to ensure that student grievances are treated with respect and addressed in a fair and professional manner. Students can report concerns to the Office of Student Conduct and Conflict Resolution (https://www.northeastern.edu/osccr/) or the University Ombuds (https://provost.northeastern.edu/ombuds/). At the Arlington campus, students can contact the on-site student support specialist or the campus principal.

If a student's problem has not been resolved in pursuance of the Northeastern grievance policy, they may contact the State Council of Higher Education for Virginia. SCHEV representatives can be reached via telephone at (804) 225-2600; via fax at (804) 225-2604; at this website (https://www.schev.edu/students/resources/student-complaints/); or by mail at 101 N. 14th Street, 10th Floor, James Monroe Building, Richmond, VA 23219.

The Virginia State Approving Agency (SAA) is the approving authority of education and training programs for Virginia. Our office investigates complaints of GI Bill® beneficiaries. While most complaints should initially follow the school grievance policy, if the situation cannot be resolved at the school, the beneficiary should contact our office via email saa@dvs.virginia.gov. *GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at* http://www.benefits.va.gov/gibill *(*http://www.benefits.va.gov/gibill/*).*

NORTH CAROLINA

Northeastern has been evaluated by the University of North Carolina and is licensed to conduct higher education degree activity in the state. The university's guaranty bond for unearned prepaid tuition is on file with the Board of Governors of the University of North Carolina and the Office of the General Counsel at Northeastern. North Carolina students may view a copy of the Tuition Guaranty Bond by contacting Northeastern's Risk Services at 716 Columbus Avenue (Columbus Place), Suite 301 CP, Boston, MA 02120.

If students are unable to resolve a complaint offered by the Northeastern grievance procedures, they can submit a complaint through the online student complaint form at https://studentcomplaints.northcarolina.edu/form (https://studentcomplaints.northcarolina.edu/form/), or by mail to North Carolina Post-Secondary Education Complaints, 140 Friday Center Drive, Chapel Hill, NC 27517. https://www.northcarolina.edu/post-secondary-education-complaints/.

FLORIDA

Northeastern University—Miami is accredited by the New England Commission of Higher Education (NECHE) and is provisionally licensed in the state of Florida by the Commission on Independent Education (CIE). Additional information regarding the institution may be obtained by contacting the Commission for Independent Education, Department of Education, 325 West Gaines Street, Suite 1414, Tallahassee, Florida 32399-0400, toll-free telephone number (888) 224-6684.

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

CALIFORNIA

Any questions a student may have regarding this catalog that have not been satisfactorily answered by the institution may be directed to the Bureau for Private Postsecondary Education (http://www.bppe.ca.gov), 1747 N. Market Blvd., Ste. 225, Sacramento, CA 95834; P.O. Box 980818, West Sacramento, CA 95798-0818, (888) 370-7589, or by fax (916) 263-1897.

NOTICE CONCERNING TRANSFERABILITY OF CREDITS AND CREDENTIALS EARNED AT OUR INSTITUTION

The transferability of credits you earn at Northeastern is at the complete discretion of an institution to which you may seek to transfer. Acceptance of the degree you earn in the educational program is also at the complete discretion of the institution to which you may seek to transfer. If the credits or degree that you earn at this institution are not accepted at the institution to which you seek to transfer, you may be required to repeat some or all of your coursework at that institution. For this reason you should make certain that your attendance at this institution will meet your educational goals. This may include contacting an institution to which you may seek to transfer after attending Northeastern to determine if your credits or degree will transfer.

The Office of Student Assistance and Relief is available to support prospective students, current students, or past students of private postsecondary educational institutions in making informed decisions, understanding their rights, and navigating available services and relief options. The office may be reached by calling (888) 370-7589 or by visiting https://osar.bppe.ca.gov/.

WASHINGTON

Northeastern is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Northeastern to offer specific degree programs. The council may be contacted for a list of currently authorized programs. Authorization by the council does not carry with it an endorsement by the council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the council at P.O. Box 43430, Olympia, WA 98504-3430 or by email at degreeauthorization@wsac.wa.gov.

The transferability of credits earned at Northeastern is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Northeastern will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Northeastern to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Northeastern will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned. The Washington Student Achievement Council has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit http://www.wsac.wa.gov/student-complaints (http://www.wsac.wa.gov/student-complaints/) for information regarding the WSAC complaint process.

ONTARIO

Master of Science in Project Management *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/project-management-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Regulatory Affairs *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/regulatory-affairs-ms/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting June 25, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Informatics *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/informatics-mps/*)*

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting March 6, 2020. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting July 28, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Biotechnology (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/chemistry-chemical-biology/biotechnology-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting September 14, 2021. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Cyber-Physical Systems (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/cyber-physical-systems-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Bioinformatics (https://catalog.northeastern.edu/archive/2023-2024/graduate/science/biology/bioinformatics-ms/)

This institution has been granted consent by the Minister of Colleges and Universities to offer this degree program for a five-year term starting January 18, 2023. Prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

BRITISH COLUMBIA

Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Align—Master of Science in Computer Science (https://catalog.northeastern.edu/archive/2023-2024/graduate/computer-information-science/computer-science/computer-science-mscs/#alignprogramrequirementstext)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective July 7, 2019, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Data Analytics Engineering (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/mechanical-industrial/data-analytics-engineering-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective November 29, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Science in Information Design and Data Visualization (https://catalog.northeastern.edu/archive/2023-2024/graduate/arts-media-design/art-design/information-design-data-visualization-ms/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

Master of Professional Studies in Analytics (https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/analytics-mps/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective October 28, 2021, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF SCIENCE IN INFORMATION SYSTEMS (https://catalog.northeastern.edu/archive/2023-2024/graduate/engineering/multidisciplinary/information-systems-msis/)

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective March 3, 2023, having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (e.g., acceptable to potential employers, professional licensing bodies, or other educational institutions).

MASTER OF professional studies in digital media *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps/*) (including* connect *(*https://catalog.northeastern.edu/archive/2023-2024/graduate/professional-studies/masters-degree-programs/digital-media-mps-connect/*))*

This program is offered under the written consent of the Minister of Post-Secondary Education and Future Skills effective June 6, 2023 having undergone a quality assessment process and been found to meet the criteria established by the minister. Nevertheless, prospective students are responsible for satisfying themselves that the program and the degree will be appropriate to their needs (for example, acceptable to potential employers, professional licensing bodies, or other educational institutions).

Distance Education/State Authorization Reciprocity Agreement Student Complaint Procedures (https://www.northeastern.edu/graduate/wp-content/uploads/2020/07/25.-Student-Complaint-Procedure-with-links.pdf)

Major CIP Codes

The following is a list of Northeastern University majors for programs accepting new students during the 2023-2024 catalog year, along with each major's corresponding CIP code. "CIP" refers to the Classification of Instructional Programs published by the U.S. Department of Education's National Center for Education Statistics (https://nces.ed.gov/ipeds/cipcode/Default.aspx?y=56).

Academic Program	Major Transcript Title	Major Cip Code
P-CERTG-3DAN: 3D Animation, Graduate Certificate	3-D Animation	100304
CERTG-ACFD: Accounting and Financial Decision Making, Graduate Certificate	Accntng Fin Decision Making	520899
MSA-ACCT: Accounting, MSA	Accounting	520301
P-CERTU-ACCT: Accounting, Undergraduate Certificate	Accounting	520301
P-CERTU-AACT: Advanced Accounting, Undergraduate Certificate	Advanced Accounting	520301
MS-AIMF: Advanced and Intelligent Manufacturing, MS	Advanced and Intelligent Mfg	143601
P-BS-AVMS: Advanced Manufacturing Systems, BS	Advanced Manufacturing Systems	150613
BA-AFMS: Africana Studies and Media and Screen Studies, BA	Africana St/Media Screen St	050201
BA-AFHS: Africana Studies and Human Services, BA	Africana Stud/Human Services	050201
BA-AFCS: Africana Studies, BA	Africana Studies	050201
BS-AFCS: Africana Studies, BS	Africana Studies	050201
BA-AFEN: Africana Studies and English, BA	Africana Studies/English	050201
BA-AFPS: Africana Studies and Political Science, BA	Africana Studies/Political Sci	050201
P-CERTG-AGPM: Agile Project Management, Graduate Certificate	Agile Project Management	520211
P-BS-ANLY: Analytics, BS	Analytics	110802
P-CERTU-ANLY: Analytics, Undergraduate Certificate	Analytics	110802
P-MPS-ANLY: Analytics, MPS	Analytics	110802
MS-AQMS: Applied Quantitative Methods and Social Analysis, MS	Appl Quant Methods Soc Anlys	450102
P-CERTG-APAN: Applied Analytics, Graduate Certificate	Applied Analytics	307101
MS-ABA: Applied Behavior Analysis, MS	Applied Behavior Analysis	422814
MS-AEPP: Applied Educational Psychology, MS	Applied Educational Psychology	422805
P-MPS-APLG: Applied Logistics, MPS	Applied Logistics	520203
P-MPS-APMI: Applied Machine Intelligence, MPS	Applied Machine Intelligence	521301
CERTG-AMTH: Applied Mathematics, Graduate Certificate	Applied Mathematics	270301
MS-AMTH: Applied Mathematics, MS	Applied Mathematics	270301
MS-APNR: Applied Nursing Research, MS	Applied Nursing Research	513808
P-MS-APNU: Applied Nutrition, MS	Applied Nutrition	301901
BS-APHY: Applied Physics, BS	Applied Physics	400801
MS-APEN: Applied Physics and Engineering, MS	Applied Physics/Engineering	400801
MS-APPS: Applied Psychology, MS	Applied Psychology	422813
BS-ARCS: Architectural Studies, BS	Architectural Studies	040801
BS-ARSD: Architectural Studies and Design, BS	Architectural Studies/Design	040803
BS-ARCH: Architecture, BS	Architecture	040902

MARCH-ARCH1: Master of Architecture—One-Year Program	Architecture	040902
MARCH-ARCH2: Master of Architecture—Two-Year Program	Architecture	040902
MARCH-ARCH3: Master of Architecture—Three-Year Program	Architecture	040902
MARCH-ARCH3A: Master of Architecture—Three-Year Program—Advanced Degree Entrance	Architecture	040902
BS-AENG: Architecture and English, BS	Architecture/ English	040201
BA-ARTS: Art, BA	Art	500702
MS-ARIN: Artificial Intelligence	Artificial Intelligence	110102
MS-AMCE: Arts Administration and Cultural Entrepreneurship, MS	Arts Adm Cultural Entrepren	501099
CERTG-ARAD: Arts Administration, Graduate Certificate	Arts Administration	501099
BS-ASLI: American Sign Language—English Interpreting, BS	ASL - English Interpreting	161601
BS-ASHU: American Sign Language and Human Services, BS	ASL / Human Services	161601
BS-ASLN: American Sign Language and Linguistics, BS	ASL / Linguistics	161601
BS-ASPS: American Sign Language and Psychology, BS	ASL / Psychology	161601
BS-ASTH: American Sign Language and Theatre, BS	ASL / Theatre	161601
BS-BNPH: Behavioral Neuroscience and Philosophy, BS	Behav Neuroscience/Philosophy	261501
BS-BENS: Behavioral Neuroscience, BS	Behavioral Neuroscience	261501
BS-BNDS: Behavioral Neuroscience and Design, BS	Behavioral Neuroscience/Design	261501
BS-BIOC: Biochemistry, BS	Biochemistry	260202
CERTG-BDBS: Biodefense and Biosecurity, Graduate Certificate	Biodefense and Biosecurity	261201
BSBIOE-BION: Bioengineering, BSBioE	Bioengineering	149999
MSBIOE-BION: Bioengineering, MSBioE	Bioengineering	149999
PHD-BION: Bioengineering, PhD	Bioengineering	149999
PHD-BION-A: Bioengineering, PhD—Advanced Entry	Bioengineering	149999
BSBIOE-BEBC: Bioengineering and Biochemistry, BSBioE	Bioengineering/Biochemistry	149999
CERTG-BINF: Bioinformatics, Graduate Certificate	Bioinformatics	261103
MS-BINF: Bioinformatics, MS	Bioinformatics	261103
P-BS-BIOS: Biological Science, BS	Biological Science	260101
BS-BIOL: Biology, BS	Biology	260101
MS-BIOL: Biology, MS	Biology	260101
PHD-BIOL: Biology, PhD	Biology	260101
PHD-BIOL-A: Biology, PhD-Advanced Entry	Biology	260101
BS-BENG: Biology and English, BS	Biology/English	269999
BS-BIMA: Biology and Mathematics, BS	Biology/Mathematics	260101
BS-BIPO: Biology and Political Science, BS	Biology/Political Science	269999
BS-BIMP: Biomedical Physics, BS	Biomedical Physics	260203
MS-BIOM: Biomedical Science, MS	Biomedical Science	260102
PHD-BIOM: Biomedical Science, PhD	Biomedical Science	260102
PHD-BIOM-A: Biomedical Science, PhD—Advanced Entry	Biomedical Science	260102

P-CERTG-BPRA: Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biophamaceutical Reg Affairs	512099
CERTG-BIAS: Biopharmaceutical Analytical Sciences, Graduate Certificate	Biopharm Analytical Sci	400599
P-CERTG-BPQI: International Biopharmaceutical Regulatory Affairs, Graduate Certificate	Biopharmacy Quality Intl	512099
CERTG-BIOT: Biotechnology, Graduate Certificate	Biotechnology	261201
MS-BIOT-SC: Biotechnology, MS	Biotechnology	261201
P-BS-BIOT: Biotechnology, BS	Biotechnology	261201
CERTG-BITE: Biotechnology Enterprise, Graduate Certificate	Biotechnology Enterprise	261201
CERTG-RESC: Biotechnology Regulatory Science, Graduate Certificate	Biotechnology Regulatory Sci	512004
CERTG-BLCE: Blockchain and Smart Contract Engineering, Graduate Certificate	Blockchain Smart Contr. Engr	140903
CERTG-BMGT: Brand Management, Graduate Certificate	Brand Management	521401
CERTG-TBWS: Broadband Wireless Systems, Graduate Certificate	Broadband Wireless Systems	110901
BS-BALW: Business Administration and Law, BS	Business Admin and Law	520101
BS-BACS: Business Administration and Communication Studies, BS	Business Admin/Comm Studies	520101
BS-BAPS: Business Administration and Psychology, BS	Business Admin/Psychology	520101
BS-BAPH: Business Administration and Public Health, BS	Business Admin/Public Health	520101
BSBA-BSAD: Bachelor of Science in Business Administration, BSBA	Business Administration	520101
CERTG-BSAD: Business Administration, Graduate Certificate	Business Administration	520101
CERTG-BSAD-O: Business Administration—Online Program, Graduate Certificate	Business Administration	520101
MBA-BSAD-E: Business Administration, MBA—Part-Time	Business Administration	520101
MBA-BSAD-F: Business Administration, MBA—Full-Time	Business Administration	520101
MBA-BSAD2-O: Business Administration, MBA—Online	Business Administration	520101
BS-BUDE: Business Administration and Design, BS	Business Administration/Design	520101
CERTG-BUSA: Business Analytics, Graduate Certificate	Business Analytics	521302
MS-BUSA: Business Analytics, MS	Business Analytics	521302
MS-BUSA-O: Business Analytics, MS—Online	Business Analytics	521302
CERTG-BLAW: Business Law, Graduate Certificate	Business Law	220205
CERTG-HECA: Business Management for Healthcare, Graduate Certificate	Business Mgmt for Healthcare	521099
MS-CGTH: Cell and Gene Therapies, MS	Cell and Gene Therapies	260806
BS-CMBI: Cell and Molecular Biology, BS	Cell and Molecular Biology	260406
BSCHE-CEBE: Chemical Engineering and Bioengineering, BSChE	Chem Engineer/Bioengineering	140701
BSCHE-CHOC: Chemical Engineering and Biochemistry, BSChE	Chem Engineering/ Biochemistry	140701
BSCHE-CHME: Chemical Engineering, BSChE	Chemical Engineering	140701
MSCHE-CHME: Chemical Engineering, MSChE	Chemical Engineering	140701
PHD-CHME: Chemical Engineering, PhD	Chemical Engineering	140701

PHD-CHME-A: Chemical Engineering, PhD—Advanced Entry	Chemical Engineering	140701
BSCHE-CHCS: Chemical Engineering and Computer Science, BSChE	Chemical Engineering/Comp Sci	140701
BSCHE-CEDS: Chemical Engineering and Data Science, BSChE	Chemical Engineering/Data Sci	140701
BSCHE-CEPH: Chemical Engineering and Physics, BSChE	Chemical Engineering/Physics	140701
BSCHE-CEEE: Chemical Engineering and Environmental Engineering, BSChE	Chemical Engr/Environ Engr	140701
BS-CHEM: Chemistry, BS	Chemistry	400501
MS-CHEM: Chemistry, MS	Chemistry	400501
PHD-CHEM: Chemistry, PhD	Chemistry	400501
PHD-CHEM-A: Chemistry, PhD-Advanced Entry	Chemistry	400501
PHD-CEEN: Civil and Environmental Engineering, PhD	Civil Environmental Engineer	140801
PHD-CEEN-A: Civil and Environmental Engineering, PhD—Advanced Entry	Civil Environmental Engineer	140801
BSCE-CEAS: Civil Engineering and Architectural Studies, BSCE	Civil Eng/Arch Studies	140801
BSCE-CIVE: Civil Engineering, BSCE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Construction Management, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Water, Environmental, and Coastal Systems, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Geotechnical/Geoenvironmental Engineering, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Structures, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Transportation, MSCivE	Civil Engineering	140801
MSCIVE-CIVE: Civil Engineering with Concentration in Data and Systems, MSCivE	Civil Engineering	140801
BSCE-CVCS: Civil Engineering and Computer Science, BSCE	Civil Engineering/Computer Sci	140801
CERTG-CLEN: Climate and Engineering, Graduate Certificate	Climate and Engineering	141401
MS-CLSE: Climate Science and Engineering, MS	Climate Sci and Engineering	141401
P-CERTG-CCAM: Cloud Computing Application and Management, Graduate Certificate	Cloud Computing App and Mgmt	110104
CERTG-CLSD: Cloud Software Development, Graduate Certificate	Cloud Software Development	110902
P-CERTG-CATH: Collegiate Athletics Administration, Graduate Certificate	Collegiate Athletics Admin	310504
BA-CMGR: Communication Studies and Graphic and Information Design, BA	Comm Stud/Graph Info Design	090101
BS-CMSL: Communication Studies and Speech-Language Pathology and Audiology	Comm Stud/Speech-Lang Path Aud	090101
BA-CMTH: Communication Studies and Theatre, BA	Comm Studies/Theatre	090199
P-MS-COED: Commerce and Economic Development, MS	Commerce Economic Developmnt	450603
BA-CMME: Communication and Media Studies, BA	Communication Media Studies	090199

BA-CMSO: Communication Studies and Sociology, BA	Communication Stud./Sociology	090199
BA-CMST: Communication Studies, BA	Communication Studies	090101
BS-CSBA: Computer Science and Business Administration, BS	Comp Sci/Business Admin	110101
BS-CSCP: Computer Science and Cognitive Psychology, BS	Comp Sci/Cognitive Psyc	110101
BS-CSES: Computer Science and Environmental and Sustainability Sciences, BS	Comp Sci/Environ and Sust Sci	110101
BS-CSMA: Computer Science and Mathematics, BS	Comp Sci/Mathematics	110101
BS-CSPP: Computer Science and Politics, Philosophy, and Economics, BS	Comp Sci/Politics, Phil Econ	110101
CERTG-COSS: Computational Social Science, Graduate Certificate	Computational Social Science	305202
BSCMPE-CMPE: Computer Engineering, BSCmpE	Computer Engineering	140901
PHD-CMPE: Computer Engineering, PhD	Computer Engineering	140901
PHD-CMPE-A: Computer Engineering, PhD-Advanced Entry	Computer Engineering	140901
BSCMPE-CMPH: Computer Engineering and Physics, BSCmpE	Computer Engineering/Physics	140901
BSCMPE-CECS: Computer Engineering and Computer Science, BSCmpE	Computer Engr/Computer Science	140901
BS-CSPO: Computer Science and Political Science, BS	Computer Sci./ Political Sci.	110101
BS-CSBN: Computer Science and Behavioral Neuroscience, BS	Computer Sci/Behavior Neurosci	110101
BS-CSCS: Computer Science and Communication Studies, BS	Computer Sci/Communication Stu	110101
BS-CSCJ: Computer Science and Criminal Justice, BS	Computer Sci/Criminal Justice	110101
BS-CGDV: Computer Science and Game Development, BS	Computer Sci/Game Development	110101
BS-CSMU-MUTE: Computer Science and Music with Concentration in Music Technology, BS	Computer Sci/Music	110101
BS-CSPL: Computer Science and Philosophy, BS	Computer Sci/Philosophy	110101
BS-CSPY: Computer Science and Physics, BS	Computer Sci/Physics	110101
BS-CSSO: Computer Science and Sociology, BS	Computer Sci/Sociology	110101
BACS-CSCI: Computer Science, BACS	Computer Science	110101
BSCS-CSCI: Computer Science, BSCS	Computer Science	110101
CERTG-CSCI: Computer Science, Graduate Certificate	Computer Science	110101
MSCS-CSCI: Computer Science, MSCS	Computer Science	110101
MSCS-CSCI-AL: Computer Science, MSCS—Align	Computer Science	110101
PHD-CSCI: Computer Science, PhD	Computer Science	110101
PHD-CSCI-A: Computer Science, PhD—Advanced Entry	Computer Science	110101
BS-CSBI: Computer Science and Biology, BS	Computer Science/Biology	110101
BS-CSDE: Computer Science and Design, BS	Computer Science/Design	110101
BS-CSEC: Computer Science and Economics, BS	Computer Science/Economics	110101
BS-CSEG: Computer Science and English, BS	Computer Science/English	110101
BS-CSHI: Computer Science and History, BS	Computer Science/History	110101
BS-CSJO: Computer Science and Journalism, BS	Computer Science/Journalism	110101
BS-CSLI: Computer Science and Linguistics, BS	Computer Science/Linguistics	110101
BS-CSME: Computer Science and Media Arts, BS	Computer Science/Media Arts	110101
BS-CSTH: Computer Science and Theatre, BS	Computer Science/Theatre	110101

BS-CPLW: Computing and Law, BS	Computing and Law	110101
P-CERTG-CONM: Construction Management, Graduate Certificate	Construction Management	460412
P-MS-CORC: Corporate and Organizational Communication, MS	Corporate Org Communication	090101
CERTG-COFN: Corporate Finance, Graduate Certificate	Corporate Finance	520801
CERTG-COIN: Corporate Innovation, Graduate Certificate	Corporate Innovation	520210
CERTG-CPRN: Corporate Renewal, Graduate Certificate	Corporate Renewal	520799
MSCP-COPS: Counseling Psychology, MSCP	Counseling Psychology	422803
PHD-COPS-MSE: Counseling Psychology, PhD	Counseling Psychology	422803
MS-CCMD: Creative Collaboration and Multidisciplinary Design, MS	Creatv Collab Multidisc Dsgn	501099
BS-CRJO: Criminal Justice and Journalism, BS	Criminal Justice/Journalism	430104
BS-CJPH: Criminal Justice and Philosophy, BS	Criminal Justice/Philosophy	430104
BS-CRPO: Criminal Justice and Political Science, BS	Criminal Justice/Political Sci	430104
BS-CJPS: Criminal Justice and Psychology, BS	Criminal Justice/Psychology	430199
BS-CRSO: Criminal Justice and Sociology, BS	Criminal Justice/Sociology	430104
BS-CRCJ: Criminology and Criminal Justice, BS	Criminology Criminal Justice	430104
MS-CRCJ: Criminology and Criminal Justice, MS	Criminology Criminal Justice	430104
PHD-CRJP: Criminology and Justice Policy, PhD	Criminology and Justice Policy	430104
PHD-CRJP-A: Criminology and Justice Policy, PhD—Advanced Entry	Criminology and Justice Policy	430104
P-CERTG-CCCM: Cross-Cultural Communication, Graduate Certificate	Cross-Cultural Communication	090100
BA-CAPH: Cultural Anthropology and Philosophy, BA	Cultural Anthro/Philosophy	450204
BA-CARS: Cultural Anthropology and Religious Studies, BA	Cultural Anthro/Religious Stud	450204
BA-CUAN: Cultural Anthropology, BA	Cultural Anthropology	451101
BS-CUAN: Cultural Anthropology, BS	Cultural Anthropology	451101
BA-CUTH: Cultural Anthropology and Theatre, BA	Cultural Anthropology/Theatre	451101
CERTG-CUEN: Cultural Entrepreneurship, Graduate Certificate	Cultural Entrepreneurship	501099
MS-CYPS: Cyber-Physical Systems, MS	Cyber-Physical Systems	140903
BS-CYBS: Cybersecurity, BS	Cybersecurity	111003
CERTG-CYBS: Cybersecurity, Graduate Certificate	Cybersecurity	111003
MS-CYBS: Cybersecurity, MS	Cybersecurity	111003
MS-CYBS-AL: Cybersecurity, MS—Align Program	Cybersecurity	111003
PHD-CYBS: Cybersecurity, PhD	Cybersecurity	111003
PHD-CYBS-A: Cybersecurity, PhD—Advanced Entry	Cybersecurity	111003
BS-CYBB: Cybersecurity and Business Administration, BS	Cybersecurity/Business Admin	111003
BS-CYCJ: Cybersecurity and Criminal Justice, BS	Cybersecurity/Criminal Justice	111003
BS-CYEC: Cybersecurity and Economics, BS	Cybersecurity/Economics	111003
CERTG-DAAN: Data Analytics, Graduate Certificate	Data Analytics	110802
CERTG-DAAE: Data Analytics Engineering, Graduate Certificate	Data Analytics Engineering	149999
MS-DAAE: Data Analytics Engineering, MS	Data Analytics Engineering	149999
MS-DAMG: Data Architecture and Management, MS	Data Architecture Management	110802

BS-DSBA: Data Science and Business Administration, BS	Data Sci/Business Admin	110802
BS-DSEE: Data Science and Ecology and Evolutionary Biology, BS	Data Sci/Ecology Evol Bio	110802
BS-DSES: Data Science and Environmental and Sustainability Sciences, BS	Data Sci/Environ and Sust Sci	110802
BS-DASC: Data Science, BS	Data Science	110802
MS-DASC: Data Science, MS	Data Science	110802
MS-DASC-AL: Data Science, MS—Align Program	Data Science	110802
BS-DSBN: Data Science and Behavioral Neuroscience, BS	Data Science/Behavioral Neuro	110802
BS-DSBC: Data Science and Biochemistry, BS	Data Science/Biochemistry	110802
BS-DSBL: Data Science and Biology, BS	Data Science/Biology	110802
BS-DSCH: Data Science and Chemistry, BS	Data Science/Chemistry	110802
BS-DSCJ: Data Science and Criminal Justice, BS	Data Science/Criminal Justice	110802
BS-DSEC: Data Science and Economics, BS	Data Science/Economics	110802
BS-DSHS: Data Science and Health Science, BS	Data Science/Health Science	110802
BS-DSIA: Data Science and International Affairs, BS	Data Science/Intl Affairs	110802
BS-DSJO: Data Science and Journalism, BS	Data Science/Journalism	110802
BS-DSLI: Data Science and Linguistics, BS	Data Science/Linguistics	110802
BS-DSMA: Data Science and Mathematics, BS	Data Science/Mathematics	110802
BS-DSPL: Data Science and Philosophy, BS	Data Science/Philosophy	110802
BS-DSPH: Data Science and Physics, BS	Data Science/Physics	110802
BS-DSPS: Data Science and Psychology, BS	Data Science/Psychology	110802
BFA-DESN: Design, BFA	Design	500409
P-BS-DIME: Digital Communication and Media, BS	Digital Communication Media	090702
CERTG-DHUM: Digital Humanities, Graduate Certificate	Digital Humanities	240103
P-MPS-DGM-AL: Digital Media, MPS—Connect	Digital Media	090702
P-MPS-DGME: Digital Media, MPS	Digital Media	090702
P-CERTG-DGMM: Digital Media Management, Graduate Certificate	Digital Media Management	100105
P-CERTG-DGVD: Digital Video, Graduate Certificate	Digital Video	500602
CERTG-EINT: Early Intervention, Graduate Certificate	Early Intervention	131099
BS-EEBI: Ecology and Evolutionary Biology, BS	Ecology Evolutionary Biology	261310
BA-ECON: Economics, BA	Economics	450603
BS-ECON: Economics, BS	Economics	450603
MS-ECON: Economics, MS	Economics	450603
PHD-ECON: Economics, PhD	Economics	450603
PHD-ECON-A: Economics, PhD—Advanced Entry	Economics	450603
BS-ECBA: Economics and Business Administration, BS	Economics/Business Admin	450603
BS-ECHS: Economics and Human Services, BS	Economics/Human Services	450603
BS-ECIB: Economics and International Business, BS	Economics/Intl Business	450603
BS-ECJO: Economics and Journalism, BS	Economics/Journalism	450603
BS-ECMA: Economics and Mathematics, BS	Economics/Mathematics	450603
BS-ECPH: Economics and Philosophy, BS	Economics/Philosophy	450603
BS-ECPS: Economics and Psychology, BS	Economics/Psychology	450603
P-EDD-EDUC: Education, EdD	Education	130101
P-MED-EDUC: Education, MEd	Education	130101

P-CAGS-EDLM: Education Leadership Management, CAGS	Education Leadership Mgmt	130401
MSECEL-ECEL: Electrical and Computer Engineering Leadership, MSECEL	Elec and Comp Engr Leadership	141001
BSEE-ELCE: Electrical and Computer Engineering, BSEE or BSCmpE	Electrical and Computer Engr	141001
BSEE-ELEE: Electrical Engineering, BSEE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Communications, Control, and Signal Processing, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Networks and Security, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Systems and Software, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Computer Vision, Machine Learning, and Algorithms, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Electromagnetics, Plasma, and Optics, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Microsystems, Materials, and Devices, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Power Systems, MSECE	Electrical Engineering	141001
MSECE-ELEE: Electrical and Computer Engineering with Concentration in Hardware and Software for Machine Intelligence, MSECE	Electrical Engineering	141001
PHD-ELEE: Electrical Engineering, PhD	Electrical Engineering	141001
PHD-ELEE-A: Electrical Engineering, PhD—Advanced Entry	Electrical Engineering	141001
BSEE-EEMU: Electrical Engineering and Music with Concentration in Music Technology, BSEE	Electrical Engineering/Music	141001
BSEE-EEPH: Electrical Engineering and Physics, BSEE	Electrical Engineering/Physics	141001
P-MAT-ELED: Elementary Education, MAT	Elementary Education	131202
CERTG-ENES: Energy Systems, Graduate Certificate	Energy Systems	142701
MSENES-AL: Energy Systems, MSEneS—Academic Link Program	Energy Systems	142701
MSENES-ENES: Energy Systems, MSEneS	Energy Systems	142701
CERTG-ENSY: Energy Systems Management, Graduate Certificate	Energy Systems Management	142701
MS-CEPP: Engineering and Public Policy, MS	Engineering and Public Policy	140899
CERTG-ENBU: Engineering Business, Graduate Certificate	Engineering Business	140101
CERTG-EEDM: Engineering Economic Decision Making, Graduate Certificate	Engineering Economic Decision	140101
CERTG-ENLR: Engineering Leadership, Graduate Certificate	Engineering Leadership	141001
CERTG-ENGM: Engineering Management, Graduate Certificate	Engineering Management	140101
MSEM-ENGM: Engineering Management, MSEM	Engineering Management	140101

CERTG-ETSM: Technology Systems Management, Graduate Certificate	Engineering Tech Systems Mgmt	140101
BA-ENGL: English, BA	English	230101
MA-ENGL: English, MA	English	230101
PHD-ENGL: English, PhD	English	230101
PHD-ENGL-A: English, PhD—Advanced Entry	English	230101
BA-ENTH: English and Theatre, BA	English/ Theatre	230101
BA-ENCO: English and Communication Studies, BA	English/Communication Studies	230101
BA-ENCJ: English and Criminal Justice, BA	English/Criminal Justice	230101
BA-ENCA: English and Cultural Anthropology, BA	English/Cultural Anthropology	230101
BA-ENGD: English and Graphic and Information Design, BA	English/Graphic Info Design	230101
BA-EPHI: English and Philosophy, BA	English/Philosophy	230101
BA-ENPS: English and Political Science, BA	English/Political Science	230101
CERTG-ENTR: Entrepreneurship, Graduate Certificate	Entrepreneurship	520701
BS-ESJO: Environmental and Sustainability Sciences and Journalism, BS	Environ Sust Sci/Journalism	030104
BS-ESCH: Environmental and Sustainability Sciences and Chemistry, BS	Environ and Sust Sci/Chemistry	030104
BS-ESEC: Environmental and Sustainability Sciences and Economics, BS	Environ and Sust Sci/Economics	030104
BS-ESLA: Environmental and Sustainability Sciences and Landscape Architecture, BS	Environ and Sust Sci/Land Arch	030104
BSENVE-ENHS: Environmental Engineering and Health Science, BSEnvE	Environmental Eng/Health Sci	140801
BSENVE-ENVI: Environmental Engineering, BSEnvE	Environmental Engineering	140801
MSENVE-ENVI: Environmental Engineering, MSEnvE	Environmental Engineering	140801
MS-ENPP. Environmental Science and Policy, MS	Environmental Science Policy	030103
BA-ENVS: Environmental Studies, BA	Environmental Studies	030103
BS-ENSS: Environmental and Sustainability Sciences, BS	Environmtl Sustain Sciences	030104
BSENVE-EELA: Environmental Engineering and Landscape Architecture, BSEnvE	Environmtl Eng/Landscape Arch	140801
BA-ENHI: Environmental Studies and History, BA	Environmtl Studies/History	030103
BA-ENIA: Environmental Studies and International Affairs, BA	Environmtl Studies/Intl Affair	030103
BA-ENPH: Environmental Studies and Philosophy, BA	Environmtl Studies/Philosophy	030103
BA-ENPO: Environmental Studies and Political Science, BA	Environmtl Studies/Politic Sci	030103
P-CERTG-ESPT: eSports, Graduate Certificate	eSports	310504
MS-EXSC-O: Exercise Science, MS—Online	Exercise Science, MS	310505
CERTG-EXPD: Experience Design, Graduate Certificate	Experience Design	500499
MFA-EXPD: Experience Design, MFA	Experience Design	500499
MS-EXPD: Experience Design, MS	Experience Design	500499
CERTG-EPHD: Experiential PhD Leadership, Graduate Certificate	Experiential PhD Leadership	520210
P-CERTG-EXTL: Experiential Teaching and Learning, Graduate Certificate	Experiential Teach and Learn	130301
CERTG-EBIO: Experimental Biotechnology, Graduate Certificate	Experimental Biotechnology	261201
MS-EXRL: Extended Realities, MS	Extended Realities	500411

CERTG-EXMD: Extreme Medicine, Graduate Certificate	Extreme Medicine	519999
MSF-FINA: Finance, MSF	Finance	520801
P-BS-FIAM: Finance and Accounting Management, BS	Finance and Accounting Mgmt	520801
MSFMBA-E: Finance and Business Administration, MSFMBA—Part-Time	Finance/Business Admin	520801
MSFMBA-FIBA: Finance and Business Administration, MSFMBA	Finance/Business Admin	520801
MSFMBA-O: Finance and Business Administration, MSFMBA—Online	Finance/Business Admin	520801
P-CERTG-FIMI: Financial Markets and Institutions, Graduate Certificate	Financial Mkts and Inst	520899
P-CERTG-FACC: Forensic Accounting, Graduate Certificate	Forensic Accounting	430406
P-CERTG-FDDV: Fundraising and Development, Graduate Certificate	Fundraising and Development	520206
BFA-GAAN: Game Art and Animation, BFA	Game Art and Animation	500605
BFA-GAME: Game Design, BFA	Game Design	100304
P-CERTG-GMDS: Game Design, Graduate Certificate	Game Design	100304
BS-GDMT: Game Design and Music with Concentration in Music Technology, BS	Game Design/Music	100304
CERTG-GMED: Game Experience Design, Graduate Certificate	Game Experience Design	100304
CERTG-GMSC: Game Science, Graduate Certificate	Game Science	100304
MS-GSAD: Game Science and Design, MS	Game Science and Design	100304
P-CERTG-GINT: Geographic Information Systems, Graduate Certificate	Geographic Information Tech	110103
P-MPS-GSPS: Geospatial Services, MPS	Geospatial Services	110103
BA-GLAS: Global Asian Studies, BA	Global Asian Studies	050103
P-CERTG-GSIR: Global Studies and International Relations, Graduate Certificate	Global Stu and Intl Relations	302001
P-MS-GSIR: Global Studies and International Relations, MS	Global Stu and Intl Relations	302001
BS-GIDM: Graphic and Information Design and Mathematics, BS	Graphic and Info. Design/Math	500499
CERTG-HIME: Health Informatics Management and Exchange, Graduate Certificate	Health Info Mgmt Exchange	512706
CERTG-HISP. Health Informatics Privacy and Security, Graduate Certificate	Health Info Privacy Secu	512706
CERTG-HISE: Health Informatics Software Engineering, Graduate Certificate	Health Info Software Eng	512706
MS-HEIN: Health Informatics, MS	Health Informatics	512706
CERTG-HLAW: Health Law, Graduate Certificate	Health Law	220208
CERTG-HLAP. Health Law and Policy, Graduate Certificate	Health Law and Policy	220208
P-CERTG-HLMG: Health Management, Graduate Certificate	Health Management	510799
BS-HLSC: Health Science, BS	Health Science	510799
P-BS-HLSC: Health Science, BS	Health Science	510799
BS-HSBA: Health Science and Business Administration, BS	Health Science/Business Admin	510799
BS-HLCM: Health Science and Communication Studies, BS	Health Science/Comm Studies	510799
BS-HSPS: Health Science and Psychology, BS	Health Science/Psychology	510799

BS-HSSO: Health Science and Sociology, BS	Health Science/Sociology	510799
P-BS-HCAD: Healthcare Administration, BS	Healthcare Administration	510701
P-CERTU-HCAD: Healthcare Administration, Undergraduate Certificate	Healthcare Administration	510701
CERTG-CLAW: Healthcare Compliance, Graduate Certificate	Healthcare Compliance	220208
DMSC-HCLD: Healthcare Leadership, DMSc	Healthcare Leadership, DMSc	510701
P-CERTG-HEDA: Higher Education Administration, Graduate Certificate	Higher Education Admin	130406
P-MED-HEDA: Higher Education Administration, MEd	Higher Education Admin	130406
BA-HIST: History, BA	History	540101
BS-HIST: History, BS	History	540101
MA-HIST: History, MA	History	540101
PHD-HIST: History, PhD	History	540101
PHD-HIST-A: History, PhD—Advanced Entry	History	540101
BA-HICL: History, Culture, and Law, BA	History, Culture, and Law	220000
BA-HIAS: History and Asian Studies, BA	History/Asian Studies	540101
BA-HICJ: History and Criminal Justice, BA	History/Criminal Justice	540101
BA-HICA: History and Cultural Anthropology, BA	History/Cultural Anthrop	540101
BA-HIEC: History and Economics, BA	History/Economics	540101
BS-HIEC: History and Economics, BS	History/Economics	540101
BA-HIEN: History and English, BA	History/English	540101
BA-HIPH: History and Philosophy, BA	History/Philosophy	540101
BA-HIPS: History and Political Science, BA	History/Political Science	540101
BA-HIRS: History and Religious Studies, BA	History/Religious Studies	540101
BS-HHHS: Health Humanities and Health Science, BS	Hlth Humanities/Hlth Science	513204
BA-HHPH: Health Humanities and Public Health, BA	Hlth Humanities/Public Hlth	513204
PHD-HBSS: Human Behavior and Sustainability Sciences, PhD	Human Behavior and Sustain Sci	300601
P-CERTG-HUIN: Human-Centered Informatics, Graduate Certificate	Human Centered Informatics	110104
MS-HUFA: Human Factors, MS	Human Factors	142701
MS-HMRS: Human Movement and Rehabilitation Sciences, MS	Human Movement Rehab Science	512314
PHD-HMRS: Human Movement and Rehabilitation Sciences, PhD	Human Movement Rehab Science	512314
PHD-HMRS-A: Human Movement and Rehabilitation Sciences, PhD—Advanced Entry	Human Movement Rehab Science	512314
CERTG-HURL: Human Resources Law, Graduate Certificate	Human Resources Law	220299
P-CERTG-HRMG: Human Resources Management, Graduate Certificate	Human Resources Management	521001
P-MS-HRMG: Human Resources Management, MS	Human Resources Management	521001
CERTG-HMRL: Human Rights Law, Graduate Certificate	Human Rights Law	220209
BA-HSVC: Human Services, BA	Human Services	440000
BS-HSVC: Human Services, BS	Human Services	440000
BA-HUSO: Human Services and Sociology, BA	Human Services / Sociology	449999
BS-HUSO: Human Services and Sociology, BS	Human Services / Sociology	449999
BA-HSCM: Human Services and Communication Studies, BA	Human Services/Comm. Studies	440000

BS-HSCJ: Human Services and Criminal Justice, BS	Human Services/Crim Justice	430199
BA-HSIA: Human Services and International Affairs, BA	Human Services/Intl Affairs	440000
BS-HUPS: Human Services and Psychology, BS	Human Services/Psychology	440000
CERTG-ICSE: Inclusive Computer Science Education, Graduate Certificate	Inclusive Computer Sci Educ	131321
BSIE-INDE: Industrial Engineering, BSIE	Industrial Engineering	143501
MSIE-INDE: Industrial Engineering, MSIE	Industrial Engineering	143501
PHD-INDE: Industrial Engineering, PhD	Industrial Engineering	143501
PHD-INDE-A: Industrial Engineering, PhD—Advanced Entry	Industrial Engineering	143501
CERTG-IDEV: Information Design and Visualization, Graduate Certificate	Info Design and Visualization	500401
MFA-IDDV: Information Design and Data Visualization, MFA	Info Dsgn Data Visualization	303101
MS-IDDV: Information Design and Data Visualization, MS	Info Dsgn Data Visualization	303101
P-CERTG-INSM: Information Security Management, Graduate Certificate	Info Security Management	439999
P-MPS-INFM: Informatics, MPS	Informatics	110104
CERTG-INET: Information Ethics, Graduate Certificate	Information Ethics	380104
MSIS-INSY: Information Systems, MSIS	Information Systems	140903
MSIS-INSY-B: Information Systems, MSIS—Bridge	Information Systems	140903
P-BS-INFT: Information Technology, BS	Information Technology	110103
P-CERTG-IAMG: Insurance Analytics and Management, Graduate Certificate	Insurance Analytics and Mgmt	521701
P-MPS-IAMG: Insurance Analytics and Management, MPS	Insurance Analytics and Mgmt	521701
P-CERTG-INHW: Integrative Health and Wellness, Graduate Certificate	Integrative Health Wellness	510001
CERTG-PLAW: Intellectual Property Law, Graduate Certificate	Intellectual Property Law	220212
P-CERTG-INDS: Interactive Design, Graduate Certificate	Interactive Design	110801
PHD-INTY: Interdisciplinary, PhD	Interdisciplinary	300000
PHD-INTY-A: Interdisciplinary, PhD—Advanced Entry	Interdisciplinary	300000
PHD-IDSM: Interdisciplinary Design and Media, PhD	Interdisciplinary Dsgn Media	500401
PHD-IDSM-A: Interdisciplinary Design and Media, PhD—Advanced Entry	Interdisciplinary Dsgn Media	500401
PHD-INTE: Interdisciplinary Engineering, PhD	Interdisciplinary Engineering	140101
PHD-INTE-A: Interdisciplinary Engineering, PhD—Advanced Entry	Interdisciplinary Engineering	140101
P-BS-INST: Interdisciplinary Studies, BS	Interdisciplinary Studies	240101
BA-INAF: International Affairs, BA	International Affairs	450901
MA-INAF: International Affairs, MA	International Affairs	450901
BA-IAHI: International Affairs and History, BA	International Affairs/History	450901
BSIB-INBU-NX: International Business, BSIB	International Business	521101
BSIB-INBU-X: International Business, BSIB	International Business	521101
CERTG-INBU: International Business, Graduate Certificate	International Business	521101
MS-INMA: International Management, MS	International Management	520101
MS-INOT: Internet of Things, MS	Internet of Things	140999

BA-IARS: International Affairs and Religious Studies, BA	Interntl Affairs/Religious Stu	450901
BA-IACJ: International Affairs and Criminal Justice, BA	Intl Affairs/Criminal Justice	450901
BA-IACA: International Affairs and Cultural Anthropology, BA	Intl Affairs/Cultural Anthro	450901
BA-IAEC: International Affairs and Economics, BA	Intl Affairs/Economics	450604
BS-IAIB: International Affairs and International Business, BS	Intl Affairs/Intl Business	450901
CERTG-INVS: Investments, Graduate Certificate	Investments	520807
CERTG-TIPS: IP Telephony Systems, Graduate Certificate	IP/Telephony Systems	110901
BA-JESR: Jewish Studies and Religion, BA	Jewish Studies/Religion	380206
BA-JOUR: Journalism, BA	Journalism	090401
MA-JOUR: Journalism, MA	Journalism	090401
BA-JOEN: Journalism and English, BA	Journalism/ English	090401
BA-JOCM: Journalism and Communication Studies, BA	Journalism/Comm Studies	090401
BS-JLID: Journalism and Interaction Design, BS	Journalism/Interaction Design	090401
BA-JOIA: Journalism and International Affairs, BA	Journalism/Intl Affairs	090401
BA-JOPO: Journalism and Political Science, BA	Journalism/Political Science	090401
BLA-LARC: Landscape Architecture, BLA	Landscape Architecture	040601
JD-LAW: Law, JD	Law	220101
JD-LAW-P: Law, JD—Part-Time Program	Law	220101
LLM-LAW: Law, LLM—Experiential	Law	220101
LLM-LAW-O: Law, LLM—Online	Law	220101
LLM-LAW-T: Law, LLM	Law	220101
P-DLP-LAPO: Law And Policy, DLP	Law and Policy	229999
P-CERTG-LEAD: Leadership, Graduate Certificate	Leadership	520213
CERTG-LEPO: Leading People and Organizations, Graduate Certificate	Leading People Organizations	521099
P-CERTG-PMTE: Leading and Managing Technical Projects, Graduate Certificate	Leadng Managng Tech Projects	520211
CERTG-LEAN: Lean Six Sigma, Graduate Certificate	Lean Six Sigma	140101
P-CERTG-LXDT: Learning Experience Design and Technology, Graduate Certificate	Learning Exp Design Tech	130501
P-MPS-LXDT: Learning Experience Design and Technology, MPS	Learning Exp Design Tech	130501
CERTG-LEDS: Legal Design, Graduate Certificate	Legal Design	220299
MLS-LEGS: Legal Studies, MLS—Online	Legal Studies	229999
BS-LING: Linguistics, BS	Linguistics	160102
BS-LICA: Linguistics and Cultural Anthropology, BS	Linguistics / Cultural Anthro	450204
BA-LIEN: Linguistics and English, BA	Linguistics / English	160102
BS-LIPS: Linguistics and Psychology, BS	Linguistics / Psychology	160102
BA-LICS: Linguistics and Communication Studies, BA	Linguistics/Comm Studies	160102
BS-LISL: Linguistics and Speech-Language Pathology and Audiology, BS	Linguistics/Speech-Lng Pth Aud	160102
MS-MGMT: Management, MS	Management	520201
P-BS-MGMT: Management, BS	Management	520201
CERTG-MQOB: Manufacturing and Quality Operations in Biotechnology, Graduate Certificate	Manuf Qual Oper in Biotech	512010
MS-MRES: Marine and Environmental Sciences, MS	Marine Environment Sciences	030104

PHD-MRES: Marine and Environmental Sciences, PhD	Marine Environment Sciences	030104
PHD-MRES-A: Marine and Environmental Sciences, PhD—Advanced Entry	Marine Environment Sciences	030104
BS-MARB: Marine Biology, BS	Marine Biology	261302
MS-MARB: Marine Biology, MS	Marine Biology	261302
CERTG-MKTG: Marketing, Graduate Certificate	Marketing	521401
CERTG-MKAN: Marketing Analytics, Graduate Certificate	Marketing Analytics	521402
BA-MATH: Mathematics, BA	Mathematics	270101
BS-MATH: Mathematics, BS	Mathematics	270101
MS-MATH: Mathematics, MS	Mathematics	270101
PHD-MATH: Mathematics, PhD	Mathematics	270101
PHD-MATH-A: Mathematics, PhD—Advanced Entry	Mathematics	270101
BS-MABA: Mathematics and Business Administration, BS	Mathematics/Business Admin	270101
BS-MAPL: Mathematics and Philosophy, BS	Mathematics/Philosophy	270101
BS-MAPH: Mathematics and Physics, BS	Mathematics/Physics	270101
BS-MAPO: Mathematics and Political Science, BS	Mathematics/Political Science	270101
BS-MAPY: Mathematics and Psychology, BS	Mathematics/Psychology	270101
BS-MASO: Mathematics and Sociology, BS	Mathematics/Sociology	270101
BSME-MECE: Mechanical Engineering, BSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in General Mechanical Engineering, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Materials Science, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechanics and Design, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Mechatronics, MSME	Mechanical Engineering	141901
MSME-MECE: Mechanical Engineering with Concentration in Thermofluids, MSME	Mechanical Engineering	141901
PHD-MECE: Mechanical Engineering, PhD	Mechanical Engineering	141901
PHD-MECE-A: Mechanical Engineering, PhD—Advanced Entry	Mechanical Engineering	141901
BSME-MEDS: Mechanical Engineering and Design, BSME	Mechanical Engineering/Design	141901
BSME-MEHI: Mechanical Engineering and History, BSME	Mechanical Engineering/History	141901
BSME-MEPH: Mechanical Engineering and Physics, BSME	Mechanical Engineering/Physics	141901
BSME-MEBE: Mechanical Engineering and Bioengineering, BSME	Mechanical Engr/Bioengineering	141901
P-BS-MTRO: Mechatronics, BS	Mechatronics	144201
BA-MSPH: Media and Screen Studies and Philosophy, BA	Media Screen Stud/Philosophy	090199
BA-MSHI: Media and Screen Studies and History, BA	Media Screen Studies/History	090199
MS-MEDA: Media Advocacy, MS	Media Advocacy	099999
BA-MSST: Media and Screen Studies, BA	Media and Screen Studies	090199
BFA-MART: Media Arts, BFA	Media Arts	500102
BA-MACM: Media Arts and Communication Studies, BA	Media Arts/Communication Stud.	500102
MS-MIDC: Media Innovation and Data Communication, MS	Media Innovation and Data Comm	090702

BA-MSJO: Media and Screen Studies and Journalism, BA	Media Screen Stu/Journalism	090199
BA-MSPO: Media and Screen Studies and Political Science, BA	Media Screen Stu/Political Sci	090199
BA-MSSO: Media and Screen Studies and Sociology, BA	Media Screen Stu/Sociology	090199
BA-MSTH: Media and Screen Studies and Theatre, BA	Media Screen Stu/Theatre	090199
BS-MSTH: Media and Screen Studies and Theatre, BS	Media Screen Stu/Theatre	090199
BA-MSMA: Media and Screen Studies and Media Arts, BA	Media Screen Stud./Media Arts	090199
BA-MSEN: Media and Screen Studies and English, BA	Media Screen Studies/English	090199
P-CERTG-MDRA: Medical Device Regulatory Affairs, Graduate Certificate	Medical Device Regulatory Aff.	512799
MS-MCDD: Medicinal Chemistry Drug Discovery, MS	Medicinal Chem Drug Discov	512004
PHD-MCDD: Medicinal Chemistry and Drug Discovery, PhD	Medicinal Chem Drug Discov	512004
PHD-MCDD-A: Medicinal Chemistry and Drug Discovery, PhD—Advanced Entry	Medicinal Chem Drug Discov	512004
CERTG-MOBI: Molecular Biotechnology, Graduate Certificate	Molecular Biotechnology	261201
BA-MUSI: Music, BA	Music	500901
BS-MUSI-MUID: Music with Concentration in Music Industry, BS	Music	500901
BS-MUSI-MUTE: Music with Concentration in Music Technology, BS	Music	500901
BS-MUCM: Music and Communication Studies with Concentration in Music Industry, BS	Music/Communication Studies	500901
CERTG-MFMG: Mutual Fund Management, Graduate Certificate	Mutual Fund Management	520807
CERTG-NNMD: Nanomedicine, Graduate Certificate	Nanomedicine	300101
MS-NNMD: Nanomedicine, MS	Nanomedicine	300101
MS-NETS: Network Science, MS	Network Science	300601
PHD-NETS: Network Science, PhD (BV, CS, SC, SH)	Network Science	300601
P-CERTG-NCBR: Nonclinical Biomedical Product Regulation, Graduate Certificate	Nonclinical Biomed Product Reg	512002
CERTG-NPSC: Nonprofit Sector, Philanthropy, and Social Change, Graduate Certificate	Nonprof-Philanth-Social Change	520206
P-CERTG-NPMG: Nonprofit Management, Graduate Certificate	Nonprofit Management	520206
P-MS-NPMG: Nonprofit Management, MS	Nonprofit Management	520206
DNP-NUAN: Nurse Anesthesia, DNP	Nurse Anesthesia	513804
BSN-NURS: Nursing, BSN	Nursing	513801
BSN-NURS-2: Nursing, BSN—Accelerated Program for Second-Degree Students	Nursing	513801
BSN-NURS-T: Nursing, BSN—Transfer Track	Nursing	513801
CAGS-CCAC: Nursing—Adult-Gerontology Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-CCNN: Nursing—Neonatal Nurse Practitioner, CAGS	Nursing	513801
CAGS-PCAN: Nursing—Adult-Gerontology Nurse Practitioner, Primary Care, CAGS	Nursing	513801

CAGS-PEAC: Nursing—Pediatric Nurse Practitioner, Acute Care, CAGS	Nursing	513801
CAGS-PEPA: Nursing—Pediatric Nurse Practitioner, Acute and Primary Care, CAGS	Nursing	513801
CAGS-PEPC: Nursing—Pediatric Nurse Practitioner, Primary Care, CAGS	Nursing	513801
CAGS-PSMH: Nursing—Psychiatric-Mental Health Nurse Practitioner, CAGS	Nursing	513801
DNP-NURS: Nursing, DNP (Post-Master's)	Nursing	513801
MS-NURS: Nursing, MS	Nursing	513801
MS-NURS-DE: Nursing, MS—Direct Entry	Nursing	513801
PHD-NURS: Nursing, PhD	Nursing	513801
PHD-NURS-MSE: Nursing, PhD—Advanced Entry (Post-MSN)	Nursing	513801
CERTG-OMIC: Omics, Graduate Certificate	Omics	261103
MSOR-OPRE: Operations Research, MSOR	Operations Research	143701
MSOR-OPRE-AS: Operations Research, MSOR	Operations Research	143701
P-CERTG-ORGC: Organizational Communication, Graduate Certificate	Organizational Communication	090101
P-MS-ORLD: Organizational Leadership, MS	Organizational Leadership	520213
CERTG-PTSF: Patient Safety, Graduate Certificate	Patient Safety	512213
CERTG-PEAC: Pediatric Nurse Practitioner, Acute Care, Graduate Certificate	Pediatric Acute Care PNP	513814
PHD-PHEI: Personal Health Informatics, PhD	Personal Health Informatics	512706
MS-PHEN: Pharmaceutical Engineering, MS	Pharmaceutical Engineering	140702
BS-PHSC: Pharmaceutical Sciences, BS	Pharmaceutical Sciences	512010
CERTG-PHTE: Pharmaceutical Technologies, Graduate Certificate	Pharmaceutical Technologies	261201
MS-PHDD: Pharmaceutics and Drug Delivery, MS	Pharmaceutics Drug Delivery	512010
PHD-PHDD: Pharmaceutics and Drug Delivery, PhD	Pharmaceutics Drug Delivery	512010
PHD-PHDD-A: Pharmaceutics and Drug Delivery, PhD—Advanced Entry	Pharmaceutics Drug Delivery	512010
MS-PHAC: Pharmacology, MS	Pharmacology	261001
PHD-PHAC: Pharmacology, PhD	Pharmacology	261001
PHD-PHAC-A: Pharmacology, PhD—Advanced Entry	Pharmacology	261001
PHARMD-G: Pharmacy, PharmD	Pharmacy	512001
PHARMD-G-DE: Pharmacy, PharmD—Direct Entry	Pharmacy	512001
PHARMD-U: Pharmacy, PharmD	Pharmacy	512001
BS-PHST: Pharmacy Studies, BS	Pharmacy Studies	512001
BA-PHIL: Philosophy, BA	Philosophy	380101
BS-PHIL: Philosophy, BS	Philosophy	380101
DPT-PHTH-DE: Physical Therapy, DPT—Postbaccalaureate Entry	Physical Therapy	512308
DPT-PHTH-G: Physical Therapy, DPT—Graduate	Physical Therapy	512308
MS-PHAS: Physician Assistant, MS	Physician Assistant	510912
BS-PHYS: Physics, BS	Physics	400801
MS-PHYS: Physics, MS	Physics	400801
PHD-PHYS: Physics, PhD	Physics	400801
PHD-PHYS-A: Physics, PhD—Advanced Entry	Physics	400801
BS-PHMU: Physics and Music with Concentration in Music Technology, BS	Physics/Music	400801
BS-PHPH: Physics and Philosophy, BS	Physics/Philosophy	400801
BA-POLI: Political Science, BA	Political Science	451001
BS-POLI: Political Science, BS	Political Science	451001

MA-POLI: Political Science, MA	Political Science	451001
PHD-POLI: Political Science, PhD	Political Science	451001
PHD-POLI-A: Political Science, PhD—Advanced Entry	Political Science	451001
BS-POBA: Political Science and Business Administration, BS	Political Science/Business Adm	451001
BA-POCM: Political Science and Communication Studies, BA	Political Science/Comm Studies	451001
BS-POCM: Political Science and Communication Studies, BS	Political Science/Comm Studies	451001
BA-POEC: Political Science and Economics, BA	Political Science/Economics	451001
BS-POEC: Political Science and Economics, BS	Political Science/Economics	450603
BA-POHS: Political Science and Human Services, BA	Political Science/HumanService	451001
BS-POHS: Political Science and Human Services, BS	Political Science/HumanService	451001
BA-POIA: Political Science and International Affairs, BA	Political Science/Intl Affairs	451001
BA-POPL: Political Science and Philosophy, BA	Political Science/Philosophy	451001
BS-POPL: Political Science and Philosophy, BS	Political Science/Philosophy	451001
BS-PPBA: Politics, Philosophy, and Economics and Business Administration, BS	Politics, Phil Econ/Bus Adm	451099
BS-PSPE: Politics, Philosophy, and Economics, BS	Politics, Philosophy, and Econ	451099
MS-POHE: Population Health, MS	Population Health	512299
PHD-POHE: Population Health, PhD	Population Health	512299
PHD-POHE-A: Population Health, PhD—Advanced Entry	Population Health	512299
CERTG-PSTE: Postsecondary Teaching, Graduate Certificate	Postsecondary Teaching	131214
CERTG-PLEJ: Poverty Law and Economic Justice, Graduate Certificate	Poverty Law Economic Justice	220299
P-CERTU-PMED: Premedical Studies, Postbaccalaureate Undergraduate Certificate	Pre-Medical Studies	511102
P-CERTU-PRMA: Principles of Manufacturing, Undergraduate Certificate	Principles of Manufacturing	150613
CERTG-PRVL: Privacy Law, Graduate Certificate	Privacy Law	220299
CERTG-PSEN: Process Safety Engineering, Graduate Certificate	Process Safety Engineering	140799
CERTG-PRSC: Process Science, Graduate Certificate	Process Science	261201
MS-PRDV: Product Development, MS	Product Development	142701
MSAMBA-PRAC: Accounting and Business Administration, MSAMBA	Professional Accounting	520301
P-CERTG-PSAD: Professional Sports Administration, Graduate Certificate	Professional Sports Administra	310504
P-CERTG-PBUA: Project Business Analysis, Graduate Certificate	Project Business Analysis	521302
P-BS-PMGT: Project Management, BS	Project Management	521301
P-CERTG-PMGT: Project Management, Graduate Certificate	Project Management	521301
P-CERTU-PMGT: Project Management, Undergraduate Certificate	Project Management	521301
P-MS-PMGT: Project Management, MS	Project Management	521301
BS-PSYC: Psychology, BS	Psychology	422799
MS-PSYC: Psychology, MS	Psychology	422799
P-BS-PSYC: Psychology, BS	Psychology	422799

PHD-PSYC: Psychology, PhD	Psychology	422799
PHD-PSYC-A: Psychology, PhD—Advanced Entry	Psychology	422799
BS-PSMU: Psychology and Music, BS	Psychology/Music	422799
BS-PSTH: Psychology and Theatre, BS	Psychology/Theatre	422799
MPA-PUAD: Public Administration, MPA	Public Administration	440401
P-CERTG-PUMR: Public and Media Relations, Graduate Certificate	Public and Media Relations	090102
BA-PUHE: Public Health, BA	Public Health	512201
MPH-PUHE: Public Health, MPH	Public Health	512201
MPH-PUHE-EX: Public Health, MPH—Accelerated	Public Health	512201
BA-PHCM: Public Health and Communication Studies, BA	Public Health/Comm Studies	512201
BA-PHCA: Public Health and Cultural Anthropology, BA	Public Health/Cultural Anthro	512201
BA-PHJO: Public Health and Journalism, BA	Public Health/Journalism	512201
BA-PHSO: Public Health and Sociology, BA	Public Health/Sociology	512201
CERTG-PUHI: Public History, Graduate Certificate	Public History	540105
MPP-PUPL: Public Policy, MPP	Public Policy	440401
PHD-PUPL: Public Policy, PhD	Public Policy	440401
PHD-PUPL-A: Public Policy, PhD—Advanced Entry	Public Policy	440401
CERTG-PUPA: Public Policy Analysis, Graduate Certificate	Public Policy Analysis	440501
BA-PUBR: Public Relations, BA	Public Relations	090902
P-CERTG-QASC: Quality Assurance Compliance, Graduate Certificate	Quality Assurance Compliance	510720
MSFMBA-QFBA: Quantitative Finance and Business Administration, MSFMBA	Quant Finance/Business Admin	270305
MSF-QFIN: Quantitative Finance, MSF	Quantitative Finance	270305
P-MS-REAF: Regulatory Affairs, MS	Regulatory Affairs	512009
BA-REST: Religious Studies, BA	Religious Studies	380201
BA-RSAS: Religious Studies and Africana Studies, BA	Religious Studies/Africana St.	380201
P-CERTG-RESE: Remote Sensing, Graduate Certificate	Remote Sensing	450799
CERTG-ERES: Renewable Energy, Graduate Certificate	Renewable Energy Systems	142701
MS-ROBO: Robotics, MS	Robotics	144201
MS-RWEH: Real-World Evidence in Healthcare and Life Sciences, MS	RWE in Healthcare and Life Sci	300601
P-CERTG-SMGT: Sales Management, Graduate Certificate	Sales Management	521804
CAGS-SCPS: School Psychology, CAGS	School Psychology	422805
PHD-SCPS-BSE: School Psychology, PhD	School Psychology	422805
PHD-SCPS-MSE: School Psychology, PhD—Advanced Entry	School Psychology	422805
P-MAT-SCED: Secondary Education, MAT	Secondary Education	131205
CERTG-SERE: Security and Resilience Studies, Graduate Certificate	Security Resilience Studies	450999
MS-SERE: Security and Resilience Studies, MS	Security Resilience Studies	450999
P-MA-SCIS: Security and Intelligence Studies, MA	Security and Intelligence Stud	430399
P-CERTG-SMOP. Social Media for Organizational Performance, Graduate Certificate	Social Media for Org Perform	090101
BA-SOCI: Sociology, BA	Sociology	451101
BS-SOCI: Sociology, BS	Sociology	451101
MA-SOCI: Sociology, MA	Sociology	451101
PHD-SOCI: Sociology, PhD	Sociology	451101

PHD-SOCI-A: Sociology, PhD—Advanced Entry	Sociology	451101
BA-SOCA: Sociology and Cultural Anthropology, BA	Sociology/Cultural Anthrop	451101
BS-SOCA: Sociology and Cultural Anthropology, BS	Sociology/Cultural Anthrop	451101
BA-SOES: Sociology and Environmental Studies, BA	Sociology/Envr. Studies	451101
BA-SOIA: Sociology and International Affairs, BA	Sociology/Int'l Affairs	451101
BA-SOPH: Sociology and Philosophy, BA	Sociology/Philosophy	451101
BA-SOPO: Sociology and Political Science, BA	Sociology/Political Science	459999
BA-SORL: Sociology and Religious Studies, BA	Sociology/Religious Studies	451101
CERTG-SWES: Software Engineering Systems, Graduate Certificate	Software Engineering Systems	140903
MS-SWES: Software Engineering Systems, MS	Software Engineering Systems	140903
BA-SPAN: Spanish, BA	Spanish	160905
BA-SPIA: Spanish and International Affairs, BA	Spanish/ Interntional Affairs	160905
BA-SPLI: Spanish and Linguistics, BA	Spanish/Linguistics	160905
BS-SLPA: Speech-Language Pathology and Audiology, BS	Speech-Lang Pathol/Audiology	510204
MS-SLPT: Speech-Language Pathology, MS	Speech-Language Pathology	510204
P-MSLD-SPLE: Sports Leadership, MSLD	Sports Leadership	310504
BFA-STAR: Studio Art, BFA	Studio Art	500702
CERTG-SCEM: Supply Chain Engineering Management, Graduate Certificate	Supply Chain Engineering Mgmt	140101
CERTG-SUPC: Supply Chain Management, Graduate Certificate	Supply Chain Management	520203
CERTG-SUCP. Sustainability and Climate Change Policy, Graduate Certificate	Sustain Climate Chnge Policy	440501
CERTG-SUBE: Sustainability and Business, Graduate Certificate	Sustainability and Business	520704
CERTG-STEN: Sustainability Engineering, Graduate Certificate	Sustainability Engineering	144801
CERTG-SUSC: Sustainability Sciences, Graduate Certificate	Sustainability Sciences	030104
MSSBS-SUBS: Sustainable Building Systems, MSSBS	Sustainable Building Systems	149999
CERTG-SESY: Sustainable Energy Systems, Graduate Certificate	Sustainable Energy Systems	142701
MDES-SUEN: Sustainable Urban Environments, MDes—Two-Year Program	Sustainable Urban Environments	040401
MDES-SUEN1: Sustainable Urban Environments, MDes—One-Year Program	Sustainable Urban Environments	040401
CERTG-TELD: Technology Leadership, Graduate Certificate	Technology Leadership	520216
MS-TNET: Telecommunication Networks, MS	Telecommunication Networks	110901
BA-THEA: Theatre, BA	Theatre	500501
BS-THEA: Theatre, BS	Theatre	500501
BA-THID: Theatre and Interaction Design, BA	Theatre/Interaction Design	500501
BS-THID: Theatre and Interaction Design, BS	Theatre/Interaction Design	500501
BA-THJO: Theatre and Journalism, BA	Theatre/Journalism	500501
CERTG-USLW: United States Law, Graduate Certificate	United States Law	220203
CERTG-URBA: Urban Analytics, Graduate Certificate	Urban Analytics	451201
MS-URBI: Urban Informatics, MS	Urban Informatics	111099
MS-URPP. Urban Planning and Policy, MS	Urban Planning and Policy	451201

CERTG-URBN: Urban Studies, Graduate Certificate	Urban Studies	451201
P-CERTG-USAB: Usability, Graduate Certificate	Usability	111004
CERTG-VCDV: Vaccine Development, Graduate Certificate	Vaccine Development	512006
MS-WNEN: Wireless and Network Engineering, MS	Wireless Network Engineering	141004
CERTG-WOST: Women's, Gender, and Sexuality Studies, Graduate Certificate	Women's Gender Sexuality Stu	050207
CERTG-WGSL: Women, Gender, Sexuality, and the Law, Graduate Certificate	Women, Gender, Sexuality Law	220299

Resources

Online Resources

The following online resources supplement this catalog:

- Academic Calendars (http://www.northeastern.edu/registrar/calendars.html)
- Campus Maps (http://www.northeastern.edu/campusmap/)
- Class Schedules (https://registrar.northeastern.edu/article/schedule-of-classes/)
- University Events (http://calendar.northeastern.edu/)

Index

Academic Appeals Policies and Procedures 84
Academic Honors 86
Academic Integrity Policy 87
Academic Policies and Procedures 58
Academic Progression Standards 88
Accelerated Bachelor/Graduate Degree Programs 578
Accelerated Bachelor/Graduate Degree Programs 691
Accelerated Bachelor/Graduate Degree Programs 940
Accelerated Bachelor/Graduate Degree Programs 1155
Accelerated Bachelor/Graduate Degree Programs 1375
Accelerated Bachelor/Graduate Degree Programs 1725
Accelerated Bachelor/Graduate Degree Programs 2635
Accommodations for Students with Disabilities 35
Accommodations for Students with Disabilities 59
Accounting 654
Accounting and Advisory Services 655
Accounting and Advisory Services, Minor 673
Accreditation 2725
Additional Requirements for BA Students 119
Admission 22
Admission Policy and Entrance Requirements 23
Aerospace, Minor 1149
African American Studies, Minor 1932
African Studies, Minor 1933
Africana Studies and English, BA 1878
Africana Studies and English, BA 1878
Africana Studies and Human Services, BA 1883
Africana Studies and Media and Screen Studies, BA 324
Africana Studies and Media and Screen Studies, BA 324
Africana Studies and Political Science, BA 1889
Africana Studies and Political Science, BA 1889
Africana Studies, BA 1874
Africana Studies, BS 1913
Africana Studies, Minor 1934
American Political Institutions, Minor 2530
American Sign Language and Human Services, BS 1920
American Sign Language and Linguistics, BS 1923
American Sign Language and Psychology, BS 1625
American Sign Language and Psychology, BS 1625
American Sign Language and Theatre, BS 529

American Sign Language and Theatre, BS ... 529
American Sign Language, Minor ... 1935
American Sign Language—English Interpreting, BS ... 1917
Animation, Minor ... 262
Applied Physics, BS ... 1564
Arabic, Minor ... 1936
Architectural and Urban History, Minor ... 165
Architectural Design, Minor ... 166
Architectural Engineering, Minor ... 1056
Architectural Science and Systems, Minor ... 167
Architectural Studies and Design, BS ... 142
Architectural Studies and Design, BS ... 142
Architectural Studies, BS ... 139
Architecture and English, BS ... 145
Architecture and English, BS ... 145
Architecture, BS ... 133
Argumentation and Law, Minor ... 388
Army, Air Force, and Navy Reserve Officers' Training Corps (ROTC) Programs ... 102
Art + Design ... 169
Art, BA ... 173
Art History, Minor ... 265
Art, Minor ... 263
Astrophysics, Minor ... 1614
Attendance Requirements ... 60
Authorizations ... 2729

Bachelor of Science in Business Administration, BSBA ... 582
Behavioral Neuroscience and Design, BS ... 197
Behavioral Neuroscience and Design, BS ... 197
Behavioral Neuroscience and Philosophy, BS ... 1685
Behavioral Neuroscience and Philosophy, BS ... 1685
Behavioral Neuroscience, BS ... 1675
Behavioral Neuroscience, Minor ... 1718
Bill Payment ... 46
Biochemical Engineering, Minor ... 1014
Biochemistry, BS ... 1690
Biochemistry, Minor ... 1719
Bioengineering ... 953
Bioengineering and Biochemistry, BSBioE ... 962
Bioengineering, BSBioE ... 954
Biology ... 1378
Biology and English, BS ... 1391
Biology and English, BS ... 1391

Biology and Mathematics, BS 1397
Biology and Mathematics, BS 1397
Biology and Political Science, BS 1401
Biology and Political Science, BS 1401
Biology, BS 1379
Biology, Minor 1418
Biomechanical Engineering, Minor 1150
Biomedical Engineering, Minor 1106
Biomedical Physics, BS 1568
Black Feminist Studies, Minor 1793
Black Feminist Studies, Minor 1793
Bouvé College of Health Sciences 1156
Brand Management 656
Brand Management, Minor 674
Business Administration and Communication Studies, BS 359
Business Administration and Communication Studies, BS 359
Business Administration and Design, BS 202
Business Administration and Design, BS 202
Business Administration and Law, BS 586
Business Administration and Psychology, BS 603
Business Administration and Psychology, BS 603
Business Administration and Public Health, BS 607
Business Administration and Public Health, BS 607
Business Administration and Public Health, BS 607
Business Administration, Minor 675
Business Analytics 657
Business Analytics, Minor 676

Campus Transfer and Campus Location Change 61
Cell and Molecular Biology, BS 1386
Cell and Molecular Biology, Minor 1416
Chemical Engineering 977
Chemical Engineering and Biochemistry, BSChE 986
Chemical Engineering and Bioengineering, BSChE 968
Chemical Engineering and Bioengineering, BSChE 968
Chemical Engineering and Computer Science, BSChE 728
Chemical Engineering and Computer Science, BSChE 728
Chemical Engineering and Data Science, BSChE 733
Chemical Engineering and Data Science, BSChE 733
Chemical Engineering and Environmental Engineering, BSChE 1004
Chemical Engineering and Environmental Engineering, BSChE 1004
Chemical Engineering and Physics, BSChE 1009
Chemical Engineering and Physics, BSChE 1009

Chemical Engineering, BSChE 979
Chemistry and Chemical Biology 1420
Chemistry, BS 1421
Chemistry, Minor 1434
Chinese, Minor 1938
Cinema Studies, Minor 389
Civil and Environmental Engineering 1015
Civil Engineering and Architectural Studies, BSCE 149
Civil Engineering and Architectural Studies, BSCE 149
Civil Engineering and Computer Science, BSCE 738
Civil Engineering and Computer Science, BSCE 738
Civil Engineering, BSCE 1017
Civil Engineering, Minor 1058
Clearing an Academic Deficiency 62
Code of Student Conduct 63
College of Arts, Media and Design 130
College of Engineering 941
College of Science 1376
College of Social Sciences and Humanities 1726
Combined Majors 594
Communication and Media Studies, BA 286
Communication Sciences and Disorders, Minor 1226
Communication Sciences and Disorders, Minor 1226
Communication Studies 281
Communication Studies and Graphic and Information Design, BA 219
Communication Studies and Graphic and Information Design, BA 219
Communication Studies and Sociology, BA 292
Communication Studies and Sociology, BA 292
Communication Studies and Speech-Language Pathology and Audiology, BS 368
Communication Studies and Speech-Language Pathology and Audiology, BS 368
Communication Studies and Speech-Language Pathology and Audiology, BS 368
Communication Studies and Theatre, BA 295
Communication Studies and Theatre, BA 295
Communication Studies, BA 283
Communication Studies, Minor 390
Computational Data Analytics, Minor 1109
Computational Social Science, Minor 1794
Computer Engineering and Computer Science, BSCmpE 743
Computer Engineering and Computer Science, BSCmpE 743
Computer Engineering and Physics, BSCmpE 1071
Computer Engineering and Physics, BSCmpE 1071
Computer Engineering, BSCmpE 1065
Computer Engineering, Minor 1108

Computer Science ... 694
Computer Science and Behavioral Neuroscience, BS ... 750
Computer Science and Biology, BS ... 755
Computer Science and Biology, BS ... 755
Computer Science and Business Administration, BS ... 612
Computer Science and Business Administration, BS ... 612
Computer Science and Cognitive Psychology, BS ... 765
Computer Science and Cognitive Psychology, BS ... 765
Computer Science and Communication Studies, BS ... 363
Computer Science and Communication Studies, BS ... 363
Computer Science and Criminal Justice, BS ... 775
Computer Science and Criminal Justice, BS ... 775
Computer Science and Design, BS ... 206
Computer Science and Design, BS ... 206
Computer Science and Economics, BS ... 785
Computer Science and Economics, BS ... 785
Computer Science and English, BS ... 790
Computer Science and English, BS ... 790
Computer Science and Environmental and Sustainability Sciences, BS ... 796
Computer Science and Environmental and Sustainability Sciences, BS ... 796
Computer Science and Game Development, BS ... 211
Computer Science and Game Development, BS ... 211
Computer Science and History, BS ... 804
Computer Science and History, BS ... 804
Computer Science and Journalism, BS ... 440
Computer Science and Journalism, BS ... 440
Computer Science and Linguistics, BS ... 813
Computer Science and Mathematics, BS ... 817
Computer Science and Mathematics, BS ... 817
Computer Science and Media Arts, BS ... 214
Computer Science and Media Arts, BS ... 214
Computer Science and Music with Concentration in Music Technology, BS ... 481
Computer Science and Music with Concentration in Music Technology, BS ... 481
Computer Science and Philosophy, BS ... 830
Computer Science and Philosophy, BS ... 830
Computer Science and Physics, BS ... 834
Computer Science and Physics, BS ... 834
Computer Science and Political Science, BS ... 839
Computer Science and Political Science, BS ... 839
Computer Science and Politics, Philosophy, and Economics, BS ... 845
Computer Science and Politics, Philosophy, and Economics, BS ... 845
Computer Science and Politics, Philosophy, and Economics, BS ... 845
Computer Science and Politics, Philosophy, and Economics, BS ... 845

Computer Science and Sociology, BS ... 849
Computer Science and Sociology, BS ... 849
Computer Science and Theatre, BS ... 536
Computer Science and Theatre, BS ... 536
Computer Science, BACS ... 702
Computer Science, BSCS ... 695
Computer Science, Minor ... 711
Computing and Law, BS ... 707
Concentrations ... 653
Conditional Admission ... 28
Consulting, Minor ... 677
Cooperative Education ... 89
Corporate Innovation ... 658
Corporate Innovation, Minor ... 679
Course Credit Guidelines ... 64
Course Numbering System ... 65
Creative Computing, Minor ... 266
Creative Fabrication, Minor ... 267
Creativity in Theory and Practice, Minor ... 576
Criminal Justice and Journalism, BS ... 444
Criminal Justice and Journalism, BS ... 444
Criminal Justice and Philosophy, BS ... 1843
Criminal Justice and Philosophy, BS ... 1843
Criminal Justice and Political Science, BS ... 1847
Criminal Justice and Political Science, BS ... 1847
Criminal Justice and Psychology, BS ... 1637
Criminal Justice and Psychology, BS ... 1637
Criminal Justice and Sociology, BS ... 1857
Criminal Justice and Sociology, BS ... 1857
Criminal Justice, Minor ... 1872
Criminology and Criminal Justice, BS ... 1831
Cultural Anthropology and Philosophy, BA ... 2292
Cultural Anthropology and Philosophy, BA ... 2292
Cultural Anthropology and Religious Studies, BA ... 2295
Cultural Anthropology and Religious Studies, BA ... 2295
Cultural Anthropology and Theatre, BA ... 541
Cultural Anthropology and Theatre, BA ... 541
Cultural Anthropology, BA ... 2536
Cultural Anthropology, BS ... 2607
Cultural Anthropology, Minor ... 2632
Cultures, Societies, and Global Studies ... 1873
Cybersecurity ... 714
Cybersecurity and Business Administration, BS ... 617

Cybersecurity and Business Administration, BS ... 617
Cybersecurity and Criminal Justice, BS ... 862
Cybersecurity and Criminal Justice, BS ... 862
Cybersecurity and Economics, BS ... 867
Cybersecurity and Economics, BS ... 867
Cybersecurity, BS ... 715

D'Amore-McKim School of Business ... 579
Data Science ... 719
Data Science and Behavioral Neuroscience, BS ... 879
Data Science and Biochemistry, BS ... 871
Data Science and Biology, BS ... 875
Data Science and Biology, BS ... 875
Data Science and Business Administration, BS ... 621
Data Science and Business Administration, BS ... 621
Data Science and Chemistry, BS ... 887
Data Science and Chemistry, BS ... 887
Data Science and Criminal Justice, BS ... 891
Data Science and Criminal Justice, BS ... 891
Data Science and Ecology and Evolutionary Biology, BS ... 895
Data Science and Ecology and Evolutionary Biology, BS ... 895
Data Science and Economics, BS ... 899
Data Science and Economics, BS ... 899
Data Science and Environmental and Sustainability Sciences, BS ... 903
Data Science and Environmental and Sustainability Sciences, BS ... 903
Data Science and Health Science, BS ... 907
Data Science and Health Science, BS ... 907
Data Science and Health Science, BS ... 907
Data Science and International Affairs, BS ... 911
Data Science and International Affairs, BS ... 911
Data Science and Journalism, BS ... 447
Data Science and Journalism, BS ... 447
Data Science and Linguistics, BS ... 922
Data Science and Mathematics, BS ... 926
Data Science and Mathematics, BS ... 926
Data Science and Philosophy, BS ... 929
Data Science and Philosophy, BS ... 929
Data Science and Physics, BS ... 932
Data Science and Physics, BS ... 932
Data Science and Psychology, BS ... 936
Data Science and Psychology, BS ... 936
Data Science, BS ... 720
Data Science, Minor ... 724

Degrees, Majors, and Minors ... 91
Delivery of Services ... 49
Design and Innovation in Engineering, Minor ... 945
Design, BFA ... 178
Digital Communication, Minor ... 391
Digital Methods in the Humanities, Minor ... 1795

Early Intervention, Minor ... 1227
Early Intervention, Minor ... 1227
Ecology and Evolutionary Biology, BS ... 1439
Ecology and Evolutionary Biology, Minor ... 1509
Economics ... 1949
Economics and Business Administration, BS ... 625
Economics and Business Administration, BS ... 625
Economics and Human Services, BS ... 1989
Economics and International Business, BS ... 628
Economics and International Business, BS ... 628
Economics and Journalism, BS ... 451
Economics and Journalism, BS ... 451
Economics and Mathematics, BS ... 1533
Economics and Mathematics, BS ... 1533
Economics and Philosophy, BS ... 2002
Economics and Philosophy, BS ... 2002
Economics and Psychology, BS ... 1645
Economics and Psychology, BS ... 1645
Economics, BA ... 1951
Economics, BS ... 1970
Economics, Minor ... 2021
Education ... 104
Electrical and Computer Engineering ... 1063
Electrical and Computer Engineering, BSEE or BSCmpE ... 1101
Electrical Engineering and Music with concentration in Music Technology, BSEE ... 485
Electrical Engineering and Music with concentration in Music Technology, BSEE ... 485
Electrical Engineering and Physics, BSEE ... 1090
Electrical Engineering and Physics, BSEE ... 1090
Electrical Engineering, BSEE ... 1084
Electrical Engineering, Minor ... 1110
Emerging Markets, Minor ... 680
English ... 2022
English and Communication Studies, BA ... 299
English and Communication Studies, BA ... 299
English and Criminal Justice, BA ... 1816
English and Criminal Justice, BA ... 1816

English and Cultural Anthropology, BA ... 2044
English and Cultural Anthropology, BA ... 2044
English and Graphic and Information Design, BA ... 222
English and Graphic and Information Design, BA ... 222
English and Philosophy, BA ... 2052
English and Philosophy, BA ... 2052
English and Political Science, BA ... 2056
English and Political Science, BA ... 2056
English and Theatre, BA ... 544
English and Theatre, BA ... 544
English, BA ... 2024
English, Minor ... 2102
Entrepreneurial Engineering, Minor ... 946
Entrepreneurial Startups ... 659
Entrepreneurial Startups, Minor ... 681
Environmental and Sustainability Sciences and Chemistry, BS ... 1430
Environmental and Sustainability Sciences and Chemistry, BS ... 1430
Environmental and Sustainability Sciences and Economics, BS ... 1477
Environmental and Sustainability Sciences and Economics, BS ... 1477
Environmental and Sustainability Sciences and Journalism, BS ... 1481
Environmental and Sustainability Sciences and Landscape Architecture, BS ... 155
Environmental and Sustainability Sciences and Landscape Architecture, BS ... 155
Environmental and Sustainability Sciences, BS ... 1443
Environmental and Sustainability Sciences, Minor ... 1510
Environmental Chemistry, Minor ... 1060
Environmental Chemistry, Minor ... 1060
Environmental Chemistry, Minor ... 1060
Environmental Engineering and Health Science, BSEnvE ... 1046
Environmental Engineering and Health Science, BSEnvE ... 1046
Environmental Engineering and Health Science, BSEnvE ... 1046
Environmental Engineering and Landscape Architecture, BSEnvE ... 158
Environmental Engineering and Landscape Architecture, BSEnvE ... 158
Environmental Engineering, BSEnvE ... 1040
Environmental Engineering, Minor ... 1062
Environmental Studies and History, BA ... 1487
Environmental Studies and History, BA ... 1487
Environmental Studies and International Affairs, BA ... 1490
Environmental Studies and International Affairs, BA ... 1490
Environmental Studies and Philosophy, BA ... 1497
Environmental Studies and Philosophy, BA ... 1497
Environmental Studies and Political Science, BA ... 1500
Environmental Studies and Political Science, BA ... 1500
Environmental Studies, BA ... 1450

Environmental Studies, Minor ... 1511
Ethics, Minor ... 2390
Ethnomusicology, Minor ... 507
Exercise Science, Minor ... 1228
Exercise Science, Minor ... 1228
Experience Design, Minor ... 268
Experiential Learning ... 105
Explore Program ... 106

Family Business ... 660
Family Business, Minor ... 682
Family Educational Rights and Privacy Act (FERPA) ... 66
Family Programs ... 40
Film and International Cultures, Minor ... 1939
Film Production, Minor ... 392
Film Studies, Minor ... 393
Final Examinations and Related Policies on Other Exams and Final Term Papers/Projects ... 94
Finance ... 661
Financial Aid ... 50
Financial Information ... 45
Financing Options ... 52
Fintech ... 662
Food Systems Sustainability, Health, and Equity, Minor ... 1796
Foundation Year ... 31
French, Minor ... 1945

Game Art and Animation, BFA ... 226
Game Art, Minor ... 270
Game Design and Music with Concentration in Music Technology, BS ... 233
Game Design and Music with Concentration in Music Technology, BS ... 233
Game Design, BFA ... 183
Game Design, Minor ... 271
General Engineering and First-Year Engineering ... 943
General Information ... 2719
General Studies Program ... 107
Geosciences, Minor ... 1512
German, Minor ... 1940
Global Asian Studies, BA ... 1733
Global Asian Studies, Minor ... 1797
Global Business and Strategy ... 663
Global Experience ... 108
Global Fashion Studies, Minor ... 567
Global Health, Minor ... 1329
Global Health, Minor ... 1329

Global Health, Minor ... 1329
Global Perspectives in Engineering, Minor ... 947
Governing Boards and Officers of Northeastern ... 2722
Grade Change Policy ... 68
Grade Table and GPA ... 69
Graduation Requirements ... 95
Graphic and Information Design and Mathematics, BS ... 236
Graphic and Information Design and Mathematics, BS ... 236
Graphic and Information Design, Minor ... 272

Health Humanities and Health Science, BS ... 1178
Health Humanities and Health Science, BS ... 1178
Health Humanities and Health Science, BS ... 1178
Health Humanities and Public Health, BA ... 1202
Health Humanities and Public Health, BA ... 1202
Health Humanities and Public Health, BA ... 1202
Health, Humanities, and Society, Minor ... 1231
Health, Humanities, and Society, Minor ... 1231
Health, Humanities, and Society, Minor ... 1231
Health Psychology, Minor ... 1229
Health Psychology, Minor ... 1229
Health Science and Business Administration, BS ... 632
Health Science and Business Administration, BS ... 632
Health Science and Business Administration, BS ... 632
Health Science and Communication Studies, BS ... 371
Health Science and Communication Studies, BS ... 371
Health Science and Communication Studies, BS ... 371
Health Science and Psychology, BS ... 1190
Health Science and Psychology, BS ... 1190
Health Science and Psychology, BS ... 1190
Health Science and Sociology, BS ... 1195
Health Science and Sociology, BS ... 1195
Health Science and Sociology, BS ... 1195
Health Science, BS ... 1263
Health Sciences Entrepreneurship, Minor ... 1230
Health Sciences Entrepreneurship, Minor ... 1230
Healthcare Management and Consulting ... 664
Healthcare System Operations, Minor ... 1151
Healthcare System Operations, Minor ... 1151
Healthcare System Operations, Minor ... 1151
History ... 2105
History and Asian Studies, BA ... 1745
History and Asian Studies, BA ... 1745

History and Criminal Justice, BA ... 1821
History and Criminal Justice, BA ... 1821
History and Cultural Anthropology, BA ... 2120
History and Cultural Anthropology, BA ... 2120
History and Economics, BA ... 1954
History and Economics, BA ... 1954
History and Economics, BS ... 2012
History and Economics, BS ... 2012
History and English, BA ... 2069
History and English, BA ... 2069
History and Philosophy, BA ... 2130
History and Philosophy, BA ... 2130
History and Political Science, BA ... 2133
History and Political Science, BA ... 2133
History and Religious Studies, BA ... 2138
History and Religious Studies, BA ... 2138
History, BA ... 2107
History, BS ... 2152
History, Culture, and Law, BA ... 1748
History, Culture, and Law, BA ... 1748
History, Minor ... 2170
Housing and Residential Life ... 42
Human Communication, Minor ... 394
Human Movement Science, Minor ... 1254
Human Services and Communication Studies, BA ... 1757
Human Services and Criminal Justice, BS ... 1760
Human Services and Criminal Justice, BS ... 1760
Human Services and International Affairs, BA ... 1763
Human Services and International Affairs, BA ... 1763
Human Services and Psychology, BS ... 1653
Human Services and Psychology, BS ... 1653
Human Services and Sociology, BA ... 1772
Human Services and Sociology, BA ... 1772
Human Services and Sociology, BS ... 1775
Human Services and Sociology, BS ... 1775
Human Services, BA ... 1753
Human Services, BS ... 1755
Human Services, Minor ... 1803

Immersive Media, Minor ... 274
Immunization Requirements ... 36
Improvisation and Storytelling, Minor ... 395
Improvisation and Storytelling, Minor ... 395

Industrial Engineering, BSIE 1114
Industrial Engineering, Minor 1152
Information Ethics, Minor 2392
Information for Entering Students 34
Information for International Students 38
Information Technology Services 37
Interaction Design, Minor 276
Interdisciplinary Minors 944
Interdisciplinary Programs 575
Interdisciplinary Programs 1160
Interdisciplinary Programs 1672
Interdisciplinary Programs 1728
International Affairs 2171
International Affairs and Criminal Justice, BA 1824
International Affairs and Criminal Justice, BA 1824
International Affairs and Cultural Anthropology, BA 2207
International Affairs and Cultural Anthropology, BA 2207
International Affairs and Economics, BA 1957
International Affairs and Economics, BA 1957
International Affairs and History, BA 2142
International Affairs and History, BA 2142
International Affairs and International Business, BS 636
International Affairs and International Business, BS 636
International Affairs and Religious Studies, BA 2233
International Affairs and Religious Studies, BA 2233
International Affairs, BA 2172
International Affairs, Minor 2270
International Business 665
International Business, BSIB 590
International Security Studies, Minor 2531
Italian, Minor 1943

Japanese, Minor 1944
Jewish Studies and Religion, BA 1778
Jewish Studies and Religion, BA 1778
Jewish Studies, Minor 1804
Journalism and Communication Studies, BA 304
Journalism and Communication Studies, BA 304
Journalism and English, BA 410
Journalism and English, BA 410
Journalism and Interaction Design, BS 239
Journalism and Interaction Design, BS 239
Journalism and International Affairs, BA 414

Journalism and International Affairs, BA 414
Journalism and Political Science, BA 421
Journalism and Political Science, BA 421
Journalism, BA 404
Journalism Practice, Minor 458
Journalism Studies, Minor 459

Khoury College of Computer Sciences 692
Khoury Combined Majors 726

Landscape Architecture, BLA 163
Latino/a, Latin American and Caribbean Studies, Minor 1806
Law and Public Policy, Minor 1807
Leadership and Human Capital, Minor 683
Leaves of Absence and University Withdrawal 71
Linguistics and Communication Studies, BA 307
Linguistics and Communication Studies, BA 307
Linguistics and Cultural Anthropology, BS 1704
Linguistics and Cultural Anthropology, BS 1704
Linguistics and English, BA 1707
Linguistics and English, BA 1707
Linguistics and Psychology, BS 1656
Linguistics and Psychology, BS 1656
Linguistics and Speech-Language Pathology and Audiology, BS 1199
Linguistics and Speech-Language Pathology and Audiology, BS 1199
Linguistics and Speech-Language Pathology and Audiology, BS 1199
Linguistics, BS 1697
Linguistics, Minor 1723
Living Learning Communities 110

Major CIP Codes 2733
Management 666
Management Information Systems 667
Management Information Systems, Minor 684
Marine and Environmental Sciences 1437
Marine Biology, BS 1455
Marine Sciences, Minor 1513
Marketing 668
Marketing Analytics 669
Marketing Analytics, Minor 686
Marketing, Minor 685
Materials Science and Engineering, Minor 949
Mathematics 1514
Mathematics and Business Administration, BS 641

Mathematics and Business Administration, BS 641
Mathematics and Philosophy, BS 1542
Mathematics and Physics, BS 1545
Mathematics and Physics, BS 1545
Mathematics and Political Science, BS 1548
Mathematics and Political Science, BS 1548
Mathematics and Psychology, BS 1552
Mathematics and Psychology, BS 1552
Mathematics and Sociology, BS 1555
Mathematics and Sociology, BS 1555
Mathematics, BA 1515
Mathematics, BS 1519
Mathematics, Minor 1557
Mechanical and Industrial Engineering 1112
Mechanical Engineering and Bioengineering, BSME 972
Mechanical Engineering and Bioengineering, BSME 972
Mechanical Engineering and Design, BSME 255
Mechanical Engineering and Design, BSME 255
Mechanical Engineering and History, BSME 1139
Mechanical Engineering and History, BSME 1139
Mechanical Engineering and Physics, BSME 1144
Mechanical Engineering and Physics, BSME 1144
Mechanical Engineering, BSME 1120
Mechanical Engineering, Minor 1153
Media and Screen Studies and English, BA 327
Media and Screen Studies and English, BA 327
Media and Screen Studies and History, BA 332
Media and Screen Studies and History, BA 332
Media and Screen Studies and Journalism, BA 335
Media and Screen Studies and Journalism, BA 335
Media and Screen Studies and Media Arts, BA 243
Media and Screen Studies and Media Arts, BA 243
Media and Screen Studies and Philosophy, BA 341
Media and Screen Studies and Philosophy, BA 341
Media and Screen Studies and Political Science, BA 344
Media and Screen Studies and Political Science, BA 344
Media and Screen Studies and Sociology, BA 349
Media and Screen Studies and Sociology, BA 349
Media and Screen Studies and Theatre, BA 352
Media and Screen Studies and Theatre, BA 352
Media and Screen Studies and Theatre, BS 375
Media and Screen Studies and Theatre, BS 375
Media and Screen Studies, BA 321

Media and Screen Studies, Minor ... 396
Media Arts and Communication Studies, BA ... 246
Media Arts and Communication Studies, BA ... 246
Media Arts, BFA ... 186
Media Production, Minor ... 397
Merit Scholarships ... 29
Middle East and Mediterranean Studies, Minor ... 2274
Mindfulness Studies, Minor ... 1234
Mindfulness Studies, Minor ... 1234
Minors ... 672
Music ... 463
Music and Communication Studies with Concentration in Music Industry, BS ... 379
Music and Communication Studies with Concentration in Music Industry, BS ... 379
Music, BA ... 465
Music Composition, Minor ... 510
Music Industry, Minor ... 511
Music, Minor ... 508
Music Performance, Minor ... 512
Music Recording, Minor ... 514
Music Technology, Minor ... 515
Music with Concentration in Music Industry, BS ... 470
Music with Concentration in Music Technology, BS ... 476

Network Science, Minor ... 1724
Notifications and Disclosures ... 2720
NUpath ... 111
NUpath Learning Goals ... 114
NUpath Requirements ... 112
Nursing, BSN ... 1340
Nursing, BSN—Accelerated Program for Second-Degree Students ... 1348
Nursing, BSN—Transfer Track ... 1353
Nutrition, Minor ... 1235
Nutrition, Minor ... 1235

Office of the University Registrar ... 39
Oratory and Public Speaking, Minor ... 398

Performing Arts Administration, Minor ... 516
Performing Arts Administration, Minor ... 516
Personal Information ... 74
Pharmaceutical Sciences, BS ... 1369
Pharmaceutical Sciences, Minor ... 1236
Pharmaceutical Sciences, Minor ... 1236
Pharmacy, PharmD ... 1361

Pharmacy Studies, BS 1361
Philosophy and Religion 2275
Philosophy, BA 2277
Philosophy, BS 2341
Philosophy, Minor 2394
Photography, Minor 278
Photojournalism, Minor 279
Photojournalism, Minor 279
Physics 1558
Physics and Music with Concentration in Music Technology, BS 498
Physics and Music with Concentration in Music Technology, BS 498
Physics and Philosophy, BS 1589
Physics and Philosophy, BS 1589
Physics, BS 1560
Physics, Minor 1615
Playwriting, Minor 570
Political Communication, Minor 399
Political Science 2396
Political Science and Business Administration, BS 644
Political Science and Business Administration, BS 644
Political Science and Communication Studies, BA 311
Political Science and Communication Studies, BA 311
Political Science and Communication Studies, BS 383
Political Science and Communication Studies, BS 383
Political Science and Economics, BA 1964
Political Science and Economics, BA 1964
Political Science and Economics, BS 2016
Political Science and Economics, BS 2016
Political Science and Human Services, BA 2448
Political Science and Human Services, BS 2519
Political Science and International Affairs, BA 2248
Political Science and International Affairs, BA 2248
Political Science and Philosophy, BA 2327
Political Science and Philosophy, BA 2327
Political Science and Philosophy, BS 2378
Political Science and Philosophy, BS 2378
Political Science, BA 2398
Political Science, BS 2472
Political Science, Minor 2529
Politics, Philosophy, and Economics and Business Administration, BS 649
Politics, Philosophy, and Economics and Business Administration, BS 649
Politics, Philosophy, and Economics, BS 1782
Politics, Philosophy, and Economics, BS 1782

Portuguese, Minor ... 1946
Pre-Law Advising ... 120
PreMed and PreHealth Advising ... 121
Psychology ... 1616
Psychology and Music, BS ... 503
Psychology and Music, BS ... 503
Psychology and Theatre, BS ... 1667
Psychology, BS ... 1617
Psychology, Minor ... 1671
Public Health and Communication Studies, BA ... 316
Public Health and Communication Studies, BA ... 316
Public Health and Communication Studies, BA ... 316
Public Health and Cultural Anthropology, BA ... 1212
Public Health and Cultural Anthropology, BA ... 1212
Public Health and Cultural Anthropology, BA ... 1212
Public Health and Journalism, BA ... 429
Public Health and Journalism, BA ... 429
Public Health and Journalism, BA ... 429
Public Health and Sociology, BA ... 1221
Public Health and Sociology, BA ... 1221
Public Health and Sociology, BA ... 1221
Public Health, BA ... 1258
Public Health, Minor ... 1237
Public Health, Minor ... 1237
Public Relations, BA ... 433
Public Relations, Minor ... 461
Public Safety ... 41

Registration and Taking Courses ... 96
Religious Studies and Africana Studies, BA ... 1899
Religious Studies and Africana Studies, BA ... 1899
Religious Studies, BA ... 2288
Religious Studies, Minor ... 2395
Requesting and Clearing An Incomplete Grade ... 75
Research and Creative Activity ... 123
Resources ... 2753
Retaking Courses ... 76
Rhetoric, Minor ... 400
Rhetoric, Minor ... 400
Robotics, Minor ... 1111
Robotics, Minor ... 1111
Russian, Minor ... 1947

School of Architecture ... 131

School of Clinical and Rehabilitation Sciences ... 1241
School of Community Health and Behavioral Sciences ... 1256
School of Criminology and Criminal Justice ... 1814
School of Journalism ... 403
School of Nursing ... 1339
School of Pharmacy and Pharmaceutical Sciences ... 1360
Science and Technology Studies, Minor ... 2633
Service-Learning ... 124
Social Activism, Minor ... 401
Social Innovation and Entrepreneurship ... 670
Social Innovation and Entrepreneurship, Minor ... 687
Sociology and Anthropology ... 2532
Sociology and Cultural Anthropology, BA ... 2581
Sociology and Cultural Anthropology, BS ... 2629
Sociology and Environmental Studies, BA ... 1506
Sociology and Environmental Studies, BA ... 1506
Sociology and International Affairs, BA ... 2257
Sociology and International Affairs, BA ... 2257
Sociology and Philosophy, BA ... 2335
Sociology and Philosophy, BA ... 2335
Sociology and Political Science, BA ... 2467
Sociology and Political Science, BA ... 2467
Sociology and Religious Studies, BA ... 2338
Sociology and Religious Studies, BA ... 2338
Sociology, BA ... 2534
Sociology, BS ... 2605
Sociology, Minor ... 2634
Songwriting, Minor ... 517
Spanish and International Affairs, BA ... 1904
Spanish and International Affairs, BA ... 1904
Spanish and Linguistics, BA ... 1910
Spanish, BA ... 1902
Spanish, Minor ... 1948
Specialized Entry Programs ... 30
Speech-Language Pathology and Audiology, BS ... 1244
Speech-Language Pathology and Audiology, Minor ... 1239
Speech-Language Pathology and Audiology, Minor ... 1239
Sports, Media, and Communication, Minor ... 402
Sports, Media, and Communication, Minor ... 402
Strategy, Minor ... 688
Student Bill of Academic Rights and Responsibilities ... 77
Student Evaluation of Courses (TRACE) ... 100
Student Orientation ... 43

Student Responsibility Statement ... 80
Student Right-to-Know Act ... 81
Studio Art, BFA ... 194
Substituting Courses ... 82
Supply Chain Management ... 671
Supply Chain Management, Minor ... 689
Sustainable Business Practices, Minor ... 690
Sustainable Energy Systems, Minor ... 951

Theatre ... 518
Theatre and Interaction Design, BA ... 249
Theatre and Interaction Design, BA ... 249
Theatre and Interaction Design, BS ... 252
Theatre and Interaction Design, BS ... 252
Theatre and Journalism, BA ... 436
Theatre and Journalism, BA ... 436
Theatre, BA ... 519
Theatre, BS ... 524
Theatre, Minor ... 571
Theatre, Performance, and Social Change, Minor ... 573
Theatrical Design, Minor ... 574
Tuition, Room, Board, and Fees Per Semester ... 53

Undergraduate Catalog ... 21
Undergraduate Degrees ... 125
Undergraduate Internships ... 126
University Academics ... 101
University Faculty ... 2635
University Honors Program ... 33
University Honors Program ... 127
University Leadership ... 2724
University-Sponsored Travel ... 83
Universitywide Requirements ... 128
Urban Landscape Studies, Minor ... 168
Urban Studies, Minor ... 1810

Video Arts, Minor ... 280

We Care ... 44
Wellness Studies, Minor ... 1240
Wellness Studies, Minor ... 1240
Women's, Gender, and Sexuality Studies, Minor ... 1811
World Languages Center ... 129
Writing, Minor ... 2104

Writing-Intensive Courses 118

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Thursday, August 24, 2023	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half fall classes
Monday, August 28, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Tuesday, August 29, 2023	School of Law (LW)	LW: Fall orientation and registration for first-year students
Wednesday, August 30, 2023	School of Law (LW)	LW: First day of fall classes for first-year students
Thursday, August 31, 2023	Undergraduate (UG)	UG: First day of "I Am Here" for fall classes
Thursday, August 31, 2023	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half fall classes
Monday, September 4, 2023	Holidays, United States (USA)	USA: Labor Day, no classes
Monday, September 4, 2023	Holidays, Canada (CAN)	CAN: Labour Day, no classes
Tuesday, September 5, 2023	School of Law (LW)	LW: First day of full-semester and first-half fall classes
Tuesday, September 5, 2023	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: First day of fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Last day of "I Am Here" for fall classes
Wednesday, September 6, 2023	Undergraduate (UG)	UG: Fall classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Wednesday, September 6, 2023	Graduate (GR)	GR: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half fall classes
Wednesday, September 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half fall classes
Tuesday, September 12, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half fall classes
Wednesday, September 13, 2023	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half fall classes will be dropped for students who do not complete "I Am Here"
Thursday, September 14, 2023	Undergraduate (UG)	UG: Last day of online class add for fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half fall classes
Monday, September 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day of online class add for full-semester and first-half fall classes
Monday, September 18, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	Undergraduate (UG)	UG: Last day to elect pass/fail for fall classes (may be extended by instructor to October 27)
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day of online class add for full-semester and first-half fall classes
Tuesday, September 19, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class without a W grade
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester fall classes
Tuesday, September 19, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half fall class without a W grade
Wednesday, September 20, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class without a W grade (with administrative approval)
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half fall classes
Sunday, September 24, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half fall classes
Monday, September 25, 2023	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half fall classes will be dropped for students who do not complete "I Am Here"
Monday, September 25, 2023	School of Law (LW)	LW: Yom Kippur observed by School of Law only, no classes
Tuesday, September 26, 2023	Undergraduate (UG)	UG: Last day to drop a fall class without a W grade
Tuesday, September 26, 2023	Graduate (GR)	GR: Last day to drop a full-semester fall class without a W grade
Tuesday, September 26, 2023	School of Law (LW)	LW: Last day to drop a full-semester fall class without a W grade
Friday, September 29, 2023	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for fall classes
Saturday, September 30, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation, no classes (Vancouver only)
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter fall classes
Sunday, October 1, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half fall class without a W grade
Monday, October 2, 2023	Holidays, Canada (CAN)	CAN: National Day for Truth and Reconciliation observed, no classes (Vancouver only)
Monday, October 9, 2023	Holidays, United States (USA)	USA: Indigenous Peoples Day, no classes
Monday, October 9, 2023	Holidays, Canada (CAN)	CAN: Thanksgiving Day, no classes
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule
Tuesday, October 10, 2023	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Friday, October 13, 2023	Graduate (GR)	GR: Optional makeup day
Sunday, October 15, 2023	Graduate (GR)	GR: Last day to drop a first-half fall class with a W grade
Sunday, October 15, 2023	School of Law (LW)	LW: Last day to drop a first-half fall class with a W grade
Monday, October 16, 2023	Graduate (GR)	GR: First day of final exams for first-half fall classes
Tuesday, October 17, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Tuesday, October 17, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half fall class with a W grade
Wednesday, October 18, 2023	Undergraduate (UG)	UG: Experiential Entrepreneurship Trek Day (Oakland only)
Wednesday, October 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half fall classes
Thursday, October 19, 2023	Graduate (GR)	GR: First day of "I Am Here" for second-half fall classes
Thursday, October 19, 2023	School of Law (LW)	LW: First day of "I Am Here" for second-half fall classes
Saturday, October 21, 2023	Graduate (GR)	GR: Last day of first-half fall classes/final exams
Saturday, October 21, 2023	School of Law (LW)	LW: Last day of first-half fall classes
Sunday, October 22, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half fall class with a W grade
Monday, October 23, 2023	Undergraduate (UG)	UG: Spring class offerings posted on web
Monday, October 23, 2023	Graduate (GR)	GR: First day of second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Last day of "I Am Here" for second-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Monday, October 23, 2023	Graduate (GR)	GR: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Undergraduate (UC)	UC: Spring class offerings posted on web
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half fall classes
Monday, October 23, 2023	College of Professional Studies Graduate (GP)	GP: Winter class offerings posted on web
Monday, October 23, 2023	School of Law (LW)	LW: First day of second-half fall classes
Monday, October 23, 2023	School of Law (LW)	LW: Last day of "I Am Here" for second-half fall classes

Date	Calendar	Event
Monday, October 23, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 24, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half fall classes/final exams
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of second-half fall classes
Wednesday, October 25, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half fall classes
Thursday, October 26, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Saturday, October 28, 2023	College of Professional Studies Graduate (GP)	GP: Last day of first-half fall classes/final exams
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half fall classes
Monday, October 30, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half fall classes
Tuesday, October 31, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half fall classes
Wednesday, November 1, 2023	College of Professional Studies Undergraduate (UC)	UC: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Sunday, November 5, 2023	Graduate (GR)	GR: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	Graduate (GR)	GR: Last day to drop a second-half fall class without a W grade
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half fall classes
Sunday, November 5, 2023	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day of online class add for second-half fall classes
Sunday, November 5, 2023	School of Law (LW)	LW: Last day to drop a second-half fall class without a W grade
Monday, November 6, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of registration for spring classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: First day of registration for winter classes
Monday, November 6, 2023	College of Professional Studies Graduate (GP)	GP: Second-half fall classes will be dropped for students who do not complete "I Am Here"
Tuesday, November 7, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half fall class without a W grade
Friday, November 10, 2023	Graduate (GR)	GR: First day of spring class registration
Saturday, November 11, 2023	Holidays, United States (USA)	USA: Veterans Day, no classes
Saturday, November 11, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day, no classes (Vancouver only)
Sunday, November 12, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half fall class without a W grade
Monday, November 13, 2023	Holidays, Canada (CAN)	CAN: Remembrance Day observed, no classes (Vancouver only)
Monday, November 13, 2023	Undergraduate (UG)	UG: First day of spring class registration for continuing students
Monday, November 13, 2023	School of Law (LW)	LW: First day of spring registration
Monday, November 20, 2023	College of Professional Studies Graduate (GP)	GP: First day of fall break
Wednesday, November 22, 2023	Undergraduate (UG)	UG: First day of fall break
Wednesday, November 22, 2023	Graduate (GR)	GR: First day of fall break
Wednesday, November 22, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break
Wednesday, November 22, 2023	School of Law (LW)	LW: First day of fall break for first-year students
Monday, November 27, 2023	Undergraduate (UG)	UG: Classes resume
Monday, November 27, 2023	Graduate (GR)	GR: Classes resume
Monday, November 27, 2023	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, November 27, 2023	College of Professional Studies Graduate (GP)	GP: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume
Monday, November 27, 2023	School of Law (LW)	LW: Classes resume for first-year students
Wednesday, December 6, 2023	Undergraduate (UG)	UG: Last day of fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Reading day for fall classes
Thursday, December 7, 2023	Undergraduate (UG)	UG: Last day to drop a fall class with a W grade
Friday, December 8, 2023	Undergraduate (UG)	UG: First day of final exams for fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of full-semester fall classes
Friday, December 8, 2023	School of Law (LW)	LW: Last day of fall classes for first-year students
Sunday, December 10, 2023	Graduate (GR)	GR: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day to drop a full-semester or second-half fall class with a W grade
Sunday, December 10, 2023	School of Law (LW)	LW: Last day for first-year students to drop a fall class with a W grade (with administrative approval)
Monday, December 11, 2023	Graduate (GR)	GR: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half fall classes
Monday, December 11, 2023	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of final exams for full-semester fall classes
Monday, December 11, 2023	School of Law (LW)	LW: First day of reading period/final exams for fall classes for first-year students
Friday, December 15, 2023	Undergraduate (UG)	UG: Last day of final exams for fall classes
Saturday, December 16, 2023	Undergraduate (UG)	UG: Final exam makeup day for fall classes if needed
Saturday, December 16, 2023	Undergraduate (UG)	UG: Fall degree conferral date
Saturday, December 16, 2023	Graduate (GR)	GR: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	Graduate (GR)	GR: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Undergraduate (UC)	UC: Fall degree conferral date
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half fall classes/final exams
Saturday, December 16, 2023	College of Professional Studies Graduate (GP)	GP: Fall degree conferral date
Saturday, December 16, 2023	School of Law (LW)	LW: Last day of second-half fall classes
Monday, December 18, 2023	Undergraduate (UG)	UG: First day of winter break
Monday, December 18, 2023	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for fall classes
Monday, December 18, 2023	Graduate (GR)	GR: First day of winter break

Date	Calendar	Event
Monday, December 18, 2023	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: First day of winter break
Monday, December 18, 2023	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half fall classes
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: First day of winter break
Monday, December 18, 2023	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half fall classes
Monday, December 18, 2023	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for full-semester fall classes
Thursday, December 21, 2023	School of Law (LW)	LW: Fall degree conferral date
Thursday, December 21, 2023	School of Law (LW)	LW: Last day of final exams for fall classes for first-year students
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes if needed
Friday, December 22, 2023	School of Law (LW)	LW: Final exam makeup day for fall classes for first-year students if needed
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break
Saturday, December 23, 2023	School of Law (LW)	LW: First day of winter break for first-year students
Thursday, January 4, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for spring classes
Thursday, January 4, 2024	Graduate (GR)	GR: First day of "I Am Here" for full-semester and first-half spring classes
Thursday, January 4, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	Undergraduate (UG)	UG: First day of spring classes
Monday, January 8, 2024	Graduate (GR)	GR: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half winter classes
Monday, January 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half winter classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half spring classes
Monday, January 8, 2024	School of Law (LW)	LW: First day of spring classes for first-year students
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for spring classes
Tuesday, January 9, 2024	Undergraduate (UG)	UG: Spring classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Tuesday, January 9, 2024	Graduate (GR)	GR: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half spring classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half winter classes
Sunday, January 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half winter classes
Monday, January 15, 2024	Holidays, United States (USA)	USA: Martin Luther King, Jr. Day, no classes
Tuesday, January 16, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, January 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, January 17, 2024	Undergraduate (UG)	UG: Last day of online class add for spring classes
Friday, January 19, 2024	Graduate (GR)	GR: Optional makeup day
Monday, January 22, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for spring classes (may be extended by instructor to March 1)
Monday, January 22, 2024	Graduate (GR)	GR: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester spring classes
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half spring class without a W grade
Monday, January 22, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer class offerings posted on web
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter winter classes
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half winter class without a W grade
Monday, January 22, 2024	College of Professional Studies Graduate (GP)	GP: Spring class offerings posted on web
Monday, January 22, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half spring classes
Monday, January 22, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class without a W grade
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester fall classes
Monday, January 22, 2024	School of Law (LW)	LW: Faculty grade deadline for fall classes for first-year students
Monday, January 29, 2024	Undergraduate (UG)	UG: Last day to drop a spring class without a W grade
Monday, January 29, 2024	Undergraduate (UG)	UG: Summer class offerings posted on web
Monday, January 29, 2024	Graduate (GR)	GR: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	Graduate (GR)	GR: Summer class offerings posted on web
Monday, January 29, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class without a W grade
Monday, January 29, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class without a W grade (with administrative approval)
Thursday, February 1, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for spring classes
Monday, February 5, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for summer classes
Monday, February 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for spring classes
Friday, February 9, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, February 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half winter class with a W grade
Monday, February 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half winter classes
Friday, February 16, 2024	Graduate (GR)	GR: First day of summer class registration
Friday, February 16, 2024	Graduate (GR)	GR: Optional makeup day
Saturday, February 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half winter classes/final exams
Monday, February 19, 2024	Holidays, United States (USA)	USA: Presidents Day, no classes
Monday, February 19, 2024	Holidays, Canada (CAN)	CAN: Family Day, no classes
Monday, February 19, 2024	Graduate (GR)	GR: Last day to drop a first-half spring class with a W grade
Monday, February 19, 2024	School of Law (LW)	LW: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	Undergraduate (UG)	UG: First day of summer class registration for continuing students

Date	Calendar	Event
Tuesday, February 20, 2024	Graduate (GR)	GR: First day of final exams for first-half spring classes
Tuesday, February 20, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half spring class with a W grade
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half winter classes
Tuesday, February 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half winter classes
Wednesday, February 21, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half spring classes
Thursday, February 22, 2024	Graduate (GR)	GR: First day of "I Am Here" for second-half spring classes
Thursday, February 22, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half spring classes
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule
Friday, February 23, 2024	School of Law (LW)	LW: Classes will follow a Monday schedule for first-year students
Saturday, February 24, 2024	Graduate (GR)	GR: Last day of first-half spring classes/final exams
Saturday, February 24, 2024	School of Law (LW)	LW: Last day of first-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: First day of second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half winter classes
Monday, February 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half winter classes
Monday, February 26, 2024	School of Law (LW)	LW: First day of second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half spring classes
Monday, February 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Tuesday, February 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half spring classes/final exams
Tuesday, February 27, 2024	College of Professional Studies Graduate (GP)	GP: Second-half winter classes will be dropped for students who do not complete "I Am Here"
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half spring classes
Wednesday, February 28, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half spring classes
Thursday, February 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Monday, March 4, 2024	Undergraduate (UG)	UG: First day of spring break
Monday, March 4, 2024	Graduate (GR)	GR: First day of spring break
Monday, March 4, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of spring break
Monday, March 4, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half winter class without a W grade
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break
Monday, March 4, 2024	School of Law (LW)	LW: First day of spring break for first-year students
Friday, March 8, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Monday, March 11, 2024	Undergraduate (UG)	UG: Classes resume
Monday, March 11, 2024	Graduate (GR)	GR: Classes resume
Monday, March 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume
Monday, March 11, 2024	School of Law (LW)	LW: Classes resume for first-year students
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half spring classes
Tuesday, March 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half spring classes
Wednesday, March 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Sunday, March 17, 2024	Graduate (GR)	GR: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	Graduate (GR)	GR: Last day to drop a second-half spring class without a W grade
Sunday, March 17, 2024	School of Law (LW)	LW: Last day of online class add for second-half spring classes
Sunday, March 17, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class without a W grade
Monday, March 18, 2024	Undergraduate (UG)	UG: Fall class offerings posted on web
Monday, March 18, 2024	Graduate (GR)	GR: Fall class offerings posted on web
Tuesday, March 19, 2024	Undergraduate (UG)	UG: Experiential Trek Day (Oakland only)
Tuesday, March 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half spring class without a W grade
Friday, March 22, 2024	College of Professional Studies Graduate (GP)	GP: Optional makeup day
Sunday, March 24, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half winter class with a W grade
Monday, March 25, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half winter classes
Friday, March 29, 2024	Holidays, United States (USA)	USA: Good Friday, no classes (Charlotte only)
Friday, March 29, 2024	Holidays, Canada (CAN)	CAN: Good Friday, no classes
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half winter classes/final exams
Saturday, March 30, 2024	College of Professional Studies Graduate (GP)	GP: Winter degree conferral date
Sunday, March 31, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	Holidays, United States (USA)	USA: Cesar Chavez Day observed, (Oakland & Silicon Valley only), no classes
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of spring break
Monday, April 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half winter classes
Monday, April 1, 2024	School of Law (LW)	LW: First day of summer registration
Friday, April 5, 2024	Graduate (GR)	GR: First day of fall class registration for continuing students
Monday, April 8, 2024	Undergraduate (UG)	UG: First day of fall class registration for continuing students
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter and first-half spring classes
Monday, April 8, 2024	College of Professional Studies Graduate (GP)	GP: Summer class offerings posted on web
Friday, April 12, 2024	School of Law (LW)	LW: Last day of full-semester spring classes
Friday, April 12, 2024	School of Law (LW)	LW: Last day of spring classes for first-year students
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter and first-half spring classes
Sunday, April 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half spring classes
Monday, April 15, 2024	Holidays, United States (USA)	USA: Patriots Day, no classes (Boston & Portland only)

Date	Calendar	Event
Monday, April 15, 2024	School of Law (LW)	LW: Last day to drop a full-semester spring class with a W grade
Monday, April 15, 2024	School of Law (LW)	LW: Last day for first-year students to drop a spring class with a W grade (with administrative approval)
Tuesday, April 16, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter and first-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of final exams for full-semester spring classes
Tuesday, April 16, 2024	School of Law (LW)	LW: First day of reading period/final exams for spring classes for first-year students
Wednesday, April 17, 2024	Undergraduate (UG)	UG: Last day of spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Reading day for spring classes
Thursday, April 18, 2024	Undergraduate (UG)	UG: Last day to drop a spring class with a W grade
Friday, April 19, 2024	Undergraduate (UG)	UG: First day of final exams for spring classes
Friday, April 19, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, April 21, 2024	Graduate (GR)	GR: Last day to drop a full-semester or second-half spring class with a W grade
Sunday, April 21, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester and second-half spring class with a W grade
Sunday, April 21, 2024	School of Law (LW)	LW: Last day to drop a second-half spring class with a W grade
Monday, April 22, 2024	Graduate (GR)	GR: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for summer classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter spring classes
Monday, April 22, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or first-half spring class without a W grade
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for full-semester spring classes
Thursday, April 25, 2024	School of Law (LW)	LW: Last day of final exams for spring classes for first-year students
Friday, April 26, 2024	Undergraduate (UG)	UG: Last day of final exams for spring classes
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes if needed
Friday, April 26, 2024	School of Law (LW)	LW: Final exam makeup day for spring classes for first-year students if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Final exam makeup day for spring classes if needed
Saturday, April 27, 2024	Undergraduate (UG)	UG: Spring degree conferral date
Saturday, April 27, 2024	Graduate (GR)	GR: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	Graduate (GR)	GR: Spring degree conferral date
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half spring classes/final exams
Saturday, April 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Spring degree conferral date
Saturday, April 27, 2024	School of Law (LW)	LW: Last day of second-half spring classes
Saturday, April 27, 2024	School of Law (LW)	LW: Spring degree conferral date
Monday, April 29, 2024	Undergraduate (UG)	UG: First day of summer break
Monday, April 29, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for spring classes
Monday, April 29, 2024	Graduate (GR)	GR: First day of summer break
Monday, April 29, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of summer break
Monday, April 29, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half spring classes
Monday, April 29, 2024	School of Law (LW)	LW: First day of summer break
Monday, April 29, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half spring classes
Thursday, May 2, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 1 and full summer classes
Thursday, May 2, 2024	School of Law (LW)	LW: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: First day of summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	Undergraduate (UG)	UG: Summer 1 and full summer classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, May 6, 2024	Graduate (GR)	GR: First day of summer 1 and full summer classes
Monday, May 6, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 1 and full summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of full-semester and first-half summer classes
Monday, May 6, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: First day of full-semester and first-half summer classes
Monday, May 6, 2024	School of Law (LW)	LW: Last day of "I Am Here" for full-semester and first-half summer classes
Wednesday, May 8, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 1 classes
Wednesday, May 8, 2024	Graduate (GR)	GR: First day of fall class registration for new students
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for full-semester and first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for first-half summer classes
Sunday, May 12, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half spring class with a W grade
Monday, May 13, 2024	College of Professional Studies Undergraduate (UC)	UC: Full-semester and first-half summer classes will be dropped for students who do not complete "I Am Here"
Monday, May 13, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half spring classes
Tuesday, May 14, 2024	Undergraduate (UG)	UG: Last day of online class add for full summer classes
Saturday, May 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half spring classes/final exams
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 1 classes (may be extended by instructor to June 7)
Sunday, May 19, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for full summer classes (may be extended by instructor to June 28)
Sunday, May 19, 2024	Graduate (GR)	GR: Last day of online class add for summer 1 and full summer classes
Sunday, May 19, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class without a W grade
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for full-semester summer classes
Sunday, May 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or first-half summer class without a W grade
Sunday, May 19, 2024	School of Law (LW)	LW: Last day of online class add for full-semester and first-half summer classes
Sunday, May 19, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class without a W grade
Monday, May 20, 2024	Holidays, Canada (CAN)	CAN: Victoria Day, no classes

Date	Calendar	Event
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half spring classes
Monday, May 20, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half spring classes
Thursday, May 23, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 1 classes
Sunday, May 26, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	Graduate (GR)	GR: Last day to drop a full summer class without a W grade
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half spring classes
Sunday, May 26, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half spring classes
Sunday, May 26, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class without a W grade
Monday, May 27, 2024	Holidays, United States (USA)	USA: Memorial Day, no classes
Tuesday, May 28, 2024	College of Professional Studies Graduate (GP)	GP: Second-half spring classes will be dropped for students who do not complete "I Am Here"
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester spring classes
Tuesday, May 28, 2024	School of Law (LW)	LW: Faculty grade deadline for spring classes for first-year students
Wednesday, May 29, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for full summer classes
Friday, May 31, 2024	Graduate (GR)	GR: Optional makeup day
Monday, June 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Fall class offerings posted on web
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half spring class without a W grade
Monday, June 3, 2024	College of Professional Studies Graduate (GP)	GP: Fall class offerings posted on web
Monday, June 17, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of registration for fall classes
Monday, June 17, 2024	College of Professional Studies Graduate (GP)	GP: First day of registration for fall classes
Wednesday, June 19, 2024	Holidays, United States (USA)	USA: Juneteenth, no classes
Wednesday, June 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a first-half summer class with a W grade
Thursday, June 20, 2024	Undergraduate (UG)	UG: Last day of summer 1 classes
Thursday, June 20, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for first-half summer classes
Friday, June 21, 2024	Undergraduate (UG)	UG: Reading day for summer 1 classes
Friday, June 21, 2024	Graduate (GR)	GR: Optional makeup day
Sunday, June 23, 2024	Undergraduate (UG)	UG: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	Graduate (GR)	GR: Last day to drop a summer 1 class with a W grade
Sunday, June 23, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half spring class with a W grade
Sunday, June 23, 2024	School of Law (LW)	LW: Last day to drop a first-half summer class with a W grade
Monday, June 24, 2024	Undergraduate (UG)	UG: First day of final exams for summer 1 classes
Monday, June 24, 2024	Graduate (GR)	GR: First day of final exams for summer 1 classes
Monday, June 24, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half spring classes
Tuesday, June 25, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 1 classes
Tuesday, June 25, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of first-half summer classes/final exams
Wednesday, June 26, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 1 classes if needed
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of second-half summer classes
Wednesday, June 26, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of "I Am Here" for second-half summer classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Thursday, June 27, 2024	Graduate (GR)	GR: First day of "I Am Here" for summer 2 classes
Thursday, June 27, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Thursday, June 27, 2024	School of Law (LW)	LW: First day of "I Am Here" for second-half summer classes
Saturday, June 29, 2024	Graduate (GR)	GR: Last day of summer 1 classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half spring classes/final exams
Saturday, June 29, 2024	College of Professional Studies Graduate (GP)	GP: Spring degree conferral date
Saturday, June 29, 2024	School of Law (LW)	LW: Last day of first-half summer classes
Monday, July 1, 2024	Holidays, Canada (CAN)	CAN: Canada Day, no classes
Monday, July 1, 2024	Undergraduate (UG)	UG: First day of summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Undergraduate (UG)	UG: Summer 2 classes will be dropped at 4:00 p.m. ET for students who do not complete "I Am Here"
Monday, July 1, 2024	Graduate (GR)	GR: First day of summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Last day of "I Am Here" for summer 2 classes
Monday, July 1, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 1 classes
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: First day of summer break
Monday, July 1, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half spring classes
Monday, July 1, 2024	School of Law (LW)	LW: First day of second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Last day of "I Am Here" for second-half summer classes
Monday, July 1, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of "I Am Here" for second-half summer classes
Tuesday, July 2, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of online class add for second-half summer classes
Wednesday, July 3, 2024	Undergraduate (UG)	UG: Last day of online class add for summer 2 classes
Wednesday, July 3, 2024	College of Professional Studies Undergraduate (UC)	UC: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, July 4, 2024	Holidays, United States (USA)	USA: Independence Day, no classes
Friday, July 5, 2024	Graduate (GR)	GR: Optional makeup day
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of full-quarter, first-half, and six-week summer classes
Monday, July 8, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for full-quarter, first-half, and six-week summer classes
Tuesday, July 9, 2024	School of Law (LW)	LW: Classes will follow a Thursday schedule
Wednesday, July 10, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a second-half summer class without a W grade
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for full-quarter, first-half, and six-week summer classes

Northeastern University

Registrar

2023-2024 Academic Calendar

Date	Calendar	Event
Sunday, July 14, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for first-half and six-week summer classes
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	Undergraduate (UG)	UG: Last day to elect pass/fail for summer 2 classes (may be extended by instructor to August 2)
Monday, July 15, 2024	Graduate (GR)	GR: Last day of online class add for summer 2 classes
Monday, July 15, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class without a W grade
Monday, July 15, 2024	College of Professional Studies Graduate (GP)	GP: Full-quarter, first-half, and six-week summer classes will be dropped for students who do not complete "I Am Here"
Monday, July 15, 2024	School of Law (LW)	LW: Last day of online class add for second-half summer classes
Monday, July 15, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class without a W grade
Thursday, July 18, 2024	Undergraduate (UG)	UG: Last day to file a Final Exam Conflict Form for summer 2 classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for full-quarter summer classes
Sunday, July 21, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter, first-half, or six-week summer class without a W grade
Sunday, July 28, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a first-half summer class with a W grade
Monday, July 29, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for first-half summer classes
Monday, July 29, 2024	School of Law (LW)	LW: First day of fall registration
Saturday, August 3, 2024	College of Professional Studies Graduate (GP)	GP: Last day of first-half summer classes/final exams
Monday, August 5, 2024	Holidays, Canada (CAN)	CAN: Civic Holiday, no classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: First day of "I Am Here" for second-half summer classes
Monday, August 5, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for first-half summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day of full-semester summer classes
Wednesday, August 7, 2024	School of Law (LW)	LW: Last day to drop a full-semester summer class with a W grade
Thursday, August 8, 2024	Undergraduate (UG)	UG: Last day of full summer classes
Thursday, August 8, 2024	School of Law (LW)	LW: First day of final exams for full-semester summer classes
Friday, August 9, 2024	Undergraduate (UG)	UG: Reading day for full summer classes
Sunday, August 11, 2024	Undergraduate (UG)	UG: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	Graduate (GR)	GR: Last day to drop a full summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day to drop a full-semester or second-half summer class with a W grade
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of "I Am Here" for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day of online class add for second-half summer classes
Sunday, August 11, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a six-week summer class with a W grade
Monday, August 12, 2024	Undergraduate (UG)	UG: First day of final exams for full summer classes
Monday, August 12, 2024	Graduate (GR)	GR: First day of final exams for full summer classes
Monday, August 12, 2024	College of Professional Studies Undergraduate (UC)	UC: First day of final exams for full-semester and second-half summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for six-week summer classes
Monday, August 12, 2024	College of Professional Studies Graduate (GP)	GP: Second-half summer classes will be dropped for students who do not complete "I Am Here"
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of final exams for full summer classes
Thursday, August 15, 2024	Undergraduate (UG)	UG: Last day of summer 2 classes
Friday, August 16, 2024	Undergraduate (UG)	UG: Final exam makeup day for full summer classes if needed
Friday, August 16, 2024	Undergraduate (UG)	UG: Reading day for summer 2 classes
Saturday, August 17, 2024	Graduate (GR)	GR: Last day of full summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Undergraduate (UC)	UC: Last day of full-semester and second-half summer classes/final exams
Saturday, August 17, 2024	College of Professional Studies Graduate (GP)	GP: Last day of six-week summer classes/final exams
Sunday, August 18, 2024	Undergraduate (UG)	UG: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	Graduate (GR)	GR: Last day to drop a summer 2 class with a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a second-half summer class without a W grade
Sunday, August 18, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for six-week summer classes
Sunday, August 18, 2024	School of Law (LW)	LW: Last day to drop a second-half summer class with a W grade
Monday, August 19, 2024	Undergraduate (UG)	UG: First day of final exams for summer 2 classes
Monday, August 19, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	Graduate (GR)	GR: First day of final exams for summer 2 classes
Monday, August 19, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for full summer classes
Monday, August 19, 2024	College of Professional Studies Undergraduate (UC)	UC: Faculty grade deadline at 2:00 p.m. ET for full-semester and second-half summer classes
Tuesday, August 20, 2024	Undergraduate (UG)	UG: Last day of final exams for summer 2 classes
Tuesday, August 20, 2024	School of Law (LW)	LW: Last day of final exams for full-semester summer classes
Wednesday, August 21, 2024	Undergraduate (UG)	UG: Final exam makeup day for summer 2 classes if needed
Wednesday, August 21, 2024	School of Law (LW)	LW: Final exam makeup day for summer classes if needed
Thursday, August 22, 2024	Undergraduate (UG)	UG: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Saturday, August 24, 2024	Undergraduate (UG)	UG: Summer degree conferral date
Saturday, August 24, 2024	Graduate (GR)	GR: Last day of summer 2 classes/final exams
Saturday, August 24, 2024	Graduate (GR)	GR: Summer degree conferral date
Saturday, August 24, 2024	School of Law (LW)	LW: Last day of second-half summer classes
Saturday, August 24, 2024	School of Law (LW)	LW: Summer degree conferral date
Sunday, August 25, 2024	College of Professional Studies Graduate (GP)	GP: Last day to drop a full-quarter or second-half summer class with a W grade
Monday, August 26, 2024	Graduate (GR)	GR: Faculty grade deadline at 2:00 p.m. ET for summer 2 classes
Monday, August 26, 2024	College of Professional Studies Graduate (GP)	GP: First day of final exams for full-quarter and second-half summer classes
Monday, August 26, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for second-half summer classes
Saturday, August 31, 2024	College of Professional Studies Undergraduate (UC)	UC: Summer degree conferral date
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Last day of full-quarter and second-half summer classes/final exams
Saturday, August 31, 2024	College of Professional Studies Graduate (GP)	GP: Summer degree conferral date
Tuesday, September 3, 2024	College of Professional Studies Graduate (GP)	GP: Faculty grade deadline at 2:00 p.m. ET for full-quarter and second-half summer classes

Date	Calendar	Event
Thursday, September 19, 2024	School of Law (LW)	LW: Faculty grade deadline at 2:00 p.m. ET for full-semester summer classes